Biological Assessment of International Paper Company, Pensacola Mill, Escambia County NPDES # FL0002526 Sampled July 24, 26, 28 and October 16, 2023

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

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Summary of Results

Dissolved Oxygen (DO) was below the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.533(3), F.A.C.) in the effluent grab, Test Site, and Control Site samples. The Test Site sample pH exceeded the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.520(3)(b), F.A.C.). Total residual chlorine (TRC) in the effluent grab sample exceeded the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.530(18), F.A.C.). Iron in the Control Site sample exceeded the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.530(38), F.A.C.). The Algal Growth Potential (AGP) in the effluent indicated moderate productivity levels of freshwater algae, suggesting the potential for nutrient enrichment to the wetlands due to the effluent. The Florida Wetland Condition Index (FWCI) score for the Control Site was greater than the Test Site score for every test metric except % wetland taxa, for which the two sites scored the same. The % wetland taxa score suggests that both sites are consistently saturated or inundated. In comparison to the method development dataset, the Control Site score was similar to a forested wetland with low human disturbance whereas the Test Site score was similar to a forested wetland with high human disturbance. The plant community condition was different between the two sites.

Facility Overview

The International Paper Company, Pensacola Mill is an industrial wastewater facility that produces unbleached linerboard Kraft paper and bleached Kraft pulp. After this sampling event, in late 2023, the mill shut down its bleach plant and chlorine dioxide generator. The wastewater treatment system treats industrial process wastewater, stormwater associated with industrial activity, and pretreated sanitary wastewaters. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information is provided in Appendix A. The facility is operating under a Consent Order (CO, OGC File No. 19-1453) effective on April 28, 2020. The facility is in compliance with the requirements and due dates in the Consent Order.

The effluent is conveyed approximately 10 miles south of the mill via a transmission pipeline constructed by the facility and continuously discharged to wetlands [waterbody identification (WBID) 489 and 489D] flowing to Perdido Bay (WBID 797). Waters from the receiving wetland, a Class III Fresh Water, flow mainly into lower Elevenmile Creek (WBID 489D) and partially through Wicker Lake and Tee Lake (WBID 784), all of which are Class III Marine Waters. Water then flows to Upper Perdido Bay, a Class III Marine Water (Figure 1). Additionally, the Emerald Coast Utilities Authority Central Water Reclamation Facility (ECUA, FL0559351) combines effluent with International Paper Pensacola Mill effluent to discharge into the wetlands. The permitted design flow of the system is 23.8 million gallons per day (MGD) from International Paper and 5.0 MGD from ECUA. The mean flow calculated at the time of the sampling event was 26.53 MGD.

Within the Panhandle West Nutrient Watershed Region, the Numeric Interpretations of the Numeric Nutrient Criteria (NNC) for flowing freshwaters, expressed as annual geometric means, are 0.06 mg/L total phosphorus and 0.67 mg/L total nitrogen (Subparagraph 62-302.531(1)(c)(2), F.A.C.). The Estuary-Specific Numeric Interpretations of the NNC for Upper Perdido Bay (WBID 797) criteria states that measurements do not exceed more than 10% of the assessed over the most recent seven-year period. The criteria for Upper Perdido Bay are 0.102 mg/L total phosphorus, 1.27 mg/L total nitrogen, and 11.5 µg/L chlorophyll *a* (Subparagraph 62-302.532(1)(k)(2), F.A.C.). The facility is located in the Panhandle West bioregion. For this bioregion, the daily average DO saturation shall not be below 67 percent in more than 10 percent of the values for predominantly fresh waters (Paragraph 62-302.533(1)(a), F.A.C.) or below 42 percent saturation in more than 10 percent of the values for predominantly marine waters (Paragraph 62-302.533(2)(a), F.A.C.). Allowable deviations are included within the Water Quality Standard for surface waters with low natural background DO saturation levels. This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent samples were collected on July 24, 26 and 28, 2023 as both grab and 24-hour flow proportioned composite from monitoring site location EFF-3 for outfall D-003. EFF-3 is prior to the mixing point of effluent from International Paper and ECUA facilities. The FWCI survey was performed on October 16, 2023. The FWCI survey is typically performed this time of year for the facility, so that data is comparable to historical vegetation data. Chemical and biological comparisons were made between the wetland Test Site, located approximately 1,800 m south of the wetland distribution system, and the wetland Control Site, located approximately 2,000 m west-southwest of the wetland distribution system and 1,800 m northwest of the wetland Test Site (see Figure 1, Figure 2, and Appendix A).

Samples were collected by Mike Brumfield, Cameron Arthur, and Christina Horstmann (DEP Northwest District) and Nathan Mulkey, Frank Butera, and Stopher Slade (DEP Division of Environmental Assessment and Restoration Northwest Regional Operation Center). Analyses were performed by Wetlands Research Laboratory at the University of West Florida in Pensacola, Eurofins Pensacola and Orlando, and the DEP Laboratory in Tallahassee. The report was reviewed by District representatives and the Point Source Studies Review Committee (Herbert Johnson, Lauren Gottfreid, and Ben Nomann).

