Biological Assessment of Military Point Regional AWT Facility Bay County NPDES # FL0167959 Sampled December 7, 2020

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

Enterococci in the Test and Control Site samples were detected at levels that exceed the facility permit limit and Class III Marine Water Quality Criterion (62-302.530(6)(c), F.A.C.). Discharge Monitoring Report (DMR) trends show effluent enterococci permit exceedances in the last three years, but effluent samples were not collected as scheduled for fecal coliform or enterococci testing due to a coordination error. Because a whole effluent toxicity correction plan is in place and there was a last-minute laboratory capacity issue, scheduled toxicity tests were canceled for this event. The analytical water chemistry and AGP results suggest a potential for nutrient enrichment. Eighteen measured organic constituents were detected in the effluent grab sample, but half were at levels between the laboratory method detection limit (MDL) and practical quantitation limit (PQL). Phenanthrene in the effluent sample was detected at levels exceeding the Class III Marine Water Quality Criterion (62-302.530(57)(a), F.A.C.).

Facility Overview

The Military Point Regional Advanced Wastewater Treatment (AWT) Facility is an advanced domestic wastewater treatment plant. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and DMR information is provided in Appendix A. DMR trends show effluent enterococci permit exceedances in the last three years. The facility is operating under a Plan of Correction for Whole Effluent Toxicity implemented on February 14, 2019 to address toxicity exceedances. The effluent from the Military Point AWT facility is continuously discharged via a diffuser, through a common outfall D-001 with Military Point Industrial Lagoon FL0002631, into St. Andrew Bay, a Class III Marine Water (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Numeric Nutrient Criteria (NNC) for the East Bay (WBID 1061D) within the St. Andrew Bay region. For this region, the NNC, expressed as annual geometric means, are 0.016 mg/L total phosphorus, 0.33 mg/L total nitrogen, and 3.9 µg/L chlorophyll *a* (62-302.532(1)(n)(1), F.A.C.). For Class III predominantly marine waters, the daily average percent DO saturation shall not be below 42 percent saturation in more than 10 percent of the values (62-302.533(2), F.A.C.). This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent samples were taken as grab and 24-hour flow proportional composite samples from monitoring site EFF-04, located in the effluent pump station clear well on December 7, 2020. Receiving water sites were sampled on an outgoing tide. Chemical and biological comparisons were made between a Control Site located approximately 1.8 kilometers northwest of D-001 and

a Test Site approximately 350 meters northeast of D-001. Two additional background sites within WBID 1061D were sampled on December 7, 2020 for nutrient analysis only. Nutrient 1 (NNC1) was located approximately 2.6 kilometers southeast of D-001 and Nutrient 2 (NNC2) was located approximately 3.6 kilometers northwest of D-001 (Figure 1). Chronic Whole Effluent Toxicity tests were scheduled per permit requirement; however, because a whole effluent toxicity correction plan is in place and there was a last-minute laboratory capacity issue, scheduled toxicity tests were canceled for this event. Effluent grab samples for fecal coliform and enterococci analysis were scheduled per permit requirement but samplers did not obtain the bottles from the overflow laboratory and therefore, were not collected. Enterococci tests for the ambient sites were performed by the University of West Florida laboratory, Pensacola, Florida.

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

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

The following were involved in this investigation: Nathan Mulkey and Stopher Slade (DEP Northwest Regional Operation Center, Pensacola), Larry Couch, Steve Hafner and Kevin Grace (Northwest District Office, Pensacola), and DEP Laboratory in Tallahassee. The report was reviewed by District representatives and the Point Source Studies Review Committee (Mike Tanski, Nancy Ross, and Adrienne Pennington).

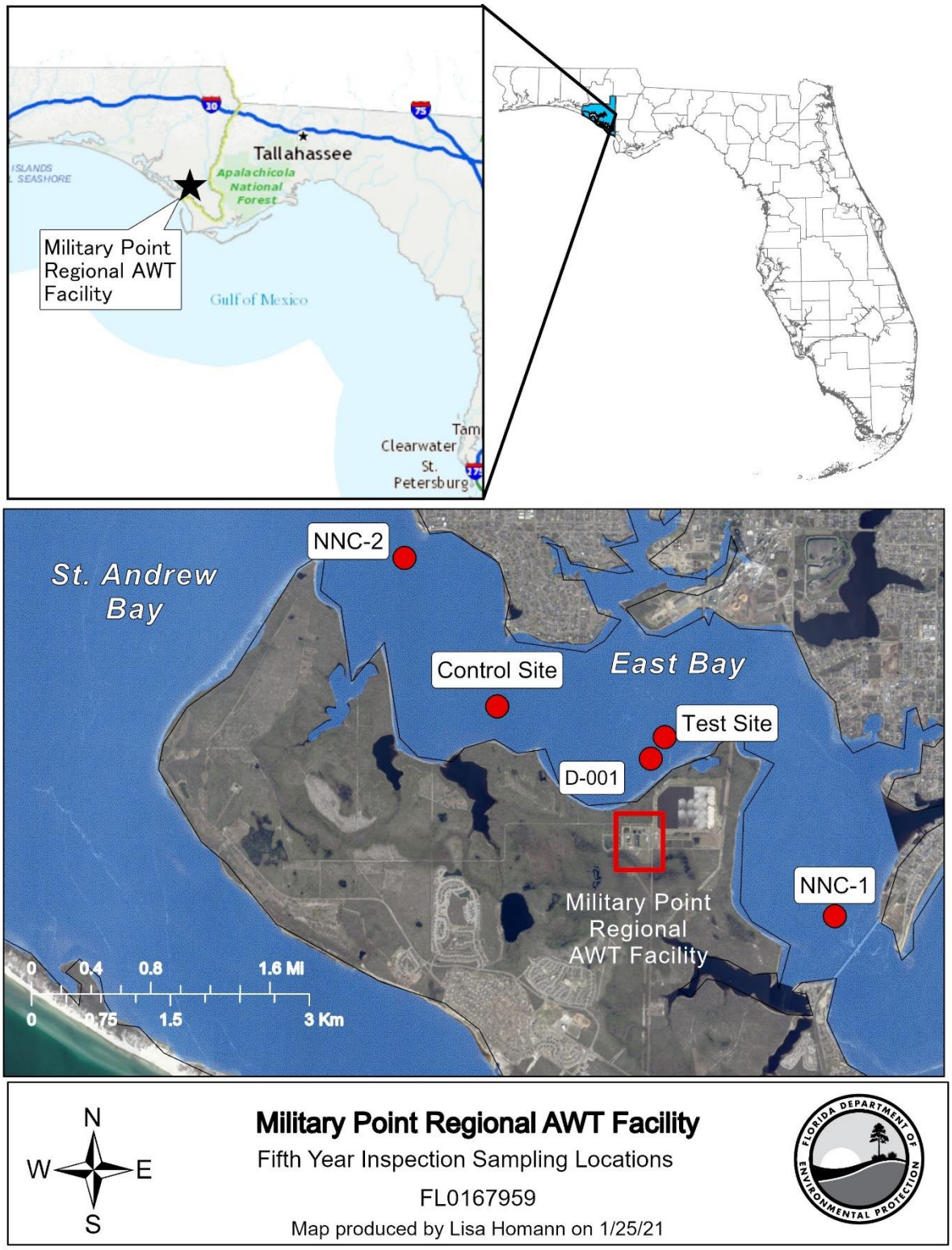


Figure 1. Map of Facility and Sampling Locations

Results

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

- The pH, dissolved oxygen, and total residual chlorine in the effluent complied with the Class III Marine Water Quality Criteria and effluent permit limits.

- The pH and dissolved oxygen in the Test Site, Control Site, and both background sites complied with the Class III Marine Water Quality Criteria.

- The sampler noted sewage and chemical odor detected at the Test Site only.

Analytical Water Chemistry (See Table 2 and Appendix E)

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

- All water chemistry analytes detected in the Test Site, Control Site, NNC1, and NNC2 samples complied with Class III Marine Water Quality Criteria.

- Nutrient values were similar among the Control Site, NNC1, and NNC2 samples. Nutrient measurements were slightly higher in the Test Site samples and highest in the effluent samples. Although, effluent nutrient measurements were higher than those of the Control Site, there are in compliance with the permit limit.

- For comparative purposes only, the values for total phosphorus in the effluent grab, effluent composite, and Test Site samples were greater than the Estuary-Specific Numeric Nutrient Criteria (NNC) annual geometric mean values for the region (62-302.531(n)(1), F.A.C). Total nitrogen (calculated) in the effluent composite and effluent grab single samples was also greater than the NNC annual geometric means.

Microbiology (See Table 2 and Appendix B)

- Enterococci were detected in both the Test and Control Site samples at levels which exceed the Class III Marine Water Quality Criterion (62-302.530(6)(c), F.A.C.). Enterococci were detected at much higher levels in the Test Site sample than in the Control Site sample and were measured at levels over 100 times the Class III Marine Water Quality Criterion.

Metals (See Table 3 and Appendix E)

- All metals detected in the effluent composite sample were detected at levels that complied with Class III Marine Water Quality Criteria and effluent permit limits.

- All metals detected in the Test Site, and Control Site samples were detected at levels that complied with Class III Marine Water Quality Criteria.

- Copper and lead were detected in the field blank. Copper was detected above the PQL while lead was detected between the MDL and PQL.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, and the saltwater species, *Dunaliella tertiolecta*, were used to determine the algal growth potential (AGP) values in the effluent sample. *Dunaliella tertiolecta* was also used to determine the AGP in the Test Site and Control Site samples.

- The effluent AGP result of 218 A is greater than the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.632 parts per thousand (ppth) to a salinity of approximately 6.8 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta* (Maloney et al. 1974)

- The salinity adjusted effluent AGP result is 174 mg dry wt/L. Raschke and Shultz (1987) determined that AGP values above 10.0 mg dry wt/L, which represents a "problem" threshold for marine receiving waters, imply nutrient enrichment. The AGPs of the Control and Test Site samples were below detection for the saltwater species *Dunaliella tertiolecta*.

