Biological Assessment of Navarre Beach WWTF Santa Rosa County NPDES # FL0023981 Sampled November 7, 2023

Division of Environmental Assessment and Restoration
Florida Department of Environmental Protection
July 2024

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Summary of Results

All analytes measured in the effluent grab and composite samples complied with the Class III Water Quality Criteria for Marine Waters and effluent permit limits. The Algal Growth Potential (AGP) in the effluent grab sample indicated moderate productivity levels of freshwater algae, suggesting the potential for nutrient enrichment to the receiving waters. Atrazine, Fipronil Desulfinyl, Fipronil Sulfide, Propiconazole, Tebuconazole were detected in the effluent grab sample. Butyl benzyl phthalate was detected in the blank between the MDL and PQL.

Facility Overview

The Navarre Beach Wastewater Treatment Facility 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 Santa Rosa Sound, a Class III Marine Water [waterbody identification (WBID) 915G] (Figure 1). Much of Santa Rosa Sound is a Class II water with "exception of the Navarre Beach area from a north-south line through Channel Marker 106 eastward to Navarre Beach Toll Road" (Subparagraph 62-302.400(17)(b)57, F.A.C.). Waters within the Gulf Island National Seashore are Outstanding Florida Waters (Subparagraph 62-302.700(9)(g)2, F.A.C.). Outstanding Florida Waters is not a designated use classification (Subsection 62-302.400(15), F.A.C.). The mean flow calculated at the time of the sampling event was 0.412 MGD. Receiving waters for this facility fall under the Estuary Specific Numeric Interpretations of the Narrative Nutrient Criteria (NNC) for Santa Rosa Sound within the Pensacola Bay region. For this region, the NNC, expressed as annual geometric means, are 0.022 mg/L total phosphorus, 0.41 mg/L total nitrogen, and 3.4 µg/L chlorophyll *a* (Subparagraph 62-302.532(1)(l)(5), 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 collected on November 7, 2023, as both grab and 16-hour flow proportioned composite, from monitoring site location EFF-01 for outfall D-001. Chemical and biological comparisons were made between Test Site 1, located approximately 50 m southeast, Test Site 2, located approximately 50 m northwest and the Control Site, located approximately 690 m east from outfall D-001 (Figure 1). The effluent was scheduled for enterococci, but the grab sample was incorrectly submitted to the lab for *Escherichia coli* (*E. coli*) analysis. Surface water samples were mistakenly submitted to the lab for fecal coliform analysis by Quanti-Tray. The Quanti-Tray method is approved by EPA for wastewater only.

Samples were collected by Mike Brumfield, Nicole Weaver, and Cameron Arthur (DEP Northwest district) and Nathan Mulkey, and Myranda Butler (DEP Division of Environmental Assessment and Restoration Northwest Regional Operation Center). Analyses were performed by Wetland Research Laboratory at the University of West Florida in Pensacola, Eurofins Pensacola and Orlando, and the DEP Laboratory in Tallahassee.

The report was reviewed by District representatives and the Point Source Studies Review Committee (Lauren Gottfreid and Ben Nomann).

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.

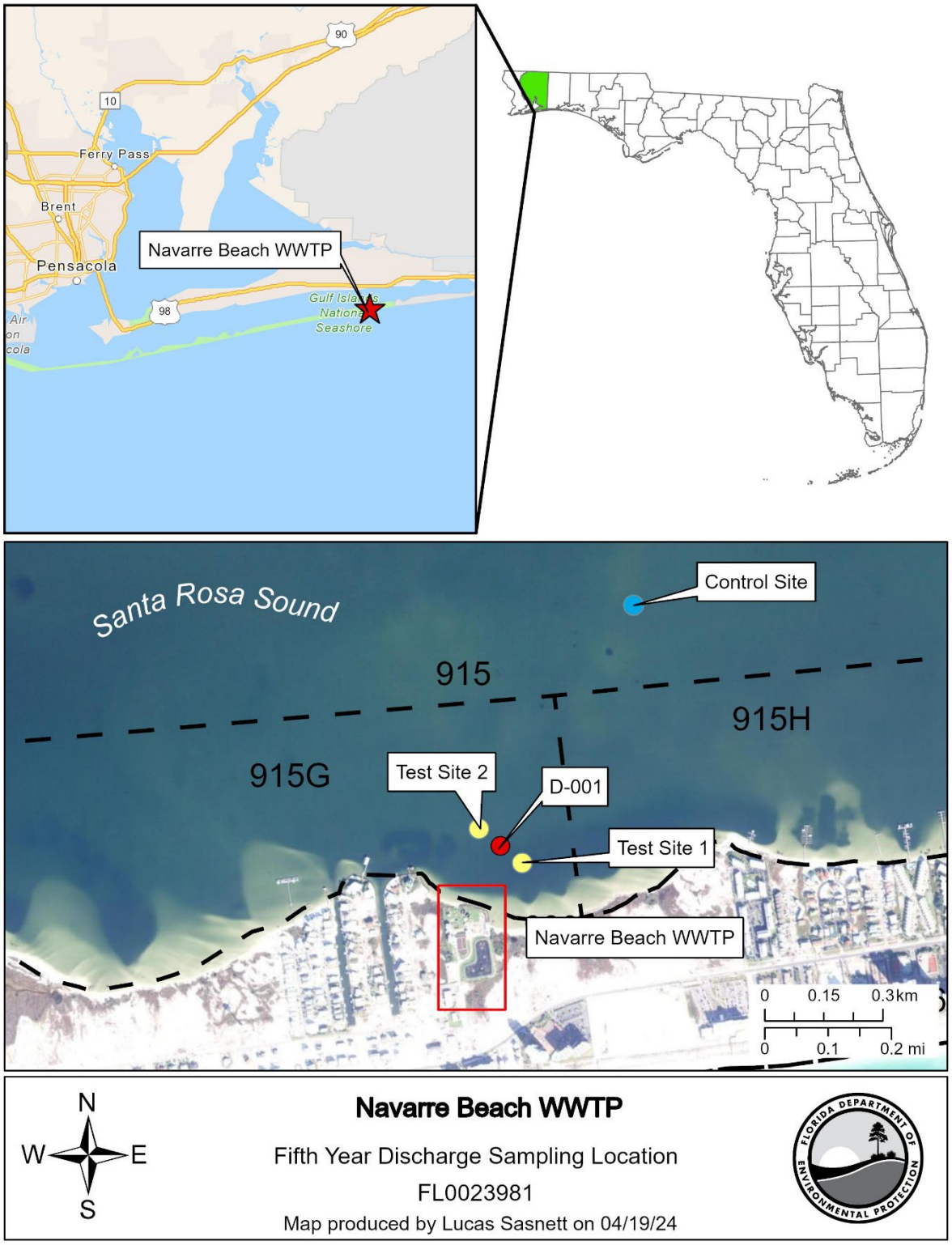


Figure 1. Map of Facility and Sampling Locations

Results

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

- All water quality parameters measured at the Test sites and Control Site 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 effluent permit limits.

- All water chemistry analytes detected in the two Test Site and the Control Site samples complied with Class III Water Quality Criteria for Marine Waters.

- Nutrient measurements in the two Test Site and the Control Site samples were similar. Although effluent nutrient measurements were higher than those of the Control Site, there was no detectable nutrient enrichment from the effluent at both Test Sites.

- For comparative purposes only, total phosphorus and total nitrogen in the effluent composite and effluent grab samples were greater than the Estuary Specific Numeric Nutrient Criteria (NNC) annual geometric mean limits for Santa Rosa Sound within the Pensacola Bay region.

Microbiology (See Table 2 and Appendix B)

- For the effluent grab sample, *E. coli* was incorrectly requested at the lab instead of enterococci as scheduled. The effluent permit limit is for enterococci. *E. coli* was not detected in the effluent grab sample.

- Fecal coliform was not detected in the effluent grab sample and therefore complied with the permit limit.

- Enterococci was not detected in the two Test Sites and Control Site samples and therefore complied with Class III Water Quality Criteria for Marine Waters.

- The Quanti-Tray method used to analyze fecal coliform samples is not an approved EPA method for surface waters and the results are J qualified indicating the result is an estimated value.

Metals (See Table 3 and Appendix D)

- Metals in the effluent grab and composite samples complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits.

- All metals in the two Test Site and Control Site samples complied with Class III Water Quality Criteria for Marine Waters.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata* was used to determine the AGP value for the effluent grab. The effluent grab sample AGP result of 0.585 I mg dry wt/L is within the AGP range (0.11 to 0.80 mg dry wt/L) suggested to be representative of moderate productivity for freshwater (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.25 parts per thousand (ppth) to a salinity of approximately 7.0 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta.* The marine species, *Dunaliella tertiolecta*, was used to determine the AGP values in the effluent grab, Test Site 1, Test Site 2, and Control Site samples. All three instream and effluent grab values were undetected. The analytical chemistry suggests that the effluent is nitrogen-limited, and the Test Site 1 and Test Site 2 and Control Sites are ortho-phosphate limited (Miller et al. 1978). Half the method detection limit (MDL) for nitrate and nitrite was used to calculate the total nitrogen to phosphorus ratio.

- 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.

Organic Constituents (See Table 5 and Appendix D)

- There are no effluent permit limits for organic constituents.

- Atrazine (Herbicide), Fipronil Desulfinyl (Insecticide), Fipronil Sulfide (Insecticide), Propiconazole (Fungicide), Tebuconazole (Fungicide) were detected in the effluent grab sample.

- Butyl benzyl phthalate was detected in the field blank between the MDL and PQL.

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.

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	Test Site 1	Test Site 2	Control Site
Sample Depth	m	-	-	-	-	0.3	0.3	0.3
Temperature	C	-	-	4.2	22.1	19.0	19.2	19.2
pH	SU	6.5 - 8.5	6.5 - 8.5	-	6.7	8.1	8.1	8.0
Specific Conductance	µmhos/cm	-	-	-	631	42,145	42,106	42,141
Salinity	PPTh	-	-	-	-	27.1	27.1	27.1
Salinity	PPTh	-	-	-	0.3 c	30 c	30 c	30 c
Dissolved Oxygen	% saturation	≥ 42	-	-	92.9	103.4	103.2	104.6
Dissolved Oxygen	mg/L	-	-	-	8.1	8.2	8.1	8.2
Total Residual Chlorine	mg/L	≤ 0.01	≤ 0.01	-	0.01	-	-	-

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	Test Site 1	Test Site 2	Control Site
Ortho-phosphate	mg P/L	-	-	-	1.2	0.004 I	0.004 U	0.004 U
Total Phosphorus	mg P/L	0.022 g	≤ 10.0	1.4	1.2	0.006 I	0.008 I	0.006 I
Total Ammonia Nitrogen	mg N/L	-	-	0.040	0.038	0.004 I	0.005 I	0.004 I
Un-ionized Ammonia		-	-	-	< 0.02 c	< 0.02 c	< 0.02 c	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	0.67	0.44	0.004 U	0.006 I	0.004 U
Total Kjeldahl Nitrogen	mg N/L	-	-	0.65	0.57	0.34 I	0.24 I	0.23 I
Organic Nitrogen	mg N/L	-	-	0.61 c	0.53 c	0.34 c	0.24 c	0.23 c
Total Nitrogen	mg N/L	0.41 g	≤ 18.0	1.32 c	1.01 c	0.34 c	0.25 c	0.23 c
Total Organic Carbon	mg C/L	-	-	4.0	3.5 A	2.0 U	2.4 I	2.0 I
Chlorophyll *a* - Corrected	µg/L	3.4 g	-	-	0.82 U	1.4 I	1.7 I	1.6 I
Phaeophytin	µg/L	-	-	-	0.90 U	0.98 U	0.90 U	0.90 U
CBOD, 5-day, N - inhibited			≤ 10.0	2.1 J	-	-	-	-
Hardness	mg CaCO3/L	-	-		71.9 c	4,720 c	4,840 c	4,840 c
Total Suspended Solids	mg/L		≤ 10.0	2 I	-	5 I	3 IA	4 I
Turbidity	NTU	≤ 29 t	-	-	0.60 I	1.1	1.0	1.2
Color (true)	PCU	-	-	-	2.5 UA	5.0 U	2.5 U	2.5 U
Alkalinity	mg CaCO3/L	-	-	-	107 A	96	98	97
Chloride	mg Cl/L	-	-	-	87 A	15,000	16,000	15,000
Fluoride	mg F/L	≤ 5.0	-	-	0.028 I	1.0	1.1	1.0
Sulfate	mg SO4/L	-	-	-	70 A	2,200	2,200	2,200
Fecal Coliforms	MPN/100 mL	-	≤ 86 s	-	10 U	10 UJ	10 UJ	10 UJ
Escherichia coli	MPN/100 mL	-	-	-	10 U	-	-	-
Enterococci	MPN/100 mL	≤ 130 [1]	≤ 35 [1]	-	-	10 U	10 U	10 U

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

c - Value is calculated
g - Value expressed as an annual geometric mean
t - Shall not exceed 29 NTUs above background
s - Single sample
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 - If fewer than 10 samples are taken within a month for a given location, the Ten Percent Threshold Value (TPTV) is assessed as a single sample maximum (62-302.530(6)(c), F.A.C.)

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 Composite	Effluent Grab	Test Site 1	Test Site 2	Control Site
Aluminum	µg/L	≤ 1500	-	-	39	320	43 I	566
Arsenic	µg/L	≤ 50	-	-	2.55	1.44	1.37	1.31
Cadmium	µg/L	≤ 8.8	-	-	0.020 U	0.080 U	0.080 U	0.080 U
Calcium	mg/L	-	-	-	19.3	297	296	314
Chromium, Total [2]	µg/L	≤ 50	-	-	0.40 U	4.0 U	4.0 U	4.0 U
Copper	µg/L	≤ 3.7	≤ 3.7	1.20	0.47 I	1.6 U	2.1 I	2.3 I
Iron	µg/L	≤ 300	-	-	30 U	120 U	120 U	120 U
Lead	µg/L	≤ 8.5	-	-	0.20 U	2.0 U	2.0 U	2.0 U
Magnesium	mg/L	-	-	-	5.75	965	996	986
Nickel	µg/L	≤ 8.3	-	-	0.56 I	2.0 U	2.0 U	2.0 U
Potassium	mg/L	-	-	-	10.5	310	330	310
Selenium	µg/L	≤ 71	-	-	0.20 U	0.80 U	0.80 U	0.80 U
Silver	µg/L	≤ 2.3	-	-	0.010 U	0.040 U	0.040 U	0.040 U
Sodium	mg/L	-	-	-	103	8490	8660	8630
Zinc	µg/L	≤ 86	-	-	57	20 U	20 U	20 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Class III Marine 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*	0.585 I	18 ± 3.6	520 ± 100	38 ± 7.7	520 ± 100	0.40	0.80
Effluent Grab	*Dunaliella tertiolecta*	3.00 U *	not applicable [3]	not applicable [3]	not applicable [3]	not applicable [3]	0.40	0.80
Test Site 1	*Dunaliella tertiolecta*	3.00 U *	not applicable [3]	not applicable [3]	not applicable [3]	not applicable [3]	1.5 [4]	57 [4]
Test Site 2	*Dunaliella tertiolecta*	3.00 U *	not applicable [3]	not applicable [3]	not applicable [3]	not applicable [3]	5.5 [4]	31
Control Site	*Dunaliella tertiolecta*	3.00 U *	not applicable [3]	not applicable [3]	not applicable [3]	not applicable [3]	3.0 [4]	39 [4]

* - sample salinity adjusted to 7.0 ppth

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

3 - predictions not applicable to marine matrix

4 - non-detects in the analytical chemistry; prediction calculated using ½ MDL

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	-	-	2.4
Fipronil Desulfinyl	ng/L	-	-	0.63
Fipronil Sulfide	ng/L	-	-	3.9
Propiconazole	ng/L	-	-	3.6
Tebuconazole	ng/L	-	-	5.9 I
Butyl benzyl phthalate [5]	µg/L	-	-	1.5 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.
5 - Analyte detected in the field blank at 2.1 I µg/L.

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event

Prepared By: Mike Brumfield | **Contact Number:** (850) 595-0557

Facility Name (as it appears on permit): Navarre Beach WWTP | **Former Names:** None

NPDES Permit Number: FL0023981 | **Permit Expiration Date:** July 31, 2024

Physical Address: 1411 Utility Drive, Navarre, FL 32566-7153

District: Northwest | **County:** Santa Rosa

Function of Facility: Domestic wastewater treatment facility

Facility Type: Domestic Wastewater Treatment Facility | **Permitted Capacity (MGD):** 0.900 MGD AADF

Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): D-001 average using annual averages reported October 2022 through September 2023 is 0.323 MGD.

If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): FLW-02 - Facility has a permitted Part VII Industrial Use Reclaimed Water in the permit with a report limit MGD annual average. The FLW-02 average using annual averages reported from October 2022 to September 2023 is 0.053 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) Permit Condition I.A.2. for D-001:

Monitoring Site Number	Description of Monitoring Site
FLW-01	90 degree V-notch weir with ultrasonic flow meter
FLW-02	Turbine flowmeter for reuse at WWTP
EFF-01	Discharge from the V-notch weir
EFA-01	Sampling immediately after disinfection

Description of Permitted Outfall(s): D-001 is approximately 400 feet in length and discharges at a depth of approximately 8.5 feet at approximate latitude 30° 22’ 51” N, longitude 86° 52’ 45” W to Santa Rosa Sound, Class III Marine waters (WBID# 915G).

Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): The facility is a 0.90 MGD annual average daily flow (AADF) oxidation ditch WWTP with two static screens, two 1,050 gallon grit chambers, a 91,600 gallon flow equalization basin, a 750,000 gallon 5-stage fine bubble diffused oxidation ditch that has anoxic, anaerobic and aerobic zones, two clarifiers with 42 and 50-foot diameters, four 38 SF tertiary filters, two 9,375 gallon chlorine contact chambers for sodium hypochlorite disinfection, sodium dioxide injection for dechlorination, a 95,000 gallon sludge holding tank, a 1.5 meter belt filter press and three 1,440 SF sludge drying beds. The facility has a 0.90 MG emergency holding pond equipped with floating aerators. Ferric sulfate and an organosulfide (NALMET 1689) are added at the effluent end of the oxidation ditch for phosphorous and copper removal. See Facility Site Plan and Process Flow below