- Nitrate-nitrite and orthophosphate were not detected in the Control Site sample. Using ½ the method detection limit (MDL) for orthophosphate and nitrate-nitrite in the calculation for total nitrogen to phosphorus ratio, the analytical chemistry suggests that the effluent and the Test Site are nitrogen-limited, and the Control Site is orthophosphate limited (Miller et al. 1978).

- Despite the undetected AGP values of the Test and Control Site samples, the high effluent AGP value sµggests that the facility's effluent has the potential to enrich the East Bay region within St Andrew Bay when the facility is discharging.

Organic Constituents (See Table 5 and Appendix E)

- In the effluent grab sample, atrazine, bromacil, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fluxapyroxad, simazine and tebuconazole were detected at concentrations above the PQL, while azoxystrobin, dithiopyr, hexazinone, prometon, propiconazole, sulfentrazone, acenaphthene, fluorene, and phenanthrene were detected at concentrations between the MDL and PQL. These are organic constituents that serve as herbicides, pesticides, fungicides, and precursors of commercial pigments or dye.

- Phenanthrene, a potential carcinogen, was detected in the effluent sample at levels exceeding the Class III Marine Water Quality Criterion (62-302.530(57)(a), F.A.C.). The levels of acenaphthene and fluorene in the effluent sample complied with Class III

Marine Water Quality Criteria (62-302.530, F.A.C.). The criteria for these polycyclic aromatic hydrocarbons are protective of human health not of aquatic life.

Literature Cited

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

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

Raschke, R.L. and Schultz, D.A. 1987. The use of the algal growth potential test for data assessment. Journal Water Pollution Control Federation.

Stevenson, R. J. and Bahls, L. L. 1999. Periphyton protocols. Pp. 6.1-6.22 in: Rapid bioassessment protocols for use in wadeable streams and rivers. 2nd edition. By: M. T. Barbour, J. Gerritsen, B. D. Snyder and J. B. Stribling. EPA 841-B-99-002. U. S. Environmental Protection Agency, Office of Water, Washington, D. C.

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

Table 1. Measured field parameters

Effluent limits, Class III Marine Water Quality Criteria, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site	NNC 1	NNC 2
Sample Depth	m	-	-	-	-	0.3	0.3	0.3	0.3
Temperature	C	-	-	-	20.6	17.3	16.2	15.4	16.5
pH	SU	6.5 - 8.5 s	6.5- 8.5 s	7.1	7.0	7.9	7.9	7.9	7.9
Specific Conductance	umhos/cm	-	-	-	1,532	45,930	46,460	44,196	46,900
Salinity	ppth	-	-	0 c	0.8 c	40 c	40 c	40 c	40 c
Dissolved Oxygen	% saturation	≥ 42	≥ 42	97.2	85.6 c	99.9 c	105.7 c	107.1 c	104.4 c
Dissolved Oxygen	mg/L	-	-	-	7.6	7.7	8.3	8.6	8.1
Total Residual Chlorine	mg/L	≤ 0.01	-	-	0.02 U 1	-	-	-	-

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

c - value calculated

s - Single sample

1- Measurement taken by DEP staff with Hach colorimeter with an MDL of 0.02 mg/L

Table 2. Analytical water chemistry and microbiological data

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site	NNC 1	NNC 2
Ortho-phosphate	mg P/L	-	-	-	2.1	0.016	0.004 U	0.004 U	0.004 U
Total Phosphorus	mg P/L	≤ 0.016 g	≤ 4.0 s p	2.3	2.1	0.037	0.01 I	0.009 I	0.011
Total Ammonia	mg N/L	-	-	0.024	0.012	0.005	0.003 I	0.004 I	0.003 I
Un-ionized Ammonia (calculated salinity)	mg N/L	-	-	-	< 0.02 c	< 0.02 c	< 0.02 c	< 0.02 c	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	5.0	4.4	0.024	0.004 U	0.004 U	0.004 U
Total Kjeldahl Nitrogen	mg N/L	-	-	0.76 J	0.81	0.24 I	0.20 I	0.23 I	0.21 I
Organic Nitrogen	mg N/L	-	-	0.74 c	0.8 c	0.24 c	0.2 c	0.23 c	0.21 c
Total Nitrogen	mg N/L	≤ 0.33 g	≤ 16.0 s p	5.8 c	5.2 c	0.26 c	0.2 c	0.23 c	0.21 c
Total Organic Carbon	mg C/L	-	-	6.3	6.3	5.3	2.8	2.7	2.4
Chlorophyll *a* - Corrected	µg/L	≤ 3.9 g	Report	-	0.82 U	2.4 I	2.2 I	2.4 I	2.3 I
Phaeophytin	µg/L	-	-	-	0.90 U	0.90 U	0.98 U	0.90 U	0.90 U
CBOD, 5 day, N - inhibited	mg/L	-	≤ 20.0 s p	14	-	6.7	5.7	-	-
Hardness	mg CaCO3/L	-	-	215 c	-	5,770 c	5,730 c	-	-
Total Suspended Solids	mg/L	-	≤ 20.0 s p	2 U	-	14	3 U	-	-
Turbidity	NTU	< 29 t	Report	-	0.30	4.8	0.75	0.70	0.90
Color (true)	PCU	-	-	-	21 A	29	5.0 I	5.6 I	7.0
Alkalinity	mg CaCO3/L	-	-	-	61	116	107	-	-
Chloride	mg Cl/L	-	-	-	340	16,000	17,000	-	-
Cyanide	µg/L	≤ 1.0	-	-	-	-	-	-	-
Fluoride	mg F/L	≤ 5.0	-	-	0.41	1.1	1.1	-	-
Sulfate	mg SO4/L	-	-	-	87	2,300	2,300	-	-
Enterococci	MPN/100 mL	≤ 130	≤ 104 s	-	-	24,196 J e	288 J e	-	-

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

c - Value is calculated
e - Value exceeds the Class III Water Quality Criteria or permit limits
g- Value expressed as an annual geometric mean.
s - Single sample
t - Shall not exceed 29 NTUs above background
p – 24-hour flow proportional composite
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

Table 3. Analytical metals data

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Test Site	Control Site
Aluminum	µg/L	≤ 1500	-	17 I	196	50 I
Arsenic	µg/L	≤ 50	-	1.01	1.78	1.40
Cadmium	µg/L	≤ 8.8	-	0.020 U	0.080 U	0.080 U
Calcium	mg/L	-	-	42.4	347	347
Chromium, Total	µg/L	≤ 50 [2]	-	0.40 U	7.5 I	8.0 I
Copper [3]	µg/L	≤ 3.7	≤ 25.0 s p	1.31	1.6 U	1.6 U
Iron	µg/L	≤ 300	-	55 I	120 U	120 U
Lead [3]	µg/L	≤ 8.5	-	0.20 U	2.0 U	2.0 U
Magnesium	mg/L	-	-	26.4	1190	1180
Nickel	µg/L	≤ 8.3	-	3.4	2.0 U	2.0 U
Potassium	mg/L	-	-	17.2	370	360
Selenium	µg/L	≤ 71	-	0.20 U	0.80 U	0.80 U
Silver	µg/L	≤ 2.3	-	0.010 U	0.040 U	0.040 U
Sodium	mg/L	-	-	216	9,840	9,690
Zinc	µg/L	≤ 86	-	30	20 U	20 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
s - Single sample
p – 24-hour flow proportional composite
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
3 - Detected in the field blank at 1.09 µg/L (Copper) and 0.32 I µg/L (Lead).

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*	218 A	167.7 ± 33.5	903 ± 180.6	198 ± 39.6	903 ± 180.6	2.1	2.5
Effluent Grab	*Dunaliella tertiolecta*	174 *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	2.1	2.5
Test Site	*Dunaliella tertiolecta*	3.00 U	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	1.8	7.1
Control Site	*Dunaliella tertiolecta*	3.00 U	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	2.5 [5]	20.2 [5]

* - sample salinity adjusted to 6.8 ppth

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

U - Material analyzed for but not detected; value reported is the method detection limit

4 - Predictions not applicable to marine matrix

5 - Nitrate-nitrite and Ortho-phosphate were not detected in the Control Site sample. Predicted N:P ratios were calculated using ½ the method detection limit (MDL) for non-detect values.

Table 5. Detected Organic Constituents

Effluent limits, Class III Marine Criteria, and analytical organic and pesticide

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab
Atrazine	ng/L	-	-	10
Azoxystrobin	ng/L	-	-	0.83 I
Bromacil	ng/L	-	-	4.7
Dithiopyr	ng/L	-	-	0.11 I J
Fipronil	ng/L	-	-	22
Fipronil Desulfinyl	ng/L	-	-	4.2
Fipronil Sulfide	ng/L	-	-	3.5
Fipronil Sulfone	ng/L	-	-	3.4
Fluxapyroxad	ng/L	-	-	9.0
Hexazinone	ng/L	-	-	0.53 I
Prometon	ng/L	-	-	1.8 I
Propiconazole	ng/L	-	-	1.9 I
Simazine	ng/L	-	-	4.4
Sulfentrazone	ng/L	-	-	1.1 I
Tebuconazole	ng/L	-	-	25
Acenaphthene	µg/L	≤ 2,700	-	0.026 I
Fluorene	µg/L	≤ 14,000	-	0.056 I
Phenanthrene	µg/L	≤ 0.031 a	-	0.14 I e

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a - Annual average
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
J - Estimated value

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event

Prepared By: Larry Couch	**Contact Number:** (850)767-0047
Facility Name (as it appears on permit): Military Point Regional AWT Facility	**Former Names:** N/A
NPDES Permit Number: FL0167959	**Permit Expiration Date:** April 6, 2021
Physical Address: 100 Lagoon Road, Panama City, Florida 33404-2079	
District: NWD	**County:** Bay
Function of Facility: Municipal Wastewater Treatment Plant	
Facility Type: 5-Stage Biological Nutrient Removal Wastewater Treatment System	**Permitted Capacity (MGD):** 7.0 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 3.2 MGD / 12/1/2019 – 11/30/2020	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):	
Description of type of Discharge: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify:**	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): FLW-01: Flow Meter on Effluent Pipe to Military Point Lagoon Outfall Structure EFB-01: Filter Effluent Channel, Turbidity Meter and Grab Sample Point EFF-04: Effluent Pump Station Clear Well CAL-01: Calculated Value	
Description of Permitted Outfall(s): The discharge pipe extends approximately 1300 feet into the bay and discharges via a diffuser at a depth of approximately 17 feet. The point of discharge is located approximately at latitude 30°7'28" N, longitude -85°37'52" W.	
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): 5-Stage Biological Nutrient Removal Wastewater Treatment System including screening, degritting, an anaerobic zone, first anoxic zone, an aeration zone, second anoxic zone, and a reaeration zone, clarification, filtration, and two methods of disinfection. Basic and intermediate levels of disinfection are provided by an ultraviolet light (UV) system and high-level disinfection is achieved through chlorination with sodium hypochlorite. Effluent disposal following intermediate-level UV disinfection is to St. Andrew Bay.	