Schematic

Figure 1 – Navarre Beach WWTP Site Plan

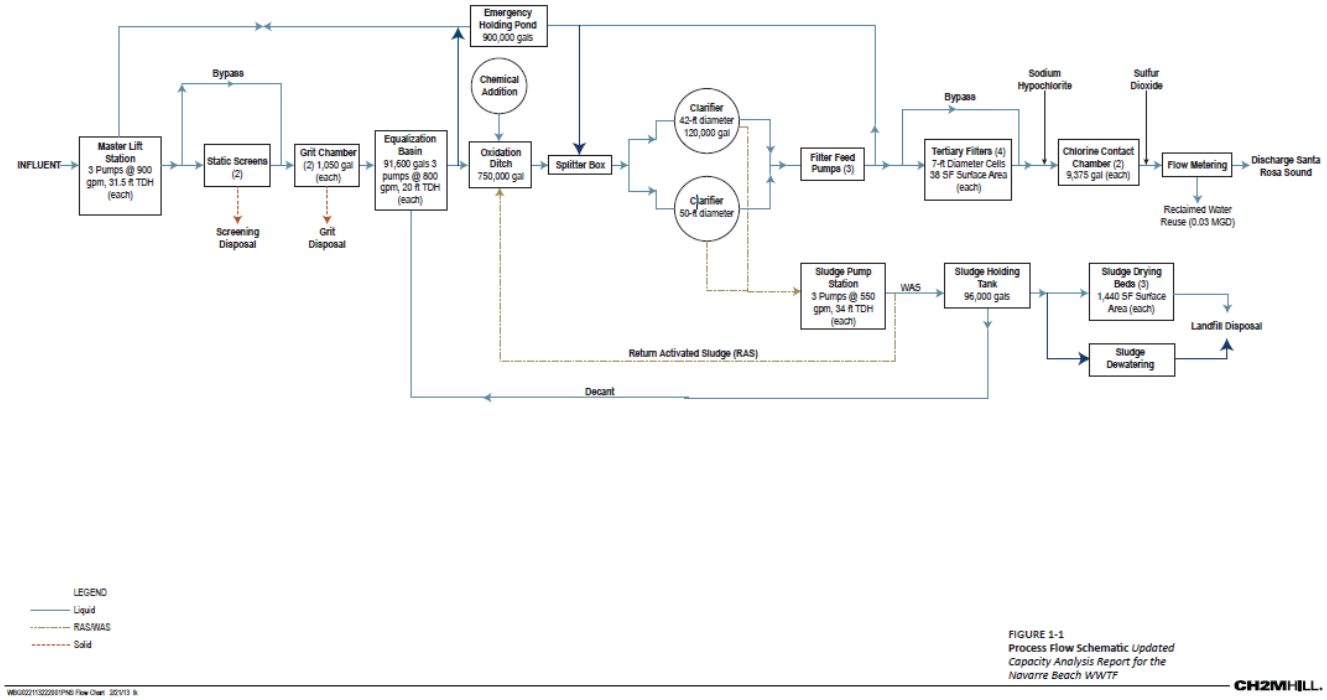


Figure 2 – Navarre Beach WWTP Process Flow Diagram

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	0.900 Report Report	Annual Average 3-Mo. Rolling Average Monthly Average	5 Days/Week	Recording Flow Meter with Totalizer	FLW-01	See I.A.3
Flow (WWTP Reuse)	MGD	Max Max	Report Report	Annual Average Monthly Average	5 Days/Week	Meter	FLW-02	
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	5 6.25 7.5 10	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFF-01	See I.A.5
Solids, Total Suspended	mg/L	Max Max Max Max	5.0 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFF-01	See I.A.5
Nitrogen, Total	mg/L	Max Max Max Max	9.0 11.25 13.5 18.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFF-01	
Phosphorus, Total (as P)	mg/L	Max Max Max Max	5.0 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	Weekly	16-hr FPC	EFF-01	
Nitrogen, Total	Lb./day	Max	67.5	Annual Average	Monthly	Calculated	EFF-01	
Phosphorus, Total (as P)	Lb./day	Max	37.5	Annual Average	Monthly	Calculated	EFF-01	

Coliform, Fecal	#/100mL	Max Max Max Max	14 14 43 86	Annual Average Monthly Median 90th Percentile Single Sample	Weekly	Grab	EFF-01	See I.A.4
Enterococci	#/100mL	Max Max	35 130	Monthly Geometric Mean 90th Percentile	Weekly	Grab	EFF-01	See I.A.12 and I.A.7
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	5 Days/Week	Grab	EFA-01	See I.A.6
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Weekly	Grab	EFF-01	
pH	s.u.	Min Max	6.5 8.5	Single Sample Single Sample	5 Days/Week	Grab	EFF-01	
Copper, Total Recoverable	µg/L	Max	3.7	Single Sample	Monthly	16-hr FPC	EFF-01	

PART I: Continued

Receiving Waters: Santa Rosa Sound	Classification (indicate whether fresh or marine): Class III Marine waters

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

Pursuant to rule 62-620.620(3)(a) 2 and 4, F.A.C. as a minor domestic wastewater treatment plant without a required industrial pretreatment program and demonstrated no toxicity failures during the last permit cycle, this facility is not being required to conduct chronic toxicity testing for this permit renewal.

Facility Mixing Zone Details (if applicable): N/A.

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

Date	Parameter and Units	Limit	Result
September 30, 2023	Nitrogen, Total	13.5 Weekly Average	20.4
September 30, 2023	Nitrogen, Total	18 Maximum	20.4
February 28, 2023	Nitrogen, Total	13.5 Weekly Average	13.9

Describe previous FYI and WQBEL study: Last FYI5 occurred during the week of March 20, 2017. Results, Discussion and Conclusions sections from the final Biological Assessment Report below

Results and Discussion

Physical and Chemical Parameters (See Table 1 and Appendices D, E, and F)

- The pH and dissolved oxygen of the effluent, Test Sites, and Control Site complied with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and effluent permit limits.
- The amount of effluent total residual chlorine measured after dechlorination complied with effluent permit limits.

Analytical Water Chemistry (See Table 2 and Appendix F)

- Chlorophyll *a* was undetected in the effluent grab sample and was detected at similar levels in both Test Site samples and the Control Site sample.

- Total suspended solids and carbonaceous biochemical oxygen demand of the composite effluent sample complied with permit limits.
- Turbidity and fluoride levels in the Test Site 1, Test Site 2, and Control Site samples complied with the Class III Marine Water Quality Criteria (62-302.530, F.A.C.).

Nutrients (See Table 2 and Appendix F)

- Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for Santa Rosa Sound within the Pensacola Bay region (62-302.532, F.A.C.). The NNC thresholds, expressed as annual geometric means, are 0.022 mg/L total phosphorus, 0.41 mg/L total nitrogen, and 3.4 µg/L chlorophyll *a*. This FYI event can only provide single sample results; therefore, compliance should be determined with additional sampling events.
- The samples from Test Sites 1 and 2 measured below this threshold for total phosphorus, total nitrogen, and chlorophyll *a*. The results from the Control Site sample are below this threshold for total nitrogen and chlorophyll and are above the threshold for total phosphorus.
- The nutrient levels of the effluent sample complied with permit limits. There was no detectable nutrient enrichment from the effluent at either Test Site despite elevated levels of nitrogen or phosphorus measured in the effluent.

Microbiology (See Table 2 and Appendix F)

- Enterococci were undetected in the effluent, Test Site 1, Test Site 2, and Control Site samples.
- Fecal coliforms were undetected in the effluent, Test Site 1, and Control Site samples. Test Site 2 fecal coliforms were detected at levels that complied with effluent permit limits and the Class III Marine Water Quality Criterion (62-302.530(6), F.A.C.).

Toxicity Whole Effluent Test (See Table 2 and Appendix F)

- Tests were performed March 21 through March 28, 2017.
- The effluent sample IC25 for the mysid, *Americamysis bahia,* and the fish, *Menidia beryllina*, during the chronic definitive bioassays 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.

Organic Constituents (See Table 3 and Appendix F)

- Imidacloprid and primidone were detected in the effluent sample.
- No organic constituents were detected in the field blank.

Metals (See Table 4 and Appendix F)

- All metals detected in the effluent, Test Site 1, Test Site 2, and Control Site samples were present at levels that complied with effluent permit limits and Class III Marine Water Quality Criteria (62-302.530, F.A.C.).
- Copper and lead were detected in the field blank. There was a known contamination for copper, lead, and nickel with the Northwest District, Pensacola deionized water lines that has since been resolved.

Algal Growth Potential (See Table 5 and Appendix F)

- Analytical chemistry results suggest that the effluent is nitrogen limited.
- The AGP values of Test Site 1, Test Site 2, and Control Site samples were below the detection limit for the saltwater species *Dunaliella tertiolecta*. Analytical chemistry results suggest that the Control Site is co-limited for nitrogen and phosphorus. Kjeldahl nitrogen was undetected in both Test Site samples; therefore, ratios could not be calculated.
- The effluent appears to be sufficiently diluted such that nutrient enrichment of the receiving water is not detected as demonstrated by the Test Site samples.

Bioassessment
Macroinvertebrates

(See Table 6)

- The Shannon-Weaver Diversity scores were similar at Test Site 1, Test Site 2, and the Control Site. The diversity scores for all sites may be negatively biased due to calculation based on fewer than 300 individuals (Lande 1996).
- All three sites had the same dominant taxon and a similar composition of taxa. Test Site 1 had a higher number of taxa present than Test Site 2 and the Control Site, which were similar. Test Site 1 and the Control Site had a higher density of macroinvertebrates present than Test Site 2.
- Overall, there were no negative effects on macroinvertebrates at either of the Test Sites that were attributable to the effluent.
- For more information or to obtain a copy of the taxa lists, please contact the Biology Laboratory at 850-245- 8177.

Sediments (See Table 7, Figure 1, and Appendix F)

- The Test Site 1, Test Site 2, and Control Site sediment samples were composed of sand with a similar particle size distribution at all three sites. Samples were composed primarily of sediment particles 0.25-1.0 mm and sediment percent organic content was less than 1% for all samples.
- Sediment metals detected at all sites were below the Threshold Effects Level (TEL) for sediment metals (MacDonald, 1994).

Conclusion

Nutrient and AGP values indicate no detectable nutrient enrichment in the receiving water due to the effluent, and there is no evidence of an impact on the macroinvertebrate community.

Report here:
https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.683050.1]&[profile=Discovery_Compliance]

Describe previous or current Enforcement Actions (including WLs): NA

Describe any violations or problems noted in previous inspection: The last facility inspection performed on April 11, 2022, and April 13, 2022, inspection report noted:
Contract laboratory was not DOH ELCP accredited to perform effluent analysis for total nitrogen and total phosphorus.
The Facility had 13 effluent quality and/or permit limit violations for the period of August 2019-February 2022.
The Facility did not have advisory signs with notices in English and Spanish

Discuss whether DMR trends within previous five years are improving or declining: Improving the amount of exceedances are decreasing.

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: November 7, 2023.	**Sampler(s):** Mike Brumfield, Nicole Weaver, Cameron Author
Temperature (Deg C): composite 4.6, grab 22.1	**pH (SU):** 6.76
Dissolved Oxygen (mg/L): 8.09	**Conductivity (umhos/cm):** 631
Total Residual Chlorine (mg/L): 1.48	**Total Residual Chlorine - after Disinfection (mg/L):** 0.01
Method of Chlorination: Sodium hypochlorite	**Method of De-chlorination:** Sulfur dioxide
Flow During Sample Collection for each outfall(MGD): The only instantaneous flow reading I recorded was 3/22 9:49 a.m. CST 240.9 GPM, or 0.347 MGD. See facility recorded flows for each sample day below.	
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): D-001 0.324 MGD, FLW-02 0.050 MGD November 2022 to October 2023. 11/7/2023 0.412 D-001 0.412, FLW-02 0.022 flow values reported.	
Describe Discharge during Sampling Event: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify:**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix B. 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.

- **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.

- **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

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
TASK ASSIGNMENT/NOTIFICATION FORM: LAB145

Contract Manager: Linda Allen/Devan Cobb (850)-245-8084 / (850) 245-8078
2600 Blair Stone Rd., MS 6512
Tallahassee, FL 32399-2400

Contractor: Eurofins Environmental Testing Southeast, LLC
5102 LaRoche Ave
Savannah, GA 31404
ATTN: Noel Savoie

DEP Approval By: Devan R. Cobb-Williams Contractor Approval By: Noël Savoie
Project Manager

Contractor Representatives Contacted: Noel Savoie

Date: 10/11/2023
Means of Contact: Email

Task Assignment Number: OV486 Maximum Cost: **$41.50** Turnaround Time: 5 BD

Sample Delivery Date: 11/7/2023

Project Name/Description:
FY15 w/o Tox Navarre Beach WWTP FL0023981

Deliverable Number/ Parameter Group/ Method	**Sample Matrix**	**# of Samples**	**# of Containers**	**DEP ID #**	**Unit Cost**	**% Mark-up (if any)**	**Cost**
Quote/OV-CBOD-IN CBOD, nitrogen-inhibited 5210B-2011	W	1	1		$39.00		$39.00
217/Sample Disposal Fee.	1				$2.50		$2.50
Total Number of Containers Shipped:	1					**Total:**	**$41.50**



QC Instructions:

Comments: Quote # 66018208 - 0

Samples released to Contract Lab by: MIKE BAUMFIELD Date/Time: 11/7/23 1030

Delivery Method: Shipping FEDEX

Samples Accepted by: _____ Date/Time 11-8-23 0930

* **Please sign and return by email to** Linda.S.Allen@FloridaDEP.gov and Devan.R.Cobb@dep.state.fl.us

2.7/25

Request Number: RQ-2023-10-23-30

FYI5 w/o Tox Navarre Beach WWTP FL0023981

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: NW-DIST

Project ID: FYI5

Requester: Benjamin Nomann

Collected By: MIKE BRUMFIELD NICOLE LEWIS CAMERON ARTHUR

Field Report Prepared By: MIKE BRUMFIELD

Sampling Agency: FDEP

Location: NAVARRE BEACH	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 11/6/23 Time 0900	Eastern (Central)	Composite end Date 11/7/23 Time 0903	Bottle Group(s) (See pg 2): B					
Field ID: EFF01 COMPOSITE	Matrix (type, e.g., Salt, Fresh, etc): FRESH EFFLUENT		Diss. Oxygen: N/A ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L): N/A						
WIN/STORET #	Temp (C): 4.2	pH: N/A	Sample Depth: N/A ☐ ft ☐ m	Sp. Conductance (umho/cm): N/A						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt): N/A	Comments: SAMPLES COLLECTED USING FACILITY'S COMPOSITE SAMPLER							
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
MIKE BRUMFIELD	11/7/23 1030	FED EX	1	[illegible]	11/8 930

MB

2, 7, 2.5

Request Number: RQ-2023-10-23-30

FYI5 w/o Tox Navarre Beach WWTP FL0023981

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Customer: NW-DIST

Project ID: FYI5

Requester: Benjamin Nomann

Collected By: MIKE BRUMFIELD

Field Report Prepared By: MIKE BRUMFIELD

Sampling Agency: FDEP

Location: NAVARRE BEACH WWTP	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 11/6/23 Time 0900	Eastern Central	Composite end Date 11/7/23 Time 0903					Bottle Group(s) (See pg 2): 13
Field ID: EFF-01 COMPOSITE	Matrix (type, e.g., Salt, Fresh, etc): FRESH EFFLUENT			Diss. Oxygen: N/A ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L): N/A				
WIN/STORET #	Temp (C): 4.2	pH: N/A		Sample Depth: N/A ☐ ft ☐ m	Sp. Conductance (umho/cm): N/A				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt): N/A	Comments: SAMPLES COLLECTED AT 0910 SAMPLES COLLECTED USING FACILITY'S COMPOSITE SAMPLER						
Location: NAVARRE BEACH WWTP	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 11/7/23 Time 0925	Eastern Central	Composite end Date N/A Time N/A					Bottle Group(s): A
Field ID: EFF-01 GRAB	Matrix (type, e.g., Salt, Fresh, etc): FRESH EFFLUENT			Diss. Oxygen: 92.9 ☐ mg/L ☒ % sat	Total Res. Chlorine (mg/L): 0.07				
WIN/STORET #	Temp (C): 22.1	pH: 6.76		Sample Depth: N/A ☐ ft ☐ m	Sp. Conductance (umho/cm): 631				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt): N/A	Comments						
Location: NAVARRE BEACH WWTP	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 11/7/23 Time 1000	Eastern Central	Composite end Date N/A Time N/A					Bottle Group(s): D
Field ID: FIELD BLANKS	Matrix (type, e.g., Salt, Fresh, etc): DI WATER			Diss. Oxygen: N/A ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L): N/A				
WIN/STORET #	Temp (C): N/A	pH: N/A		Sample Depth: N/A ☐ ft ☐ m	Sp. Conductance (umho/cm): N/A				
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt): N/A	Comments: SAMPLES COLLECTED NEAR EFF-01						
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
MIKE BRUMFIELD	11/7/23 1030	FED EX			11-8-23 09:45

RQ-2023-10-23-30	**Collected By:** Nathan Mulkey, Myranda Butler
Customer: FDEP	**Field Report Prepared by:** Nathan Mulkey, Myranda Butler
Project ID: SPPROJECTS	**Sampling Agency:** FDEP
WIN ID/Field ID:  **WIN ID/Field ID:** Navarre Beach WWTP Control	**Comments:** Microbiology sample(s) submitted to contract laboratory.
Location: Navarre Beach WWTP Control	
Matrix: Marine	(Check One) ✓Grab ☐ Composite

Date and Time {CEN}	DO (mg/L)	DO (%SAT)	Temp. °C	pH	Sample Depth (m)	Secchi Depth	Total Depth (m)	Sp COND (µmhos /cm)	Salinity (PPTh)
11/7/2023 915	8.23	104.6	19.2	8	0.3	2.4	2.4	42141	27.13

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	X W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP Lot # 3193140 Exp: 07/31/2024	X Ice X H2SO4*	<2	1	C
Metals (P-500ML)	x W-ICPMS X W-ICP X W-HARD Lot # 3123030 Exp: 05/10/2024	X Ice X HNO3*	<2	1	C
Filtered Nutrients (P125ML)	x W-PO4-F X Field Filtered 0.45 um Filter Filter Lot # 17460495 Syringe Lot # 1363514	x Ice		1	C
BOD (BP-1L)	OV-BODUNIN	Ice			
Chlorophyll (BP-1L)	x CHLSUITE-W	x Ice		1	C
Physical/Aggregate (Fresh) (P-1L)	x Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W- TDS	x Ice		1	C
Physical/Aggregate (Marine) (P-1L)	Alkalinity / W-F / W-TSS / TURBIDITY	Ice			
Macroinvertebrates (PJ-2L)	MI-FW-QLDC Formalin Lot #	Formalin			
Periphyton (PT-50ML)	ALGAE-ID	Ice			
Microbiology (Contract Lab Bottle)	E Coli X F Coli X Enterococci X Contract Lab	x Ice		2	C
Molecular (QPCR-P-500ML)	PCR-HF183 PCR-BacR PCR-DG3 PCR-GULL2 PCR-GFD	Ice			
Tracers (BG-500ML)	X W-E8321-DI X W-E8321-MS	x Ice		1	C
Pesticides (BG-500ML) (BG-1L)	W-E8321-DI W-E8321-MS W-PSNP-TQ W-PCL-TQ-R W-CARB-AA (5 ml of MCAA Buffer Solution) W-CT-CL-R W-TR-SQ-R W-PCB-TQ-R	Ice MCAA Exp.	MCAA Lot#		
Phytoplankton (BP-1L)	DTY-QN-C PKD-QN-BV	Ice			
DOC (P-500ML)	W-DOC Field Filtered 0.45 um Filter Acid Preservative Expiration Date	Ice H2SO4*	<2		

RQ-2023-10-23-30	**Collected By:** Nathan Mulkey, Myranda Butler
Customer: FDEP	**Field Report Prepared by:** Nathan Mulkey, Myranda Butler
Project ID: SPPROJECTS	**Sampling Agency:** FDEP
WIN ID/Field ID:  **WIN ID/Field ID:** Navarre Beach WWTP Test 1	**Comments:** Microbiology sample(s) submitted to contract laboratory.
Location: Navarre Beach WWTP Test 1	
Matrix: Marine	(Check One) ✓Grab ☐ Composite

Date and Time {CEN}	DO (mg/L)	DO (%SAT)	Temp. °C	pH	Sample Depth (m)	Secchi Depth	Total Depth (m)	Sp COND (µmhos /cm)	Salinity (PPTh)
11/7/2023 945	8.17	103.4	19	8.06	0.3	2.8	3.6	42145	27.11