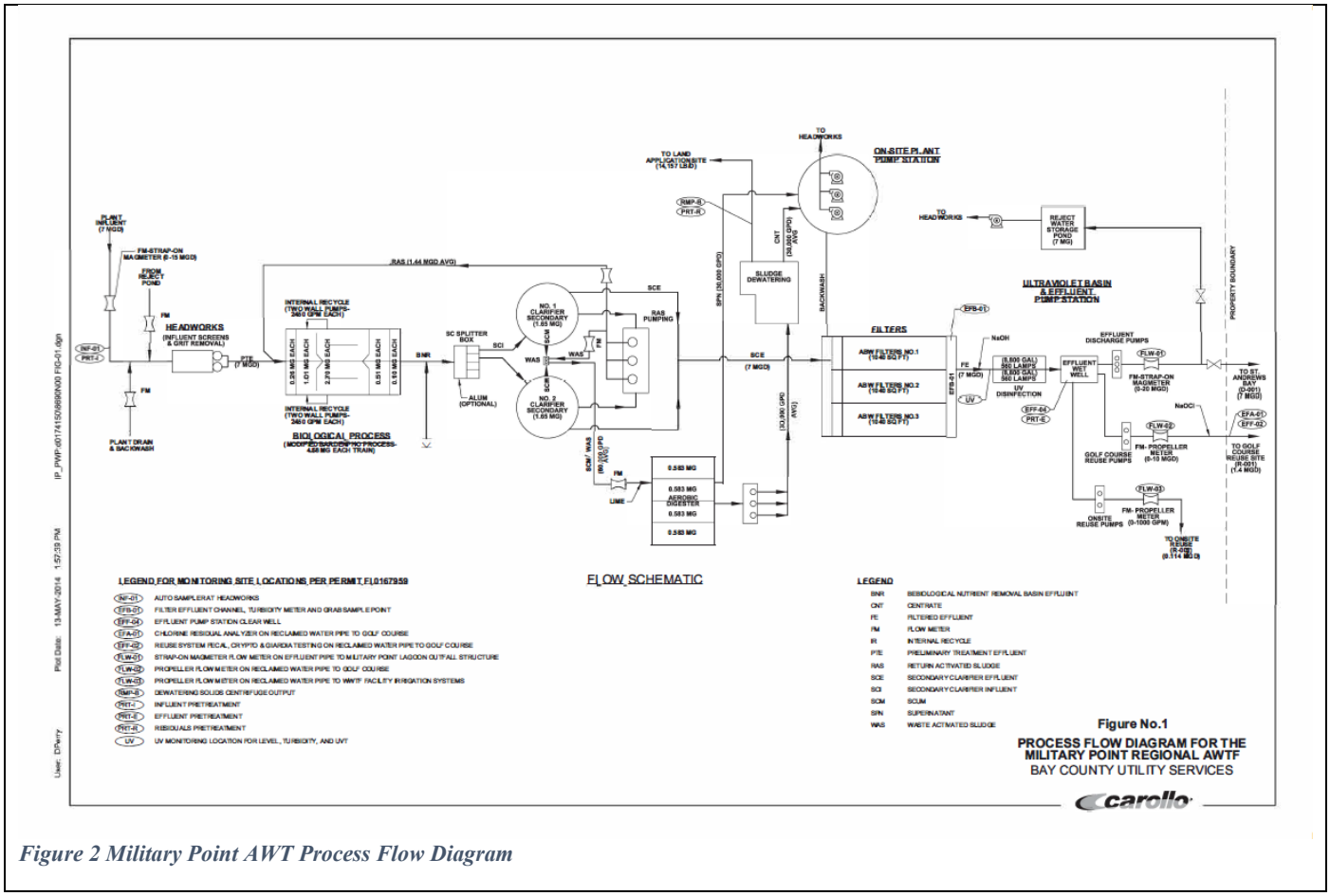


Figure 2 Military Point AWT Process Flow Diagram

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)

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow –D-001	MGD	Max Max	7.0 9.1	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-01	See I.A.4
Flow – AWTF Irrigation	MGD	Max Max	0.114 Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-03	See I.A.4
Flow – AWTF uses	MGD	Max Max	Report Report	Annual Average Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-Reuse	See I.A.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	10.0 10.0 15.0 20.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-04	
Solids, Total Suspended	mg/L	Max Max Max Max	10.0 10.0 15.0 20.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-04	
Nitrogen, Total	mg/L	Max Max Max Max	8.0 8.0 12.0 16.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-04	See I.A.7
Phosphorus, Total (as P)	mg/L	Max Max Max Max	2.0 2.0 3.0 4.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFF-04	See I.A.7
Ultraviolet Light Dosage	mW-s/sqcm	Min	43.5	Single Sample	Continuous	Calculated	EFA-UV	See I.A.14
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	
pH	s.u.	Min Max	6.5 8.5	Single Sample Single Sample	Continuous	Meter	EFF-04	See I.A.3
Oxygen, Dissolved Percent Saturation (Daily Average)	% smpcmpln	Min	90	Monthly Total	Daily; 24 hours	Meter	EFF-04	See I.A.10 and I.A.11
Oxygen, Dissolved Percent Saturation (Weekly Average)	# of exceedances	Max	1	Quarterly Total	Weekly	Calculated	CAL-01	See I.A.12

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)								
Oxygen, Dissolved Percent Saturation (Monthly Average)	# of exceedances	Max	1	Annual Total	Monthly	Calculated	CAL-01	See I.A.13
Coliform, Fecal	#/100mL	Max Max Max	14 14 86	Annual Average Monthly Median Single Sample	5 Days/Week	Grab	EFF-04	See I.A.5
Enterococci	#/100mL	Max Max	35 104	Monthly Geo. Mean Single Sample	2 Days/Week	Grab	EFF-04	See I.A.6
Copper, Total Recoverable	µg/L	Max	25.0	Single Sample	Quarterly	24-hr FPC	EFF-04	
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFF-04	See I.A.9
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFF-04	See I.A.9
St. Andrew Bay monitoring								
Nitrogen, Total	mg/L	Max	Report	Single Sample	Quarterly	Grab	SWA-CW1 SWA-CW2 SWA-CE1	See I.A.16
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Quarterly	Grab		See I.A.16
Oxygen, Dissolved Percent Saturation	percent	Min	Report	Single Sample	Quarterly	Meter		See I.A.16
Chlorophyll a	mg/L	Max	Report	Single Sample	Quarterly	Grab		See I.A.16
Transparency, Secchi Disk	in	Max	Report	Single Sample	Quarterly	Meter		

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

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

9. The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfall D-001.
a. Effluent Limitation
(1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]
(2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]
b. Monitoring Frequency
(1) Routine toxicity tests shall be conducted once every six months, the first starting within 6 months of the previous test and lasting for the duration of this permit.
c. Sampling Requirements
(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
(3) Samples for routine and additional follow-up tests shall not be collected on the same day.
d. Test Requirements
(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.
(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
(3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.
(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.
e. Quality Assurance Requirements
(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
PERMITTEE: Bay County Utilities Services Department PERMIT NUMBER: FL0167959-012-DW1P/NR
FACILITY: Military Point Regional AWT Facility
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(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test acceptability criteria" are not met, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.
(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed doseresponse relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.
f. Reporting Requirements
(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:
(a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.
(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
(5) The same bioassay data shall not be reported as the results of more than one test.
(6) All bioassay laboratory reports shall be sent to:
g. Test Failures
(1) A test fails when the test results do not meet the limits in I.A.9.a.(1).
(2) Additional Follow-up Tests:
(a) If a routine test does not meet the chronic toxicity limitation in I.A.9.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 9.d.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.
(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.
PERMITTEE: Bay County Utilities Services Department PERMIT NUMBER: FL0167959-012-DW1P/NR
FACILITY: Military Point Regional AWT Facility
Page **6** of **26**
(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 9.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 I.A.9.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in I.A.9.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in I.A.9.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.
(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

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

The facility entered into a WET Correction Plan on February 14, 2019 to address toxicity exceedances. https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.755137.1]&[profile=Construction_Operation Mgmt]

Facility Mixing Zone Details (if applicable):
Effluents of both the Military Point Industrial Lagoon and the Military Point AWT are discharged via a diffuser through a common outfall into St. Andrew Bay.

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

Date	Parameter and Units	Limit	Result
4/30/2020	Coliform, Fecal	86.0	129

Describe previous FYI and WQBEL study:
The previous FYI was conducted on June 10, 2013 in concert with the FYI for the Military Point Industrial Lagoon. The report was issued March 27, 2014. The Military Point Effluent exceeded Class III Marine Criterion for both pH and copper but were within permit limits. There were no apparent adverse effects on either the macroinvertebrate or phytoplankton communities in St. Andrew Bay from the effluent.
Effluent limitations are based on a Level II WQBEL, which was finalized by FDEP NWD in June 2004.