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	X W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP Lot # 3193140 Exp: 07/31/2024	X Ice X H2SO4*	<2	1	C
Metals (P-500ML)	x W-ICPMS X W-ICP X W-HARD Lot # 3123030 Exp: 05/10/2024	X Ice X HNO3*	<2	1	C
Filtered Nutrients (P125ML)	x W-PO4-F X Field Filtered 0.45 um Filter Filter Lot # 17460495 Syringe Lot # 1363514	x Ice		1	C
BOD (BP-1L)	OV-BODUNIN	Ice			
Chlorophyll (BP-1L)	x CHLSUITE-W	x Ice		1	C
Physical/Aggregate (Fresh) (P-1L)	X Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W- TDS	x Ice		1	C
Physical/Aggregate (Marine) (P-1L)	Alkalinity / W-F / W-TSS / TURBIDITY	Ice			
Macroinvertebrates (PJ-2L)	MI-FW-QLDC Formalin Lot #	Formalin			
Periphyton (PT-50ML)	ALGAE-ID	Ice			
Microbiology (Contract Lab Bottle)	E Coli X F Coli X Enterococci X Contract Lab	x Ice		2	C
Molecular (QPCR-P-500ML)	PCR-HF183 PCR-BacR PCR-DG3 PCR-GULL2 PCR-GFD	Ice			
Tracers (BG-500ML)	X W-E8321-DI X W-E8321-MS	x Ice		1	C
Pesticides (BG-500ML) (BG-1L)	W-E8321-DI W-E8321-MS W-PSNP-TQ W-PCL-TQ-R W-CARB-AA (5 ml of MCAA Buffer Solution) W-CT-CL-R W-TR-SQ-R W-PCB-TQ-R	Ice MCAA Exp.	MCAA Lot#		
Phytoplankton (BP-1L)	DTY-QN-C PKD-QN-BV	Ice			
DOC (P-500ML)	W-DOC Field Filtered 0.45 um Filter Acid Preservative Expiration Date	Ice H2SO4*	<2		

RQ-2023-10-23-30	**Collected By:** Nathan Mulkey, Myranda Butler
Customer: FDEP	**Field Report Prepared by:** Nathan Mulkey, Myranda Butler
Project ID: SPPROJECTS	**Sampling Agency:** FDEP
WIN ID/Field ID:  **WIN ID/Field ID:** Navarre Beach WWTP Test 2	**Comments:** Microbiology sample(s) submitted to contract laboratory.
Location: Navarre Beach WWTP Test 2	
Matrix: Marine	(Check One) ✓Grab ☐ Composite

Date and Time {CEN}	DO (mg/L)	DO (%SAT)	Temp. °C	pH	Sample Depth (m)	Secchi Depth	Total Depth (m)	Sp COND (µmhos /cm)	Salinity (PPTh)
11/7/2023 1000	8.14	103.2	19.2	8.07	DNS	2.7	2.7	42106	27.09

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	X W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP; Lot # 3193140; Exp: 07/31/2024	X Ice X H2SO4*	<2	1	C
Metals (P-500ML)	X W-ICPMS X W-ICP X W-HARD; Lot # 3123030; Exp: 05/10/2024	X Ice X HNO3*	<2	1	C
Filtered Nutrients (P125ML)	X W-PO4-F X Field Filtered 0.45 um Filter; Filter Lot # 17460495; Syringe Lot # 1363514	X Ice		1	C
BOD (BP-1L)	OV-BODUNIN	Ice			
Chlorophyll (BP-1L)	X CHLSUITE-W	X Ice		1	C
Physical/Aggregate (Fresh) (P-1L)	X Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	X Ice		1	C
Physical/Aggregate (Marine) (P-1L)	Alkalinity / W-F / W-TSS / TURBIDITY	Ice			
Macroinvertebrates (PJ-2L)	MI-FW-QLDC; Formalin Lot #	Formalin			
Periphyton (PT-50ML)	ALGAE-ID	Ice			
Microbiology (Contract Lab Bottle)	E Coli X F Coli X Enterococci; X Contract Lab	X Ice		2	C
Molecular (QPCR-P-500ML)	PCR-HF183 PCR-BacR PCR-DG3; PCR-GULL2 PCR-GFD	Ice			
Tracers (BG-500ML)	X W-E8321-DI X W-E8321-MS	X Ice		1	C
Pesticides (BG-500ML) (BG-1L)	W-E8321-DI W-E8321-MS W-PSNP-TQ; W-PCL-TQ-R W-CARB-AA (5 ml of MCAA Buffer Solution) W-CT-CL-R; W-TR-SQ-R W-PCB-TQ-R	Ice; MCAA Exp.	MCAA Lot#		
Phytoplankton (BP-1L)	DTY-QN-C PKD-QN-BV	Ice			
DOC (P-500ML)	W-DOC; Field Filtered 0.45 um Filter; Acid Preservative Expiration Date	Ice H2SO4*	<2		

SAMPLE TRANSMITTAL FORM
Document Reference # 05.1.0

Project: FDEP | Laboratory: Wetlands Research Laboratory | Sampler's intials: CA

Method of transport: on ice by hand | Page 1 of 1

Samples delivered by: Mike Brumfield of FDEP CAMERON ARTHUR | Date/Time: 11/7/23 1139

Sample received by: of WRL | Date/Time: 11/07/23 1139

Lab ID	Sample ID	Matrix[1]	Type[2]	Container Type	Analyses Requested	Preservative	Sample (°C)[3]	Sampling Date/Time
23-52144	EFF-01 ENQ FCQ	WW	G	Sterile plastic	*E. coli* (QT) and Fecal Coliforms (QT)	ice/$Na_2S_2O_3$	3.4	11-7-23/9:25

Comments: **Sample Container lot#** L21347 # PO# C1E884

RQ - 2023-10-23-30

Contact organization FDEP | Contact name: Mike Brumfield email: Mike.Brumfield@floridadep.gov Phone: (850) 595-0557

Address 160 Governmental Center, suite 308, Pensacola, FL 32502 | Sampler's name: Mike Brumfield

[1]Matrix examples: SW = surface water, PW = pore water, GW = ground water, FW = Freshwater, MW = Marine Water, BW = Brackish Water, WW = Wastewater S = soil/sediment, Other X =

[2]Type codes: G = grab, C = composite, X = | [3] Recorded using IRT-2

SAMPLE TRANSMITTAL FORM
Document Reference # 05.1.0

Project: FDEP Laboratory: Wetlands Research Laboratory Sampler's intials : NM

Method of transport: on ice by hand Page 1 of 1

Samples delivered by: of FDEP Date/Time: 11/7/23 1332

Sample received by: of WRL Date/Time: 11/7/23 1332

Instructions: Fill in all fields except "Lab ID" on sample transport form completely. Each sample container must use a separate line. Place this form in a waterproof bag and place it with the samples for transport. If a field log or other chain of custody is attached, that information may be referenced on this form and the log or COC attached.

CST

Lab ID	Sample ID	Matrix[1]	Type[2]	Container Type	Analyses Requested	Preservative	Sample (°C)[3]	Sampling Date/Time
23-52149	Navarre Beach WWTP CONTROL	SW/MW	G	Sterile plastic	Enterolert 24-QT/Fecal Colilert-18	ice/$Na_2S_2O_3$	4.2	11/7/23 0915
23-52150	Navarre Beach WWTP TEST 1	SW/MW	G	Sterile plastic	Enterolert 24-QT/Fecal Colilert-18	ice/$Na_2S_2O_3$	4.1	0945
23-52151	Navarre Beach WWTP TEST 2	SW/MW	G	Sterile plastic	Enterolert 24-QT/Fecal Colilert-18	ice/$Na_2S_2O_3$	4.3	1000

Comments: **Sample Container lot#** 21347 PO # C1E884 Surface water, no chlorine expected

RQ -2023-10-23-30

Contact organization FDEP Contact name:Nathan Mulkey Phone: 850-595-8300

Address 160 Governmental Center, suite 308, Pensacola, FL 32502 Sampler's name:Nathan Mulkey

[1]Matrix examples: SW = surface water, PW = pore water, GW = ground water, FW = Freshwater, MW = Marine Water, BW = Brackish Water, S = soil/sediment, Other X =

[2]Type codes: G = grab, C = composite, X = [3] Recorded using IRT-2

Appendix D. Chemical Analysis of Effluent and Receiving Water

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:03	EFF-01 Composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.1 J	mg/L	2.0	2.0
11/7/2023 10:03	EFF-01 Composite	Metals	Copper	1.20	µg/L	0.40	0.80
11/7/2023 10:03	EFF-01 Composite	Nutrients	Total-P	1.4	mg P/L	0.050	0.25
11/7/2023 10:03	EFF-01 Composite	Nutrients	Ammonia-N	0.040	mg N/L	0.0020	0.0050
11/7/2023 10:03	EFF-01 Composite	Nutrients	Kjeldahl Nitrogen	0.65	mg N/L	0.080	0.20
11/7/2023 10:03	EFF-01 Composite	Nutrients	NO2NO3-N	0.67	mg N/L	0.0080	0.020
11/7/2023 10:03	EFF-01 Composite	Nutrients	Organic Carbon	4.0	mg C/L	0.50	1.0
11/7/2023 10:03	EFF-01 Composite	Nutrients	TSS	2 I	mg/L	2.0	10
11/7/2023 10:03	EFF-01 Composite	Nutrients	Temperature	4.2	C		
11/7/2023 10:25	EFF-01 Grab	AGP/LN	Algal Growth Potential	0.585 I	mg DryWt/L	0.300	0.900
11/7/2023 10:25	EFF-01 Grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	3.00 U	mg DryWt/L	3.00	3.00
11/7/2023 10:25	EFF-01 Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 U	µg/L	0.60	1.8
11/7/2023 10:25	EFF-01 Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
11/7/2023 10:25	EFF-01 Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
11/7/2023 10:25	EFF-01 Grab	Overflow	Escherichia Coli-Quanti-Tray	10 U	MPN/100 mL	10	10
11/7/2023 10:25	EFF-01 Grab	Overflow	Fecal Coliform-Quanti-Tray	10 U	MPN/100 mL	10	10
11/7/2023 10:25	EFF-01 Grab	Metals	Copper	0.47 I	µg/L	0.40	0.80
11/7/2023 10:25	EFF-01 Grab	Metals	Aluminum	39	µg/L	5.0	20
11/7/2023 10:25	EFF-01 Grab	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
11/7/2023 10:25	EFF-01 Grab	Metals	Magnesium	5.75	mg/L	0.040	0.16
11/7/2023 10:25	EFF-01 Grab	Metals	Iron	30 U	µg/L	30	120
11/7/2023 10:25	EFF-01 Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
11/7/2023 10:25	EFF-01 Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
11/7/2023 10:25	EFF-01 Grab	Metals	Sodium	103	mg/L	0.50	2.0
11/7/2023 10:25	EFF-01 Grab	Metals	Nickel	0.56 I	µg/L	0.50	2.0
11/7/2023 10:25	EFF-01 Grab	Metals	Zinc	57	µg/L	5.0	20
11/7/2023 10:25	EFF-01 Grab	Metals	Calcium	19.3	mg/L	0.075	0.30
11/7/2023 10:25	EFF-01 Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
11/7/2023 10:25	EFF-01 Grab	Metals	Potassium	10.5	mg/L	0.30	1.2
11/7/2023 10:25	EFF-01 Grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
11/7/2023 10:25	EFF-01 Grab	Metals	Arsenic	2.55	µg/L	0.050	0.20
11/7/2023 10:25	EFF-01 Grab	Nutrients	Color (true)	2.5 UA	PCU	2.5	6.0
11/7/2023 10:25	EFF-01 Grab	Nutrients	Sulfate	70 A	mg SO4/L	0.40	1.0
11/7/2023 10:25	EFF-01 Grab	Nutrients	O-Phosphate-P	1.2	mg P/L	0.080	0.20