Describe previous or current Enforcement Actions (including WLs): N/A

Describe any violations or problems noted in previous inspection:
Enterococci exceedances occurred in May, July and September of 2019.

Discuss whether DMR trends within previous five years are improving or declining:
DMR trends have remained good except for Enterococci exceedances that have occurred over the past 3 years.

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

PART II: Sampling Event Information	
Date(s) sample collected:	**Sampler(s):**
Temperature (Deg C):	**pH (SU):**
Dissolved Oxygen (mg/L):	**Conductivity (umhos/cm):**
Total Residual Chlorine (mg/L):	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
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 (62-302, F.A.C.) and facility permit limits.

- **Bacteriological Testing**

  High levels of fecal indicator bacteria may constitute an exceedance of 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 62-302.530(47), F.A.C., 62-302.530(48)(a), F.A.C. and/or 62-302.530(48)(b), F.A.C.

  The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of ± 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater, phosphorus limitation is likely (USEPA 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(62), F.A.C.

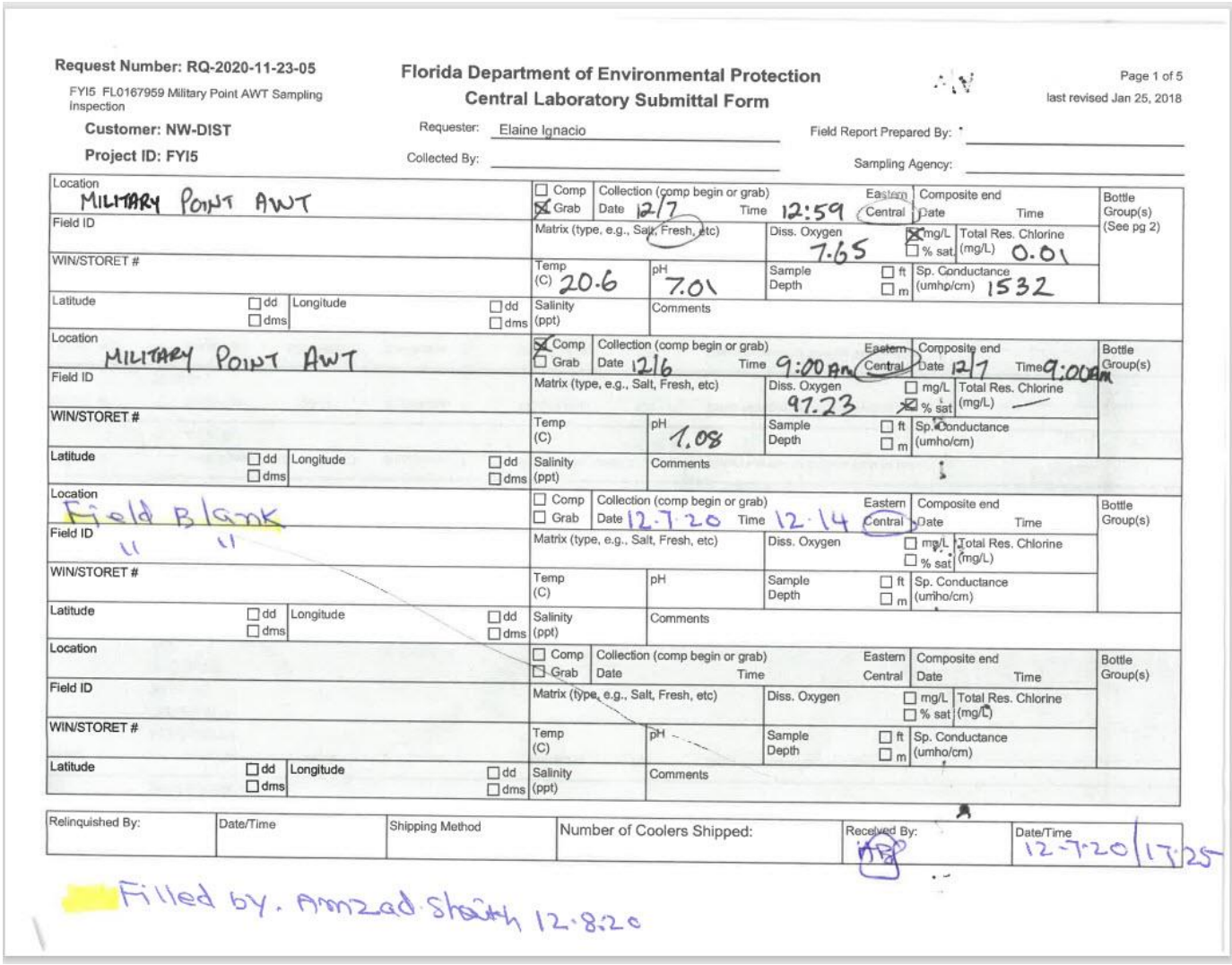
- **Chlorophyll *a* content**

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

- **Definition of Qualifiers** (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-2020-11-23-05

FYI5 FL0167959 Military Point AWT Sampling Inspection

Customer: NW-DIST

Project ID: FYI5

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 5
last revised Jan 25, 2018

Requester: Elaine Ignacio
Collected By:
Field Report Prepared By:
Sampling Agency:

Location: MILITARY POINT AWT	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 12/7 Time 12:59	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen 7.65	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) 0.01					
WIN/STORET #	Temp (C) 20.6	pH 7.01	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm) 1532					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments							
Location: MILITARY POINT AWT	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 12/6 Time 9:00 AM	Eastern Central	Composite end Date 12/7 Time 9:00 AM		Bottle Group(s)				
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen 97.23	☐ mg/L ☒ % sat	Total Res. Chlorine (mg/L) —					
WIN/STORET #	Temp (C)	pH 1.08	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments							
Location: Field Blank	☐ Comp ☐ Grab	Collection (comp begin or grab) Date 12.7.20 Time 12.14	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
					12-7-20 17:25

Filled by. Amzad Shaikh 12.8.20

Request Number: RQ-2020-11-23-05

FYI5 FL0167959 Military Point AWT Sampling Inspection

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 5

last revised Jan 25, 2018

Customer: NW-DIST

Project ID: FYI5

Requester: Elaine Ignacio

Collected By: Nathan Mulkey / Stephen Slade

Field Report Prepared By: N. Mulkey

Sampling Agency: FDEP NWRO

Location	Field ID	WIN/STORET #	Latitude (dd)	Longitude (dd)	Comp/Grab	Collection Date	Time	Time zone	Matrix	Diss. Oxygen	Temp (C)	pH	Sample Depth (m)	Sp. Conductance (umho/cm)	Salinity (ppt)	Comments	Bottle Group(s)
St. Andrew Bay	Nutrient 2		30.14157	85.65832	Grab	12/7/20	0955	Central	Salt	8.14	16.5	7.92	0.3	46900			D (See pg 2)
Palmetto Point St. Andrew Bay	MP Control	32030M14	30.12693	85.64887	Grab	12/7/20	1014	Central	Salt	8.29 mg/L	16.2	7.93	0.3	46460			C
Military Point AWT Discharge	MP Test	32030M21	30.12471	85.63072	Grab	12/7/20	1047	Central	Salt	7.74 mg/L	17.3	7.91	0.3	45930		Boil observed	C
St. Andrew Bay	Nutrient 1		30.10831	85.60831	Grab	12/7/20	1110	Central	Salt	8.60 % sat	15.4	7.91	0.3	44496			D

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
[signature]	12/7/20	Fed Ex	2	IM	12/8/20 9:15

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: [signature] of FDEP | Date/Time: 12/7/20 1503

Sample received by: [signature] of WRL | Date/Time: 12/7/20 1503

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
20-47215	MP Control	Salt	SW	G	Sterile plastic	Enterolert 24-QT	ice/$Na_2S_2O_3$	2.9	12/7/20 1014
20-47216	MP Test	Salt	↓	↓	↓	↓	↓	3.6	↓ 1047