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:25	EFF-01 Grab	Nutrients	Fluoride	0.028 I	mg F/L	0.025	0.10
11/7/2023 10:25	EFF-01 Grab	Nutrients	Organic Carbon	3.5 A	mg C/L	0.50	1.0
11/7/2023 10:25	EFF-01 Grab	Nutrients	Total Alkalinity	107 A	mg CaCO3/L	0.65	2.5
11/7/2023 10:25	EFF-01 Grab	Nutrients	Kjeldahl Nitrogen	0.57	mg N/L	0.080	0.20
11/7/2023 10:25	EFF-01 Grab	Nutrients	Total-P	1.2	mg P/L	0.050	0.25
11/7/2023 10:25	EFF-01 Grab	Nutrients	NO2NO3-N	0.44	mg N/L	0.0080	0.020
11/7/2023 10:25	EFF-01 Grab	Nutrients	Chloride	87 A	mg Cl/L	0.40	1.0
11/7/2023 10:25	EFF-01 Grab	Nutrients	Turbidity	0.60 I	NTU	0.10	1.0
11/7/2023 10:25	EFF-01 Grab	Nutrients	Ammonia-N	0.038	mg N/L	0.0020	0.0050
11/7/2023 10:25	EFF-01 Grab	Pesticides	Alachlor	0.41 U	ng/L	0.41	2.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Azoxystrobin	0.41 U	ng/L	0.41	2.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Bromacil	0.61 U	ng/L	0.61	3.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Hexazinone	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Oxadiazon	0.36 U	ng/L	0.36	1.8
11/7/2023 10:25	EFF-01 Grab	Pesticides	Parathion Methyl	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Prodiamine	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Acetochlor	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Carfentrazone Ethyl	0.15 U	ng/L	0.15	0.76
11/7/2023 10:25	EFF-01 Grab	Pesticides	Demeton	3.6 U	ng/L	3.6	18
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fenamiphos	0.46 U	ng/L	0.46	2.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fludioxonil	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Malathion	0.36 U	ng/L	0.36	1.8
11/7/2023 10:25	EFF-01 Grab	Pesticides	Metribuzin	0.41 U	ng/L	0.41	2.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	5.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Sulfentrazone	1.4 U	ng/L	1.4	7.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Dithiopyr	1.0 U	ng/L	1.0	5.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fipronil Desulfinyl	0.63	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Flutolanil	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fluxapyroxad	0.25 U	ng/L	0.25	1.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Iprodione	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Metolachlor	0.76 U	ng/L	0.76	3.8
11/7/2023 10:25	EFF-01 Grab	Pesticides	Molinate	0.25 U	ng/L	0.25	1.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Naled	2.5 U	ng/L	2.5	13
11/7/2023 10:25	EFF-01 Grab	Pesticides	Pendimethalin	1.7 U	ng/L	1.7	8.7
11/7/2023 10:25	EFF-01 Grab	Pesticides	Prometryn	0.36 U	ng/L	0.36	1.8
11/7/2023 10:25	EFF-01 Grab	Pesticides	Chlorpyrifos Ethyl	0.31 U	ng/L	0.31	1.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Chlorpyrifos Methyl	0.10 U	ng/L	0.10	0.51

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:25	EFF-01 Grab	Pesticides	EPTC	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Flumioxazin	3.1 U	ng/L	3.1	15
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fonofos	0.15 U	ng/L	0.15	0.76
11/7/2023 10:25	EFF-01 Grab	Pesticides	Pronamide	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
11/7/2023 10:25	EFF-01 Grab	Pesticides	Atrazine Desethyl	1.3 U	ng/L	1.3	6.6
11/7/2023 10:25	EFF-01 Grab	Pesticides	Butylate	0.46 U	ng/L	0.46	2.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Ethion	0.31 U	ng/L	0.31	1.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fenbuconazole	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fipronil Sulfone	0.10 U	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Imazalil	0.66 U	ng/L	0.66	3.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Propiconazole	3.6	ng/L	0.61	3.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Terbufos	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Carbophenothion	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.64
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fipronil	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Fipronil Sulfide	3.9	ng/L	0.10	0.51
11/7/2023 10:25	EFF-01 Grab	Pesticides	Norflurazon	1.0 U	ng/L	1.0	5.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Phorate	0.25 U	ng/L	0.25	1.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Terbuthylazine	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Sucralose	83	µg/L	0.10	0.40
11/7/2023 10:25	EFF-01 Grab	Pesticides	Ametryn	1.1 U	ng/L	1.1	5.6
11/7/2023 10:25	EFF-01 Grab	Pesticides	Atrazine	2.4	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Azinphos Methyl	3.1 U	ng/L	3.1	15
11/7/2023 10:25	EFF-01 Grab	Pesticides	Cyanazine	5.1 U	ng/L	5.1	25
11/7/2023 10:25	EFF-01 Grab	Pesticides	Ethoprop	0.13 U	ng/L	0.13	0.64
11/7/2023 10:25	EFF-01 Grab	Pesticides	Oxyfluorfen	0.20 U	ng/L	0.20	1.0
11/7/2023 10:25	EFF-01 Grab	Pesticides	Prometon	3.1 U	ng/L	3.1	15
11/7/2023 10:25	EFF-01 Grab	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
11/7/2023 10:25	EFF-01 Grab	Pesticides	Difenoconazole	0.61 U	ng/L	0.61	3.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Disulfoton	0.61 U	ng/L	0.61	3.1
11/7/2023 10:25	EFF-01 Grab	Pesticides	Metalaxyl	0.51 U	ng/L	0.51	2.5
11/7/2023 10:25	EFF-01 Grab	Pesticides	Myclobutanil	0.36 U	ng/L	0.36	1.8
11/7/2023 10:25	EFF-01 Grab	Pesticides	Parathion Ethyl	0.15 U	ng/L	0.15	0.76
11/7/2023 10:25	EFF-01 Grab	Pesticides	Pyriproxyfen	0.25 U	ng/L	0.25	1.6
11/7/2023 10:25	EFF-01 Grab	Pesticides	Simazine	0.25 U	ng/L	0.25	1.3
11/7/2023 10:25	EFF-01 Grab	Pesticides	Tebuconazole	5.9 I	ng/L	1.4	7.1
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2-Chlorophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.051 U	µg/L	0.051	0.20

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Phenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Nitrobenzene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Dimethyl phthalate	0.20 U	µg/L	0.20	0.82
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	µg/L	2.0	8.2
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Pentachlorophenol	0.51 U	µg/L	0.51	2.0
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.1 U	µg/L	5.1	20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Isophorone	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Anthracene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Diethyl phthalate	2.0 U	µg/L	2.0	8.2
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Fluoranthene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Hexachlorobenzene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Hexachloroethane	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	µg/L	2.0	8.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2-Nitrophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.5 I	µg/L	1.0	4.1
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	41
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
11/7/2023 10:25	EFF-01 Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.051 U	µg/L	0.051	0.20
11/7/2023 10:25	EFF-01 Grab	Nutrients	Temperature	22.1	C		
11/7/2023 10:25	EFF-01 Grab	Nutrients	Dissolved Oxygen %Sat	92.9	%Sat		
11/7/2023 10:25	EFF-01 Grab	Nutrients	Specific Conductance	631	umhos/cm		
11/7/2023 10:25	EFF-01 Grab	Nutrients	pH	6.76			
11/7/2023 10:15	Control Site	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3.00	3.00
11/7/2023 10:15	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.4 I	µg/L	0.60	1.8
11/7/2023 10:15	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.6 I	µg/L	0.82	2.5
11/7/2023 10:15	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
11/7/2023 10:15	Control Site	Overflow	Fecal Coliform-Quanti-Tray	10 UJ	MPN/100 mL	10	10
11/7/2023 10:15	Control Site	Overflow	Enterococci-Quanti-Tray	10 U	MPN/100 mL	10	10
11/7/2023 10:15	Control Site	Metals	Cadmium	0.080 U	µg/L	0.080	0.32
11/7/2023 10:15	Control Site	Metals	Aluminum	566	µg/L	20	80
11/7/2023 10:15	Control Site	Metals	Potassium	310	mg/L	30	120
11/7/2023 10:15	Control Site	Metals	Silver	0.040 U	µg/L	0.040	0.16
11/7/2023 10:15	Control Site	Metals	Calcium	314	mg/L	0.30	1.2
11/7/2023 10:15	Control Site	Metals	Zinc	20 U	µg/L	20	80
11/7/2023 10:15	Control Site	Metals	Sodium	8.63E+03	mg/L	50	200
11/7/2023 10:15	Control Site	Metals	Copper	2.3 I	µg/L	1.6	3.2
11/7/2023 10:15	Control Site	Metals	Arsenic	1.31	µg/L	0.20	0.80
11/7/2023 10:15	Control Site	Metals	Chromium	4.0 U	µg/L	4.0	16
11/7/2023 10:15	Control Site	Metals	Nickel	2.0 U	µg/L	2.0	8.0
11/7/2023 10:15	Control Site	Metals	Selenium	0.80 U	µg/L	0.80	3.2
11/7/2023 10:15	Control Site	Metals	Magnesium	986	mg/L	4.0	16
11/7/2023 10:15	Control Site	Metals	Lead	2.0 U	µg/L	2.0	4.0
11/7/2023 10:15	Control Site	Metals	Iron	120 U	µg/L	120	480
11/7/2023 10:15	Control Site	Nutrients	Organic Carbon	2.0 I	mg C/L	2.0	4.0
11/7/2023 10:15	Control Site	Nutrients	Ammonia-N	0.004 I	mg N/L	0.0020	0.0050

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:15	Control Site	Nutrients	TSS	4 I	mg/L	3.0	10
11/7/2023 10:15	Control Site	Nutrients	Total-P	0.006 I	mg P/L	0.0040	0.010
11/7/2023 10:15	Control Site	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
11/7/2023 10:15	Control Site	Nutrients	Sulfate	2.2E+03	mg SO4/L	80	200
11/7/2023 10:15	Control Site	Nutrients	Kjeldahl Nitrogen	0.23 I	mg N/L	0.16	0.40
11/7/2023 10:15	Control Site	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
11/7/2023 10:15	Control Site	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
11/7/2023 10:15	Control Site	Nutrients	Chloride	1.5E+04	mg Cl/L	80	200
11/7/2023 10:15	Control Site	Nutrients	Fluoride	1.0	mg F/L	0.12	0.50
11/7/2023 10:15	Control Site	Nutrients	Turbidity	1.2	NTU	0.10	1.0
11/7/2023 10:15	Control Site	Nutrients	Total Alkalinity	97	mg CaCO3/L	0.65	2.5
11/7/2023 10:15	Control Site	Pesticides	Sucralose	0.13	µg/L	0.010	0.040
11/7/2023 10:15	Control Site	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
11/7/2023 10:15	Control Site	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
11/7/2023 10:15	Control Site	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
11/7/2023 10:15	Control Site	Nutrients	Sample Depth	0.3	m		
11/7/2023 10:15	Control Site	Nutrients	Specific Conductance	42141	umhos/cm		
11/7/2023 10:15	Control Site	Nutrients	Temperature	19.2	C		
11/7/2023 10:15	Control Site	Nutrients	pH	8			
11/7/2023 10:15	Control Site	Nutrients	Dissolved Oxygen %Sat	104.6	%Sat		
11/7/2023 10:45	Test Site 1	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3.00	3.00
11/7/2023 10:45	Test Site 1	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.4 I	µg/L	0.89	2.7
11/7/2023 10:45	Test Site 1	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.3 I	µg/L	0.65	2.0
11/7/2023 10:45	Test Site 1	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.98 U	µg/L	0.98	2.9
11/7/2023 10:45	Test Site 1	Overflow	Fecal Coliform-Quanti-Tray	10 UJ	MPN/100 mL	10	10
11/7/2023 10:45	Test Site 1	Overflow	Enterococci-Quanti-Tray	10 U	MPN/100 mL	10	10
11/7/2023 10:45	Test Site 1	Metals	Iron	120 U	µg/L	120	480
11/7/2023 10:45	Test Site 1	Metals	Silver	0.040 U	µg/L	0.040	0.16
11/7/2023 10:45	Test Site 1	Metals	Arsenic	1.44	µg/L	0.20	0.80
11/7/2023 10:45	Test Site 1	Metals	Potassium	310	mg/L	30	120
11/7/2023 10:45	Test Site 1	Metals	Sodium	8.49E+03	mg/L	50	200
11/7/2023 10:45	Test Site 1	Metals	Selenium	0.80 U	µg/L	0.80	3.2
11/7/2023 10:45	Test Site 1	Metals	Copper	1.6 U	µg/L	1.6	3.2
11/7/2023 10:45	Test Site 1	Metals	Lead	2.0 U	µg/L	2.0	4.0
11/7/2023 10:45	Test Site 1	Metals	Cadmium	0.080 U	µg/L	0.080	0.32
11/7/2023 10:45	Test Site 1	Metals	Aluminum	320	µg/L	20	80
11/7/2023 10:45	Test Site 1	Metals	Chromium	4.0 U	µg/L	4.0	16
11/7/2023 10:45	Test Site 1	Metals	Zinc	20 U	µg/L	20	80
11/7/2023 10:45	Test Site 1	Metals	Magnesium	965	mg/L	4.0	16

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 10:45	Test Site 1	Metals	Nickel	2.0 U	µg/L	2.0	8.0
11/7/2023 10:45	Test Site 1	Metals	Calcium	297	mg/L	0.30	1.2
11/7/2023 10:45	Test Site 1	Nutrients	Ammonia-N	0.004 I	mg N/L	0.0020	0.0050
11/7/2023 10:45	Test Site 1	Nutrients	Fluoride	1.0	mg F/L	0.12	0.50
11/7/2023 10:45	Test Site 1	Nutrients	O-Phosphate-P	0.004 I	mg P/L	0.0040	0.010
11/7/2023 10:45	Test Site 1	Nutrients	TSS	5 I	mg/L	3.0	10
11/7/2023 10:45	Test Site 1	Nutrients	Total Alkalinity	96	mg CaCO3/L	0.65	2.5
11/7/2023 10:45	Test Site 1	Nutrients	Organic Carbon	2.0 U	mg C/L	2.0	4.0
11/7/2023 10:45	Test Site 1	Nutrients	Color (true)	5.0 U	PCU	5.0	12
11/7/2023 10:45	Test Site 1	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
11/7/2023 10:45	Test Site 1	Nutrients	Sulfate	2.2E+03	mg SO4/L	80	200
11/7/2023 10:45	Test Site 1	Nutrients	Total-P	0.006 I	mg P/L	0.0040	0.010
11/7/2023 10:45	Test Site 1	Nutrients	Chloride	1.5E+04	mg Cl/L	80	200
11/7/2023 10:45	Test Site 1	Nutrients	Kjeldahl Nitrogen	0.34 I	mg N/L	0.16	0.40
11/7/2023 10:45	Test Site 1	Nutrients	Turbidity	1.1	NTU	0.10	1.0
11/7/2023 10:45	Test Site 1	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
11/7/2023 10:45	Test Site 1	Pesticides	Sucralose	0.29	µg/L	0.010	0.040
11/7/2023 10:45	Test Site 1	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
11/7/2023 10:45	Test Site 1	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
11/7/2023 10:45	Test Site 1	Nutrients	Specific Conductance	42145	µmhos/cm		
11/7/2023 10:45	Test Site 1	Nutrients	Dissolved Oxygen %Sat	103.4	%Sat		
11/7/2023 10:45	Test Site 1	Nutrients	Sample Depth	0.3	m		
11/7/2023 10:45	Test Site 1	Nutrients	pH	8.06			
11/7/2023 10:45	Test Site 1	Nutrients	Temperature	19	C		
11/7/2023 11:00	Test Site 2	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3.00	3.00
11/7/2023 11:00	Test Site 2	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.5 I	µg/L	0.60	1.8
11/7/2023 11:00	Test Site 2	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.7 I	µg/L	0.82	2.5
11/7/2023 11:00	Test Site 2	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
11/7/2023 11:00	Test Site 2	Overflow	Fecal Coliform-Quanti-Tray	10 UJ	MPN/100 mL	10	10
11/7/2023 11:00	Test Site 2	Overflow	Enterococci-Quanti-Tray	10 U	MPN/100 mL	10	10
11/7/2023 11:00	Test Site 2	Metals	Nickel	2.0 U	µg/L	2.0	8.0
11/7/2023 11:00	Test Site 2	Metals	Arsenic	1.37	µg/L	0.20	0.80
11/7/2023 11:00	Test Site 2	Metals	Cadmium	0.080 U	µg/L	0.080	0.32
11/7/2023 11:00	Test Site 2	Metals	Selenium	0.80 U	µg/L	0.80	3.2
11/7/2023 11:00	Test Site 2	Metals	Magnesium	996	mg/L	4.0	16
11/7/2023 11:00	Test Site 2	Metals	Silver	0.040 U	µg/L	0.040	0.16
11/7/2023 11:00	Test Site 2	Metals	Calcium	296	mg/L	0.30	1.2
11/7/2023 11:00	Test Site 2	Metals	Copper	2.1 I	µg/L	1.6	3.2
11/7/2023 11:00	Test Site 2	Metals	Potassium	330	mg/L	30	120