Comments: Sample Container lot#20020

RQ-2020-11-23-05

Contact organization FDEP | Contact name Nathan Mulkey | Phone: 850 595 0626

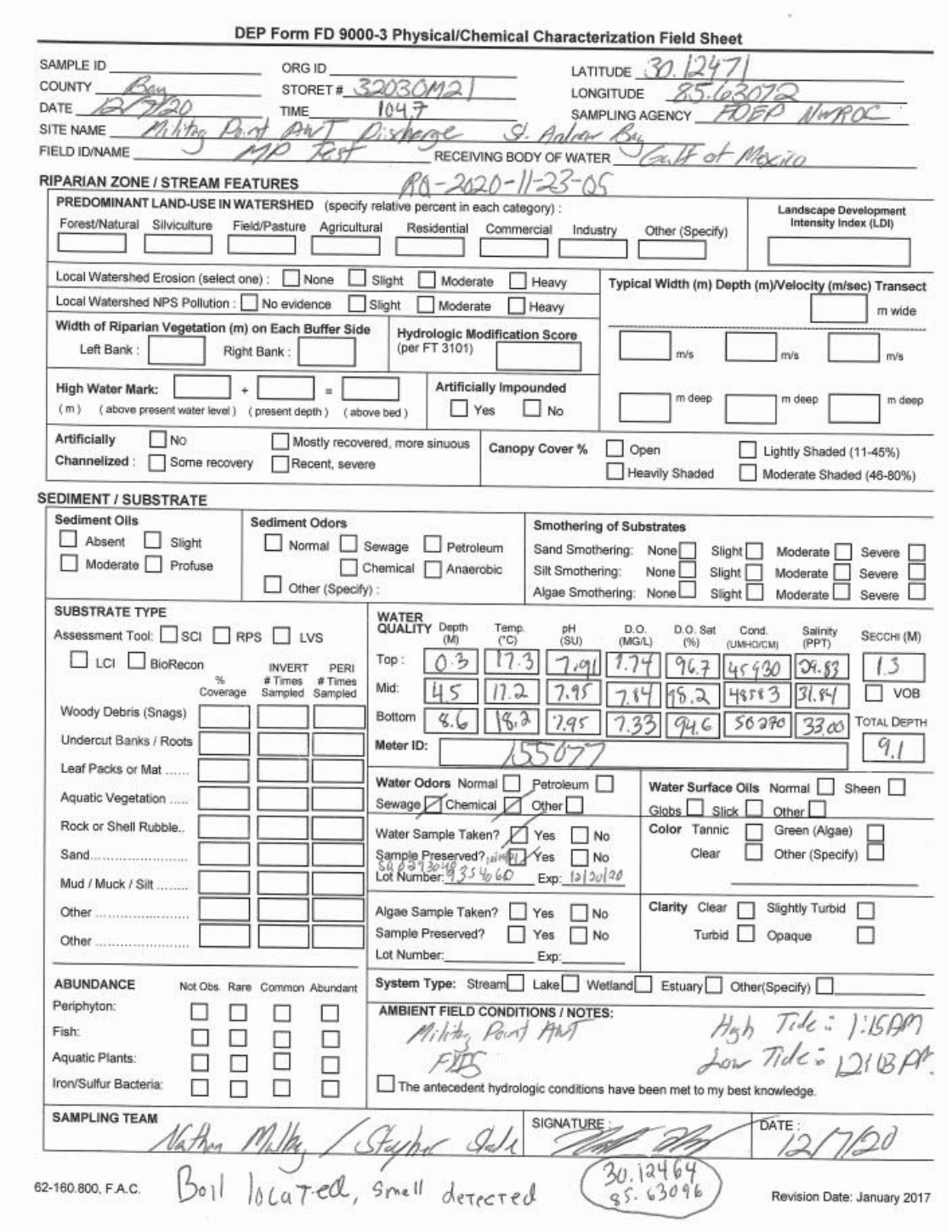
Address 160 Governmental Center, suite 308, Pensacola, FL 32502 | Sampler's name: N. Mulkey

[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

Wetlands Research Laboratory | University of West Florida | C:\Users\mulkey_n\Desktop\BLANK_FDEP_Sample_Transmittal_Form

Appendix D. Physical/ Chemical Field Sheets



DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE 30.1247
COUNTY Bay STORET # 32030M21 LONGITUDE 85.63072
DATE 12/7/20 TIME 1047 SAMPLING AGENCY FDEP NWROC
SITE NAME Military Point AWT Discharge St. Andrew Bay
FIELD ID/NAME MP Test RECEIVING BODY OF WATER Gulf of Mexico
RQ-2020-11-23-05

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):
Forest/Natural | Silviculture | Field/Pasture | Agricultural | Residential | Commercial | Industry | Other (Specify)

Landscape Development Intensity Index (LDI)

Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Typical Width (m) Depth (m)/Velocity (m/sec) Transect
m wide
m/s m/s m/s
m deep m deep m deep

Width of Riparian Vegetation (m) on Each Buffer Side
Left Bank: Right Bank:

Hydrologic Modification Score (per FT 3101)

High Water Mark: (m) + (above present water level) = (present depth) (above bed)

Artificially Impounded ☐ Yes ☐ No

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):

Smothering of Substrates
Sand Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Algae Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐

SUBSTRATE TYPE
Assessment Tool: ☐ SCI ☐ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	17.3	7.91	7.74	96.7	45430	29.83	1.3
Mid:	4.5	17.2	7.95	7.84	98.2	48583	31.84	☐ VOB
Bottom	8.6	18.2	7.95	7.33	94.6	50270	33.00	TOTAL DEPTH
								9.1

Meter ID: 155077

Water Odors Normal ☐ Petroleum ☐ Sewage ☑ Chemical ☑ Other ☐
Water Surface Oils Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No
Sample Preserved? ☑ Yes ☐ No
Lot Number: 935460 Exp: 12/20/20

Color Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☐
Fish:	☐	☐	☐	☐
Aquatic Plants:	☐	☐	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:
Military Point AWT
FIES
High Tide: 1:15AM
Low Tide: 12:18AM
☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Nathan Milby / Stephen Dale
SIGNATURE: DATE: 12/7/20

62-160.800, F.A.C.
Boil located, smell detected
30.12464 -85.63096
Revision Date: January 2017

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE 30.1083
COUNTY Bay STORET # _____ LONGITUDE 85.6883
DATE 12/7/20 TIME 1110 SAMPLING AGENCY FDEP NWROC
SITE NAME St. Andrew Bay
FIELD ID/NAME Transect 1 RECEIVING BODY OF WATER Gulf of Mexico

RIPARIAN ZONE / STREAM FEATURES RA-2020-11-23-05

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)

Landscape Development Intensity Index (LDI):

Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank: _____ Right Bank: _____

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: _____ (m) + _____ (above present water level) = _____ (present depth) (above bed)

Artificially Impounded ☐ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: _____ m wide; _____ m/s; _____ m/s; _____ m/s; _____ m deep; _____ m deep; _____ m deep

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover %: ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils: ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors: ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):

Smothering of Substrates:
Sand Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Algae Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐

SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☐ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	6.3	15.4	7.91	8.60	102.4	44196	28.57	3.1
Mid:	5.0	16.3	7.91	8.01	98.0	46818	30.45	☐ VOB
Bottom	6.3	17.0	7.91	7.70	96.0	47029	30.50	TOTAL DEPTH

Meter ID: 155077 — 9.9

Water Odors: Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils: Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No
Sample Preserved? ☑ Yes ☐ No
Lot Number: 0293090 Exp: 10/2021

Color: Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: _____ Exp: _____

Clarity: Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☐
Fish:	☐	☐	☐	☐
Aquatic Plants:	☐	☐	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:
Military Pt AWT
FWS
High Tide: 1:15 AM
Low Tide: 12:03 PM

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Nathan Mulky / Stephen Slate SIGNATURE: _____ DATE: 12/7/20

62-160.800, F.A.C.

☆ Bottom depth not on bottom due to cable length

Revision Date: January 2017

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE 30.14157

COUNTY Bay STORET # _____ LONGITUDE 85.65832

DATE 12/7/20 TIME 0955 SAMPLING AGENCY FDEP NWROC

SITE NAME St Andrew Bay

FIELD ID/NAME Nutrient 2 RECEIVING BODY OF WATER Gulf of Mexico

RIPARIAN ZONE / STREAM FEATURES AA-2020-11-23-05

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)	Landscape Development Intensity Index (LDI)

Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank: _____ Right Bank: _____

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: _____ (m) + _____ (above present water level) = _____ (present depth) (above bed)

Artificially Impounded ☐ Yes ☐ No

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover % ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

_____ m wide

_____ m/s _____ m/s _____ m/s

_____ m deep _____ m deep _____ m deep

SEDIMENT / SUBSTRATE

Sediment Oils ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):

Smothering of Substrates

Sand Smothering:	None ☐	Slight ☐	Moderate ☐	Severe ☐
Silt Smothering:	None ☐	Slight ☐	Moderate ☐	Severe ☐
Algae Smothering:	None ☐	Slight ☐	Moderate ☐	Severe ☐

SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☐ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	16.5	7.92	8.14	100.1	46900	30.52	3.1
Mid:	6.3	17.5	7.91	7.74	97.9	49028	32.05	☐ VOB
Bottom	6.3	17.5	7.91	7.74	97.9	49028	32.05	TOTAL DEPTH
Meter ID:	15507							14.9

Water Odors Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☐ Yes ☐ No

Sample Preserved? ☒ Yes ☐ No

Lot Number: 0293646 Exp: 10/19/21

Color Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☐ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☐
Fish:	☐	☐	☐	☐
Aquatic Plants:	☐	☐	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:

Military Pt AWT FIES

High Tide: 1:15 AM

Low Tide: 12:03 AM

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Nathan Malloy / Stephen Stile

SIGNATURE: _____ DATE: 12/7/20

62-160.800, F.A.C.

Cable length NOT TOTAL Depth b/c long enough for bottom parameters 14.9 m

Revision Date: January 2017

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE 30.12693
COUNTY Bay STORET # 320301114 LONGITUDE 85.64887
DATE 12/7/20 TIME 1014 SAMPLING AGENCY FDEP NWROC
SITE NAME Palmetto Point St. Andrew Bay
FIELD ID/NAME MP Control RECEIVING BODY OF WATER Gulf of Mexico

RIPARIAN ZONE / STREAM FEATURES RA-2020-11-23-05

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)

Landscape Development Intensity Index (LDI):

Local Watershed Erosion (select one): ☐ None ☐ Slight ☐ Moderate ☐ Heavy
Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☐ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank: _____ Right Bank: _____

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: _____ (m) + _____ (above present water level) = _____ (present depth) (above bed)

Artificially Impounded ☐ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: _____ m wide

_____ m/s _____ m/s _____ m/s

_____ m deep _____ m deep _____ m deep

Artificially Channelized: ☐ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe

Canopy Cover %: ☐ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils: ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors: ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify):

Smothering of Substrates:
Sand Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Silt Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐
Algae Smothering: None ☐ Slight ☐ Moderate ☐ Severe ☐

SUBSTRATE TYPE

Assessment Tool: ☐ SCI ☐ RPS ☐ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble			
Sand			
Mud / Muck / Silt			
Other			
Other			

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☐
Fish:	☐	☐	☐	☐
Aquatic Plants:	☐	☐	☐	☐
Iron/Sulfur Bacteria:	☐	☐	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	16.2	7.93	8.29	101.2	46460	30.22	2.9
Mid:	3.7	16.2	7.93	8.03	100.3	46520	30.25	☐ VOB
Bottom	6.3 ~~7.3~~	17.8	7.93	7.54	97.0	49620	32.52	TOTAL DEPTH

Meter ID: 15077 — TOTAL DEPTH: 7.3

Water Odors: Normal ☐ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils: Normal ☐ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No
Sample Preserved? ☑ Yes ☐ No
Lot Number: 0243040 Exp: 11/1/21

Color: Tannic ☐ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☐ No
Sample Preserved? ☐ Yes ☐ No
Lot Number: SA0291B18 VA9320060 Exp: 12/2021

Clarity: Clear ☐ Slightly Turbid ☐ Turbid ☐ Opaque ☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐

AMBIENT FIELD CONDITIONS / NOTES:
Military Pt AWT
FWS
High Tide: 1:15AM
Low Tide: 12:03PM

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Nathan Milby / Stephen Sale — SIGNATURE: _____ DATE: 12/7/20

62-160.800, F.A.C.

Revision Date: January 2017

Appendix E. Chemical Analysis of Effluent and Receiving Water

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:59	Effluent Grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	174	mg DryWt/L	0.300	0.900
12/7/2020 13:59	Effluent Grab	AGP/LN	Algal Growth Potential	218 A	mg DryWt/L	0.300	0.900
12/7/2020 13:59	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
12/7/2020 13:59	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 U	µg/L	0.60	1.8
12/7/2020 13:59	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
12/7/2020 13:59	Effluent Grab	Nutrients	Fluoride	0.41	mg F/L	0.035	0.10
12/7/2020 13:59	Effluent Grab	Nutrients	NO2NO3-N	4.4	mg N/L	0.040	0.10
12/7/2020 13:59	Effluent Grab	Nutrients	Total Alkalinity	61	mg CaCO3/L	0.65	2.5
12/7/2020 13:59	Effluent Grab	Nutrients	Total-P	2.1	mg P/L	0.0050	0.050
12/7/2020 13:59	Effluent Grab	Nutrients	Chloride	340	mg Cl/L	2.0	5.0
12/7/2020 13:59	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.81	mg N/L	0.080	0.20
12/7/2020 13:59	Effluent Grab	Nutrients	Ammonia-N	0.012	mg N/L	0.0020	0.0050
12/7/2020 13:59	Effluent Grab	Nutrients	Turbidity	0.30	NTU	0.10	0.13
12/7/2020 13:59	Effluent Grab	Nutrients	Sulfate	87	mg SO4/L	2.0	5.0
12/7/2020 13:59	Effluent Grab	Nutrients	Color (true)	21 A	PCU	2.5	6.0
12/7/2020 13:59	Effluent Grab	Nutrients	O-Phosphate-P	2.1	mg P/L	0.040	0.10
12/7/2020 13:59	Effluent Grab	Nutrients	Organic Carbon	6.3	mg C/L	0.50	1.0
12/7/2020 13:59	Effluent Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
12/7/2020 13:59	Effluent Grab	Pesticides	Sucralose	57	µg/L	0.010	0.040
12/7/2020 13:59	Effluent Grab	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Sulfentrazone	1.1 I	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.9
12/7/2020 13:59	Effluent Grab	Pesticides	Fipronil Sulfide	3.5	ng/L	0.15	0.58
12/7/2020 13:59	Effluent Grab	Pesticides	Flutolanil	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Metribuzin	3.2 U	ng/L	3.2	13
12/7/2020 13:59	Effluent Grab	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Naled	1.5 U	ng/L	1.5	5.8
12/7/2020 13:59	Effluent Grab	Pesticides	Ametryn	0.58 UJ	ng/L	0.58	2.3
12/7/2020 13:59	Effluent Grab	Pesticides	Azinphos Methyl	1.9 UJ	ng/L	1.9	7.8
12/7/2020 13:59	Effluent Grab	Pesticides	Bromacil	4.7	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Prometon	1.8 I	ng/L	0.88	3.4
12/7/2020 13:59	Effluent Grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.49

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:59	Effluent Grab	Pesticides	Dimethenamid	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Fluxapyroxad	9.0	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Iprodione	0.58 UJ	ng/L	0.58	2.3
12/7/2020 13:59	Effluent Grab	Pesticides	Mevinphos	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Oxadiazon	0.097 UJ	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Azoxystrobin	0.83 I	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.58
12/7/2020 13:59	Effluent Grab	Pesticides	Difenoconazole	0.58 UJ	ng/L	0.58	2.3
12/7/2020 13:59	Effluent Grab	Pesticides	Ethion	0.15 U	ng/L	0.15	0.58
12/7/2020 13:59	Effluent Grab	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.78
12/7/2020 13:59	Effluent Grab	Pesticides	Imazalil	0.73 U	ng/L	0.73	2.9
12/7/2020 13:59	Effluent Grab	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
12/7/2020 13:59	Effluent Grab	Pesticides	Metalaxyl	0.73 U	ng/L	0.73	2.9
12/7/2020 13:59	Effluent Grab	Pesticides	Carbophenothion	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.049 U	ng/L	0.049	0.19
12/7/2020 13:59	Effluent Grab	Pesticides	Propiconazole	1.9 I	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.78
12/7/2020 13:59	Effluent Grab	Pesticides	Simazine	4.4	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Terbufos	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Dithiopyr	0.11 IJ	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Fenamiphos	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Hexazinone	0.53 I	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Metolachlor	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
12/7/2020 13:59	Effluent Grab	Pesticides	Oxyfluorfen	0.15 UJ	ng/L	0.15	0.58
12/7/2020 13:59	Effluent Grab	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Atrazine	10	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.49
12/7/2020 13:59	Effluent Grab	Pesticides	Ethoprop	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.49
12/7/2020 13:59	Effluent Grab	Pesticides	Fipronil	22	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.49
12/7/2020 13:59	Effluent Grab	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:59	Effluent Grab	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	5.8
12/7/2020 13:59	Effluent Grab	Pesticides	Tebuconazole	25	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Norflurazon	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Parathion Methyl	0.54 U	ng/L	0.54	2.1
12/7/2020 13:59	Effluent Grab	Pesticides	Butylate	0.39 U	ng/L	0.39	1.6
12/7/2020 13:59	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.7
12/7/2020 13:59	Effluent Grab	Pesticides	Phorate	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Prodiamine	0.17 UJ	ng/L	0.17	0.68
12/7/2020 13:59	Effluent Grab	Pesticides	Cyanazine	3.2 U	ng/L	3.2	13
12/7/2020 13:59	Effluent Grab	Pesticides	Demeton	1.5 U	ng/L	1.5	5.8
12/7/2020 13:59	Effluent Grab	Pesticides	Disulfoton	0.49 U	ng/L	0.49	1.9
12/7/2020 13:59	Effluent Grab	Pesticides	Fipronil Sulfone	3.4	ng/L	0.15	0.58
12/7/2020 13:59	Effluent Grab	Pesticides	Pendimethalin	0.97 U	ng/L	0.97	3.9
12/7/2020 13:59	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.97
12/7/2020 13:59	Effluent Grab	Pesticides	Fipronil Desulfinyl	4.2	ng/L	0.12	0.49
12/7/2020 13:59	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.097 U	ng/L	0.097	0.39
12/7/2020 13:59	Effluent Grab	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.8
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.14 I	µg/L	0.094	0.38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.094 U	µg/L	0.094	0.38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Isophorone	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.4 U	µg/L	9.4	38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.5
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Pyrene	0.094 U	µg/L	0.094	0.38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.047 U	µg/L	0.047	0.19