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 11:00	Test Site 2	Metals	Chromium	4.0 U	µg/L	4.0	16
11/7/2023 11:00	Test Site 2	Metals	Sodium	8.66E+03	mg/L	50	200
11/7/2023 11:00	Test Site 2	Metals	Zinc	20 U	µg/L	20	80
11/7/2023 11:00	Test Site 2	Metals	Lead	2.0 U	µg/L	2.0	4.0
11/7/2023 11:00	Test Site 2	Metals	Iron	120 U	µg/L	120	480
11/7/2023 11:00	Test Site 2	Metals	Aluminum	43 I	µg/L	20	80
11/7/2023 11:00	Test Site 2	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
11/7/2023 11:00	Test Site 2	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
11/7/2023 11:00	Test Site 2	Nutrients	Total-P	0.008 I	mg P/L	0.0040	0.010
11/7/2023 11:00	Test Site 2	Nutrients	Ammonia-N	0.005 I	mg N/L	0.0020	0.0050
11/7/2023 11:00	Test Site 2	Nutrients	Kjeldahl Nitrogen	0.24 I	mg N/L	0.16	0.40
11/7/2023 11:00	Test Site 2	Nutrients	Total Alkalinity	98	mg CaCO3/L	0.65	2.5
11/7/2023 11:00	Test Site 2	Nutrients	Organic Carbon	2.4 I	mg C/L	2.0	4.0
11/7/2023 11:00	Test Site 2	Nutrients	NO2NO3-N	0.006 I	mg N/L	0.0040	0.010
11/7/2023 11:00	Test Site 2	Nutrients	Chloride	1.6E+04	mg Cl/L	80	200
11/7/2023 11:00	Test Site 2	Nutrients	TSS	3 IA	mg/L	3.0	10
11/7/2023 11:00	Test Site 2	Nutrients	Sulfate	2.2E+03	mg SO4/L	80	200
11/7/2023 11:00	Test Site 2	Nutrients	Fluoride	1.1	mg F/L	0.12	0.50
11/7/2023 11:00	Test Site 2	Nutrients	Turbidity	1.0	NTU	0.10	1.0
11/7/2023 11:00	Test Site 2	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
11/7/2023 11:00	Test Site 2	Pesticides	Sucralose	0.40	µg/L	0.010	0.040
11/7/2023 11:00	Test Site 2	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
11/7/2023 11:00	Test Site 2	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
11/7/2023 11:00	Test Site 2	Nutrients	Dissolved Oxygen %Sat	103.2	%Sat		
11/7/2023 11:00	Test Site 2	Nutrients	pH	8.07			
11/7/2023 11:00	Test Site 2	Nutrients	Specific Conductance	42106	umhos/cm		
11/7/2023 11:00	Test Site 2	Nutrients	Temperature	19.2	C		
11/7/2023 11:00	Test Site 2	Nutrients	Sample Depth	0.3	m		
11/7/2023 11:00	Field blanks	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
11/7/2023 11:00	Field blanks	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
11/7/2023 11:00	Field blanks	Metals	Calcium	0.075 U	mg/L	0.075	0.30
11/7/2023 11:00	Field blanks	Metals	Silver	0.010 U	µg/L	0.010	0.040
11/7/2023 11:00	Field blanks	Metals	Sodium	0.50 U	mg/L	0.50	2.0
11/7/2023 11:00	Field blanks	Metals	Selenium	0.20 U	µg/L	0.20	0.80
11/7/2023 11:00	Field blanks	Metals	Copper	0.40 U	µg/L	0.40	0.80
11/7/2023 11:00	Field blanks	Metals	Zinc	5.0 U	µg/L	5.0	20
11/7/2023 11:00	Field blanks	Metals	Potassium	0.30 U	mg/L	0.30	1.2
11/7/2023 11:00	Field blanks	Metals	Nickel	0.50 U	µg/L	0.50	2.0
11/7/2023 11:00	Field blanks	Metals	Lead	0.20 U	µg/L	0.20	0.40

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 11:00	Field blanks	Metals	Aluminum	5.0 U	µg/L	5.0	20
11/7/2023 11:00	Field blanks	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
11/7/2023 11:00	Field blanks	Metals	Iron	30 U	µg/L	30	120
11/7/2023 11:00	Field blanks	Metals	Chromium	0.40 U	µg/L	0.40	1.6
11/7/2023 11:00	Field blanks	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
11/7/2023 11:00	Field blanks	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
11/7/2023 11:00	Field blanks	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
11/7/2023 11:00	Field blanks	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
11/7/2023 11:00	Field blanks	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
11/7/2023 11:00	Field blanks	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
11/7/2023 11:00	Field blanks	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
11/7/2023 11:00	Field blanks	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
11/7/2023 11:00	Field blanks	Nutrients	Turbidity	0.10 U	NTU	0.10	1.0
11/7/2023 11:00	Field blanks	Nutrients	Fluoride	0.025 U	mg F/L	0.025	0.10
11/7/2023 11:00	Field blanks	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
11/7/2023 11:00	Field blanks	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
11/7/2023 11:00	Field blanks	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
11/7/2023 11:00	Field blanks	Pesticides	Carfentrazone Ethyl	0.15 U	ng/L	0.15	0.77
11/7/2023 11:00	Field blanks	Pesticides	Difenoconazole	0.62 U	ng/L	0.62	3.1
11/7/2023 11:00	Field blanks	Pesticides	Fludioxonil	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Myclobutanil	0.36 U	ng/L	0.36	1.8
11/7/2023 11:00	Field blanks	Pesticides	Butylate	0.46 U	ng/L	0.46	2.3
11/7/2023 11:00	Field blanks	Pesticides	Demeton	3.6 U	ng/L	3.6	18
11/7/2023 11:00	Field blanks	Pesticides	Imazalil	0.67 U	ng/L	0.67	3.3
11/7/2023 11:00	Field blanks	Pesticides	Metolachlor	0.77 U	ng/L	0.77	3.9
11/7/2023 11:00	Field blanks	Pesticides	Molinate	0.26 U	ng/L	0.26	1.3
11/7/2023 11:00	Field blanks	Pesticides	Phorate	0.26 U	ng/L	0.26	1.3
11/7/2023 11:00	Field blanks	Pesticides	Pronamide	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Fluxapyroxad	0.26 U	ng/L	0.26	1.3
11/7/2023 11:00	Field blanks	Pesticides	Oxyfluorfen	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Chlorpyrifos Ethyl	0.31 U	ng/L	0.31	1.5
11/7/2023 11:00	Field blanks	Pesticides	Ethion	0.31 U	ng/L	0.31	1.5
11/7/2023 11:00	Field blanks	Pesticides	Fenamiphos	0.46 U	ng/L	0.46	2.3
11/7/2023 11:00	Field blanks	Pesticides	Metalaxyl	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Naled	2.6 U	ng/L	2.6	13
11/7/2023 11:00	Field blanks	Pesticides	Parathion Ethyl	0.15 U	ng/L	0.15	0.77
11/7/2023 11:00	Field blanks	Pesticides	Propiconazole	0.62 U	ng/L	0.62	3.1
11/7/2023 11:00	Field blanks	Pesticides	Azoxystrobin	0.41 U	ng/L	0.41	2.1
11/7/2023 11:00	Field blanks	Pesticides	Bromacil	0.62 U	ng/L	0.62	3.1

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 11:00	Field blanks	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Dithiopyr	1.0 U	ng/L	1.0	5.1
11/7/2023 11:00	Field blanks	Pesticides	Flumioxazin	3.1 U	ng/L	3.1	15
11/7/2023 11:00	Field blanks	Pesticides	Malathion	0.36 U	ng/L	0.36	1.8
11/7/2023 11:00	Field blanks	Pesticides	Metribuzin	0.41 U	ng/L	0.41	2.1
11/7/2023 11:00	Field blanks	Pesticides	Prodiamine	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Simazine	0.26 U	ng/L	0.26	1.3
11/7/2023 11:00	Field blanks	Pesticides	Fenbuconazole	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Norflurazon	1.0 U	ng/L	1.0	5.1
11/7/2023 11:00	Field blanks	Pesticides	Oxadiazon	0.36 U	ng/L	0.36	1.8
11/7/2023 11:00	Field blanks	Pesticides	Parathion Methyl	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Prometryn	0.36 U	ng/L	0.36	1.8
11/7/2023 11:00	Field blanks	Pesticides	Sulfentrazone	1.4 U	ng/L	1.4	7.2
11/7/2023 11:00	Field blanks	Pesticides	Ametryn	1.1 U	ng/L	1.1	5.6
11/7/2023 11:00	Field blanks	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.64
11/7/2023 11:00	Field blanks	Pesticides	Fipronil	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Atrazine Desethyl	1.3 U	ng/L	1.3	6.7
11/7/2023 11:00	Field blanks	Pesticides	Azinphos Methyl	3.1 U	ng/L	3.1	15
11/7/2023 11:00	Field blanks	Pesticides	Chlorpyrifos Methyl	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Disulfoton	0.62 U	ng/L	0.62	3.1
11/7/2023 11:00	Field blanks	Pesticides	EPTC	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Ethoprop	0.13 U	ng/L	0.13	0.64
11/7/2023 11:00	Field blanks	Pesticides	Fonofos	0.15 U	ng/L	0.15	0.77
11/7/2023 11:00	Field blanks	Pesticides	Hexazinone	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Mevinphos	1.0 U	ng/L	1.0	5.1
11/7/2023 11:00	Field blanks	Pesticides	Tebuconazole	1.4 U	ng/L	1.4	7.2
11/7/2023 11:00	Field blanks	Pesticides	Terbuthylazine	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
11/7/2023 11:00	Field blanks	Pesticides	Flutolanil	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Iprodione	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Acetochlor	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Alachlor	0.41 U	ng/L	0.41	2.1
11/7/2023 11:00	Field blanks	Pesticides	Atrazine	0.21 U	ng/L	0.21	1.0
11/7/2023 11:00	Field blanks	Pesticides	Cyanazine	5.1 U	ng/L	5.1	26
11/7/2023 11:00	Field blanks	Pesticides	Fipronil Desulfinyl	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Fipronil Sulfide	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Pendimethalin	1.7 U	ng/L	1.7	8.7
11/7/2023 11:00	Field blanks	Pesticides	Terbufos	0.21 U	ng/L	0.21	1.0

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 11:00	Field blanks	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
11/7/2023 11:00	Field blanks	Pesticides	Pyriproxyfen	0.26 U	ng/L	0.26	1.6
11/7/2023 11:00	Field blanks	Pesticides	Carbophenothion	0.51 U	ng/L	0.51	2.6
11/7/2023 11:00	Field blanks	Pesticides	Fipronil Sulfone	0.10 U	ng/L	0.10	0.51
11/7/2023 11:00	Field blanks	Pesticides	Prometon	3.1 U	ng/L	3.1	15
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,4-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Nitrobenzene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,4-Dichlorophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Di-n-octyl phthalate	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Diethyl phthalate	2.0 U	µg/L	2.0	8.2
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Hexachlorobutadiene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2-Nitrophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,4-Dimethylphenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Di-n-butyl phthalate	2.0 U	µg/L	2.0	8.2
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,6-Dinitrotoluene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Hexachloroethane	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	µg/L	2.0	8.2
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Phenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2-Chloronaphthalene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Butyl benzyl phthalate	2.1 I	µg/L	1.0	4.1
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.051 U	µg/L	0.051	0.20

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Fluoranthene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.1 U	µg/L	5.1	20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Dimethyl phthalate	0.20 U	µg/L	0.20	0.82
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Isophorone	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Pentachlorophenol	0.51 U	µg/L	0.51	2.0
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	2-Chlorophenol	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Anthracene	0.051 U	µg/L	0.051	0.20
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	41
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
11/7/2023 11:00	Field blanks	Priority Organic Pollutants	Hexachlorobenzene	0.051 U	µg/L	0.051	0.20