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Fluorene	0.056 I	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Anthracene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Chrysene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzidine	9.4 U	µg/L	9.4	38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.026 I	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	µg/L	0.94	3.8
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.047 UJ	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.47 U	µg/L	0.47	1.9
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Phenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.7 U	µg/L	4.7	19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	9.4 U	µg/L	9.4	38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	1,4-Dioxane	0.53	µg/L	0.020	0.080
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	9.4 UJ	µg/L	9.4	38
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.19 U	µg/L	0.19	0.75
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:59	Effluent Grab	Nutrients	Temperature	20.6	C		
12/7/2020 13:59	Effluent Grab	Nutrients	pH	7.01			
12/7/2020 13:59	Effluent Grab	Nutrients	Dissolved Oxygen	7.65	mg/L		
12/7/2020 13:59	Effluent Grab	Nutrients	Specific Conductance	1532	umhos/cm		
12/7/2020 10:00	Effluent Composite	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	14	mg/L	0.20	2.0
12/7/2020 10:00	Effluent Composite	Metals	Magnesium	26.4	mg/L	0.080	0.32
12/7/2020 10:00	Effluent Composite	Metals	Chromium	0.40 U	µg/L	0.40	1.6
12/7/2020 10:00	Effluent Composite	Metals	Arsenic	1.01	µg/L	0.050	0.20
12/7/2020 10:00	Effluent Composite	Metals	Nickel	3.4	µg/L	0.50	2.0
12/7/2020 10:00	Effluent Composite	Metals	Calcium	42.4	mg/L	0.075	0.30
12/7/2020 10:00	Effluent Composite	Metals	Potassium	17.2	mg/L	0.30	1.2
12/7/2020 10:00	Effluent Composite	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
12/7/2020 10:00	Effluent Composite	Metals	Copper	1.31	µg/L	0.40	0.80
12/7/2020 10:00	Effluent Composite	Metals	Zinc	30	µg/L	5.0	20
12/7/2020 10:00	Effluent Composite	Metals	Lead	0.20 U	µg/L	0.20	0.40
12/7/2020 10:00	Effluent Composite	Metals	Silver	0.010 U	µg/L	0.010	0.040
12/7/2020 10:00	Effluent Composite	Metals	Selenium	0.20 U	µg/L	0.20	0.80
12/7/2020 10:00	Effluent Composite	Metals	Iron	55 I	µg/L	30	120
12/7/2020 10:00	Effluent Composite	Metals	Aluminum	17 I	µg/L	5.0	20
12/7/2020 10:00	Effluent Composite	Metals	Sodium	216	mg/L	1.0	4.0
12/7/2020 10:00	Effluent Composite	Nutrients	Organic Carbon	6.3	mg C/L	0.50	1.0
12/7/2020 10:00	Effluent Composite	Nutrients	NO2NO3-N	5.0	mg N/L	0.040	0.10
12/7/2020 10:00	Effluent Composite	Nutrients	TSS	2 U	mg/L	2.0	10
12/7/2020 10:00	Effluent Composite	Nutrients	Ammonia-N	0.024	mg N/L	0.0020	0.0050
12/7/2020 10:00	Effluent Composite	Nutrients	Total-P	2.3	mg P/L	0.0050	0.050
12/7/2020 10:00	Effluent Composite	Nutrients	Kjeldahl Nitrogen	0.76 J	mg N/L	0.080	0.20
12/7/2020 10:00	Effluent Composite	Nutrients	Dissolved Oxygen	97.23	%Sat		
12/7/2020 10:00	Effluent Composite	Nutrients	pH	7.05			
12/7/2020 11:47	Test Site	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3.00	3.00
12/7/2020 11:47	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.4 I	µg/L	0.82	2.5
12/7/2020 11:47	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	2.3	µg/L	0.60	1.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 11:47	Test Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	6.7	mg/L	0.20	2.0
12/7/2020 11:47	Test Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
12/7/2020 11:47	Test Site	Overflow	Enterococci-Quanti-Tray	24196 J	MPN/100 mL	10	10
12/7/2020 11:47	Test Site	Metals	Arsenic	1.78	µg/L	0.20	0.80
12/7/2020 11:47	Test Site	Metals	Nickel	2.0 U	µg/L	2.0	8.0
12/7/2020 11:47	Test Site	Metals	Chromium	7.5 I	µg/L	4.0	16
12/7/2020 11:47	Test Site	Metals	Aluminum	196	µg/L	20	80
12/7/2020 11:47	Test Site	Metals	Sodium	9.84E+03	mg/L	50	200
12/7/2020 11:47	Test Site	Metals	Silver	0.040 U	µg/L	0.040	0.16
12/7/2020 11:47	Test Site	Metals	Magnesium	1.19E+03	mg/L	4.0	16
12/7/2020 11:47	Test Site	Metals	Zinc	20 U	µg/L	20	80
12/7/2020 11:47	Test Site	Metals	Copper	1.6 U	µg/L	1.6	3.2
12/7/2020 11:47	Test Site	Metals	Cadmium	0.080 U	µg/L	0.080	0.32
12/7/2020 11:47	Test Site	Metals	Selenium	0.80 U	µg/L	0.80	3.2
12/7/2020 11:47	Test Site	Metals	Calcium	347	mg/L	0.30	1.2
12/7/2020 11:47	Test Site	Metals	Lead	2.0 U	µg/L	2.0	4.0
12/7/2020 11:47	Test Site	Metals	Potassium	370	mg/L	30	120
12/7/2020 11:47	Test Site	Metals	Iron	120 U	µg/L	120	480
12/7/2020 11:47	Test Site	Nutrients	O-Phosphate-P	0.016	mg P/L	0.0040	0.010
12/7/2020 11:47	Test Site	Nutrients	Kjeldahl Nitrogen	0.24 I	mg N/L	0.16	0.40
12/7/2020 11:47	Test Site	Nutrients	TSS	14	mg/L	3.0	10
12/7/2020 11:47	Test Site	Nutrients	Color (true)	29	PCU	2.5	6.0
12/7/2020 11:47	Test Site	Nutrients	Total Alkalinity	116	mg CaCO3/L	0.65	2.5
12/7/2020 11:47	Test Site	Nutrients	Chloride	1.6E+04	mg Cl/L	40	100
12/7/2020 11:47	Test Site	Nutrients	Turbidity	4.8	NTU	0.10	0.13
12/7/2020 11:47	Test Site	Nutrients	Ammonia-N	0.005	mg N/L	0.0020	0.0050
12/7/2020 11:47	Test Site	Nutrients	Sulfate	2.3E+03	mg SO4/L	40	100
12/7/2020 11:47	Test Site	Nutrients	Organic Carbon	5.3	mg C/L	1.0	2.0
12/7/2020 11:47	Test Site	Nutrients	Total-P	0.037	mg P/L	0.0040	0.010
12/7/2020 11:47	Test Site	Nutrients	NO2NO3-N	0.024	mg N/L	0.0040	0.010
12/7/2020 11:47	Test Site	Nutrients	Fluoride	1.1	mg F/L	0.18	0.50
12/7/2020 11:47	Test Site	Pesticides	Sucralose	0.24	µg/L	0.010	0.040
12/7/2020 11:47	Test Site	Priority Organic Pollutants	1,4-Dioxane	1.3	µg/L	0.020	0.080
12/7/2020 11:47	Test Site	Nutrients	Specific Conductance	45930	umhos/cm		

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 11:47	Test Site	Nutrients	Sample Depth	0.3	m		
12/7/2020 11:47	Test Site	Nutrients	Dissolved Oxygen	7.74	mg/L		
12/7/2020 11:47	Test Site	Nutrients	Temperature	17.3	C		
12/7/2020 11:47	Test Site	Nutrients	pH	7.91			
12/7/2020 12:10	Nutrient 1	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
12/7/2020 12:10	Nutrient 1	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.4 I	µg/L	0.82	2.5
12/7/2020 12:10	Nutrient 1	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	2.3	µg/L	0.60	1.8
12/7/2020 12:10	Nutrient 1	Nutrients	Kjeldahl Nitrogen	0.23 I	mg N/L	0.16	0.40
12/7/2020 12:10	Nutrient 1	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
12/7/2020 12:10	Nutrient 1	Nutrients	Total-P	0.009 I	mg P/L	0.0040	0.010
12/7/2020 12:10	Nutrient 1	Nutrients	Ammonia-N	0.004 I	mg N/L	0.0020	0.0050
12/7/2020 12:10	Nutrient 1	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
12/7/2020 12:10	Nutrient 1	Nutrients	Color (true)	5.6 I	PCU	2.5	6.0
12/7/2020 12:10	Nutrient 1	Nutrients	Turbidity	0.70	NTU	0.10	0.13
12/7/2020 12:10	Nutrient 1	Nutrients	Organic Carbon	2.7	mg C/L	1.0	2.0
12/7/2020 12:10	Nutrient 1	Nutrients	Temperature	15.4	C		
12/7/2020 12:10	Nutrient 1	Nutrients	pH	7.91			
12/7/2020 12:10	Nutrient 1	Nutrients	Specific Conductance	44196	umhos/cm		
12/7/2020 12:10	Nutrient 1	Nutrients	Sample Depth	0.3	m		
12/7/2020 12:10	Nutrient 1	Nutrients	Dissolved Oxygen	8.60	%Sat		
12/7/2020 10:55	Nutrient 2	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.3 I	µg/L	0.82	2.5
12/7/2020 10:55	Nutrient 2	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	2.2	µg/L	0.60	1.8
12/7/2020 10:55	Nutrient 2	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
12/7/2020 10:55	Nutrient 2	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
12/7/2020 10:55	Nutrient 2	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
12/7/2020 10:55	Nutrient 2	Nutrients	Kjeldahl Nitrogen	0.21 I	mg N/L	0.16	0.40
12/7/2020 10:55	Nutrient 2	Nutrients	Color (true)	7.0	PCU	2.5	6.0
12/7/2020 10:55	Nutrient 2	Nutrients	Total-P	0.011	mg P/L	0.0040	0.010
12/7/2020 10:55	Nutrient 2	Nutrients	Ammonia-N	0.003 I	mg N/L	0.0020	0.0050
12/7/2020 10:55	Nutrient 2	Nutrients	Organic Carbon	2.4	mg C/L	1.0	2.0
12/7/2020 10:55	Nutrient 2	Nutrients	Turbidity	0.90	NTU	0.10	0.13
12/7/2020 10:55	Nutrient 2	Nutrients	Dissolved Oxygen	8.14	mg/L		
12/7/2020 10:55	Nutrient 2	Nutrients	Temperature	16.5	C		
12/7/2020 10:55	Nutrient 2	Nutrients	pH	7.92			

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 10:55	Nutrient 2	Nutrients	Specific Conductance	46900	umhos/cm		
12/7/2020 10:55	Nutrient 2	Nutrients	Sample Depth	0.3	m		
12/7/2020 11:14	Control Site	AGP/LN	Algal Growth Potential - Saltwater	3.00 U	mg DryWt/L	3.00	3.00
12/7/2020 11:14	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.2 I	µg/L	0.89	2.7
12/7/2020 11:14	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.98 U	µg/L	0.98	2.9
12/7/2020 11:14	Control Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	5.7	mg/L	0.20	2.0
12/7/2020 11:14	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	2.1	µg/L	0.65	2.0
12/7/2020 11:14	Control Site	Overflow	Enterococci-Quanti-Tray	288 J	MPN/100 mL	10	10
12/7/2020 11:14	Control Site	Metals	Nickel	2.0 U	µg/L	2.0	8.0
12/7/2020 11:14	Control Site	Metals	Lead	2.0 U	µg/L	2.0	4.0
12/7/2020 11:14	Control Site	Metals	Aluminum	50 I	µg/L	20	80
12/7/2020 11:14	Control Site	Metals	Zinc	20 U	µg/L	20	80
12/7/2020 11:14	Control Site	Metals	Potassium	360	mg/L	30	120
12/7/2020 11:14	Control Site	Metals	Iron	120 U	µg/L	120	480
12/7/2020 11:14	Control Site	Metals	Cadmium	0.080 U	µg/L	0.080	0.32
12/7/2020 11:14	Control Site	Metals	Sodium	9.69E+03	mg/L	50	200
12/7/2020 11:14	Control Site	Metals	Selenium	0.80 U	µg/L	0.80	3.2
12/7/2020 11:14	Control Site	Metals	Arsenic	1.40	µg/L	0.20	0.80
12/7/2020 11:14	Control Site	Metals	Silver	0.040 U	µg/L	0.040	0.16
12/7/2020 11:14	Control Site	Metals	Copper	1.6 U	µg/L	1.6	3.2
12/7/2020 11:14	Control Site	Metals	Magnesium	1.18E+03	mg/L	4.0	16
12/7/2020 11:14	Control Site	Metals	Calcium	347	mg/L	0.30	1.2
12/7/2020 11:14	Control Site	Metals	Chromium	8.0 I	µg/L	4.0	16
12/7/2020 11:14	Control Site	Nutrients	Total Alkalinity	107	mg CaCO3/L	0.65	2.5
12/7/2020 11:14	Control Site	Nutrients	Ammonia-N	0.003 I	mg N/L	0.0020	0.0050
12/7/2020 11:14	Control Site	Nutrients	Kjeldahl Nitrogen	0.20 I	mg N/L	0.16	0.40
12/7/2020 11:14	Control Site	Nutrients	Chloride	1.7E+04	mg Cl/L	40	100
12/7/2020 11:14	Control Site	Nutrients	Color (true)	5.0 I	PCU	2.5	6.0
12/7/2020 11:14	Control Site	Nutrients	TSS	3 U	mg/L	3.0	10
12/7/2020 11:14	Control Site	Nutrients	Organic Carbon	2.8	mg C/L	1.0	2.0
12/7/2020 11:14	Control Site	Nutrients	Turbidity	0.75	NTU	0.10	0.13
12/7/2020 11:14	Control Site	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
12/7/2020 11:14	Control Site	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
12/7/2020 11:14	Control Site	Nutrients	Fluoride	1.1	mg F/L	0.18	0.50

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 11:14	Control Site	Nutrients	Sulfate	2.3E+03	mg SO4/L	40	100
12/7/2020 11:14	Control Site	Nutrients	Total-P	0.01 I	mg P/L	0.0040	0.010
12/7/2020 11:14	Control Site	Pesticides	Sucralose	0.065	µg/L	0.010	0.040
12/7/2020 11:14	Control Site	Priority Organic Pollutants	1,4-Dioxane	0.020 U	µg/L	0.020	0.080
12/7/2020 11:14	Control Site	Nutrients	Dissolved Oxygen	8.29	mg/L		
12/7/2020 11:14	Control Site	Nutrients	Sample Depth	0.3	m		
12/7/2020 11:14	Control Site	Nutrients	Temperature	16.2	C		
12/7/2020 11:14	Control Site	Nutrients	Specific Conductance	46460	umhos/cm		
12/7/2020 11:14	Control Site	Nutrients	pH	7.93			
12/7/2020 13:14	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
12/7/2020 13:14	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
12/7/2020 13:14	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
12/7/2020 13:14	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
12/7/2020 13:14	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
12/7/2020 13:14	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
12/7/2020 13:14	Blank	Metals	Iron	30 U	µg/L	30	120
12/7/2020 13:14	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
12/7/2020 13:14	Blank	Metals	Lead	0.32 I	µg/L	0.20	0.40
12/7/2020 13:14	Blank	Metals	Copper	1.09	µg/L	0.40	0.80
12/7/2020 13:14	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
12/7/2020 13:14	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
12/7/2020 13:14	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
12/7/2020 13:14	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
12/7/2020 13:14	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
12/7/2020 13:14	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
12/7/2020 13:14	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
12/7/2020 13:14	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
12/7/2020 13:14	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
12/7/2020 13:14	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
12/7/2020 13:14	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
12/7/2020 13:14	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
12/7/2020 13:14	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
12/7/2020 13:14	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	0.13
12/7/2020 13:14	Blank	Nutrients	TSS	2 U	mg/L	2.0	10

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:14	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
12/7/2020 13:14	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
12/7/2020 13:14	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
12/7/2020 13:14	Blank	Pesticides	Carbophenothion	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	EPTC	1.3 U	ng/L	1.3	5.0
12/7/2020 13:14	Blank	Pesticides	Molinate	0.30 U	ng/L	0.30	1.2
12/7/2020 13:14	Blank	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.61
12/7/2020 13:14	Blank	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Fenamiphos	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.61
12/7/2020 13:14	Blank	Pesticides	Azoxystrobin	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Flutolanil	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.81
12/7/2020 13:14	Blank	Pesticides	Imazalil	0.76 U	ng/L	0.76	3.0
12/7/2020 13:14	Blank	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
12/7/2020 13:14	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
12/7/2020 13:14	Blank	Pesticides	Fipronil	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Fipronil Desulfinyl	0.13 U	ng/L	0.13	0.50
12/7/2020 13:14	Blank	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.61
12/7/2020 13:14	Blank	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Ametryn	0.61 UJ	ng/L	0.61	2.4
12/7/2020 13:14	Blank	Pesticides	Atrazine	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Bromacil	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Naled	1.5 U	ng/L	1.5	6.1
12/7/2020 13:14	Blank	Pesticides	Pendimethalin	1.0 U	ng/L	1.0	4.0
12/7/2020 13:14	Blank	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.61
12/7/2020 13:14	Blank	Pesticides	Propiconazole	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Simazine	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Sulfentrazone	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Cyanazine	3.3 U	ng/L	3.3	13
12/7/2020 13:14	Blank	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.50
12/7/2020 13:14	Blank	Pesticides	Disulfoton	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Oxadiazon	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Prodiamine	0.18 U	ng/L	0.18	0.71

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:14	Blank	Pesticides	Pyriproxyfen	0.13 U	ng/L	0.13	0.50
12/7/2020 13:14	Blank	Pesticides	Terbuthylazine	0.43 U	ng/L	0.43	1.7
12/7/2020 13:14	Blank	Pesticides	Butylate	0.40 U	ng/L	0.40	1.6
12/7/2020 13:14	Blank	Pesticides	Demeton	1.5 U	ng/L	1.5	6.1
12/7/2020 13:14	Blank	Pesticides	Ethion	0.15 U	ng/L	0.15	0.61
12/7/2020 13:14	Blank	Pesticides	Fludioxonil	0.13 U	ng/L	0.13	0.50
12/7/2020 13:14	Blank	Pesticides	Alachlor	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Azinphos Methyl	2.0 UJ	ng/L	2.0	8.1
12/7/2020 13:14	Blank	Pesticides	Terbufos	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
12/7/2020 13:14	Blank	Pesticides	Ethoprop	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	6.1
12/7/2020 13:14	Blank	Pesticides	Flumioxazin	1.8 U	ng/L	1.8	7.1
12/7/2020 13:14	Blank	Pesticides	Fluxapyroxad	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Hexazinone	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Metalaxyl	0.76 U	ng/L	0.76	3.0
12/7/2020 13:14	Blank	Pesticides	Parathion Methyl	0.55 U	ng/L	0.55	2.2
12/7/2020 13:14	Blank	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.81
12/7/2020 13:14	Blank	Pesticides	Carfentrazone Ethyl	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Difenoconazole	0.61 U	ng/L	0.61	2.4
12/7/2020 13:14	Blank	Pesticides	Fenbuconazole	0.13 U	ng/L	0.13	0.50
12/7/2020 13:14	Blank	Pesticides	Acetochlor	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Iprodione	0.61 U	ng/L	0.61	2.4
12/7/2020 13:14	Blank	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Prometon	0.91 U	ng/L	0.91	3.5
12/7/2020 13:14	Blank	Pesticides	Tebuconazole	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Pesticides	Chlorpyrifos Methyl	0.050 U	ng/L	0.050	0.20
12/7/2020 13:14	Blank	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Dithiopyr	0.10 U	ng/L	0.10	0.40
12/7/2020 13:14	Blank	Pesticides	Malathion	0.35 U	ng/L	0.35	1.4
12/7/2020 13:14	Blank	Pesticides	Metolachlor	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Metribuzin	3.3 U	ng/L	3.3	13
12/7/2020 13:14	Blank	Pesticides	Mevinphos	0.50 U	ng/L	0.50	2.0

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
12/7/2020 13:14	Blank	Pesticides	Norflurazon	0.50 U	ng/L	0.50	2.0
12/7/2020 13:14	Blank	Pesticides	Phorate	0.25 U	ng/L	0.25	1.0
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzidine	9.4 U	µg/L	9.4	38
12/7/2020 13:14	Blank	Priority Organic Pollutants	Pyrene	0.094 U	µg/L	0.094	0.38
12/7/2020 13:14	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Chrysene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Fluorene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.5
12/7/2020 13:14	Blank	Priority Organic Pollutants	Isophorone	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Nitrobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Acenaphthene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.7 U	µg/L	4.7	19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Fluoranthene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Naphthalene	0.094 U	µg/L	0.094	0.38
12/7/2020 13:14	Blank	Priority Organic Pollutants	Phenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
12/7/2020 13:14	Blank	Priority Organic Pollutants	1,4-Dioxane	0.020 U	µg/L	0.020	0.080
12/7/2020 13:14	Blank	Priority Organic Pollutants	Acenaphthylene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Anthracene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	µg/L	0.94	3.8
12/7/2020 13:14	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
12/7/2020 13:14	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.19 U	µg/L	0.19	0.75

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12/7/2020 13:14	Blank	Priority Organic Pollutants	2-Chlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2-Nitrophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Pentachlorophenol	0.47 U	µg/L	0.47	1.9
12/7/2020 13:14	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	9.4 UJ	µg/L	9.4	38
12/7/2020 13:14	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.024 U	µg/L	0.024	0.094
12/7/2020 13:14	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
12/7/2020 13:14	Blank	Priority Organic Pollutants	Hexachloroethane	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	Phenanthrene	0.094 U	µg/L	0.094	0.38
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	4-Nitrophenol	9.4 U	µg/L	9.4	38
12/7/2020 13:14	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.047 U	µg/L	0.047	0.19
12/7/2020 13:14	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	9.4 U	µg/L	9.4	38