All field and laboratory methods followed DEP Standard Operating Procedures (see https://floridadep.gov/dear/quality-assurance/content/dep-sops and https://floridadep.gov/dear/florida-dep-laboratory/content/dep-laboratory-quality-assurance-

manual-and-sops for details) and met DEP quality assurance/quality control standards (see https://floridadep.gov/dear/quality-assurance). Explanations of specific methods and measurements can be found in Appendix B.

Class III Water Quality Criteria for Fresh and Marine Waters are found in Chapter 62-302, F.A.C. All references to Rule 62-302.530, F.A.C. are to the surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667. Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criterion are found in Chapter 62-302.532.

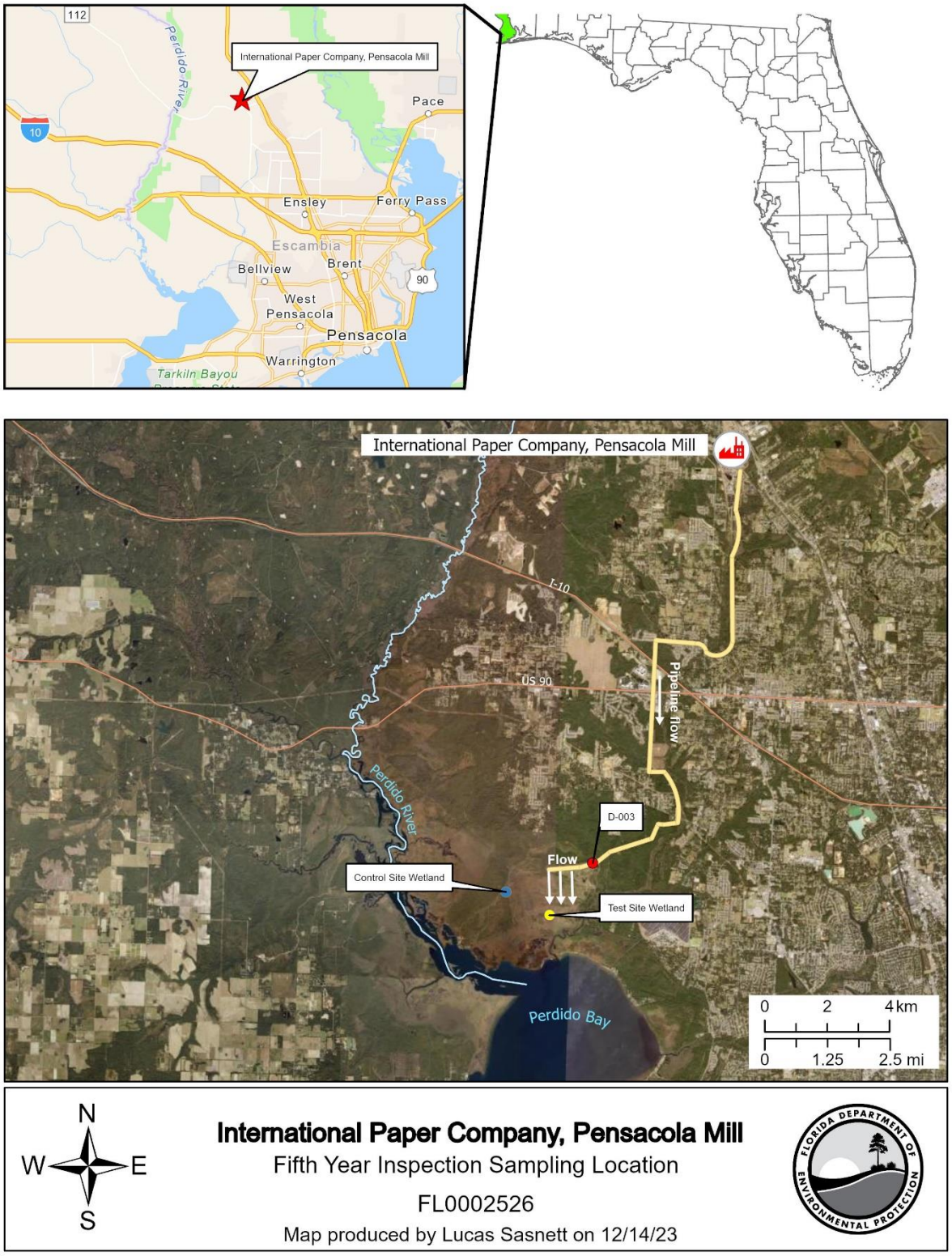


Figure 1. Map of Facility and Sampling Locations

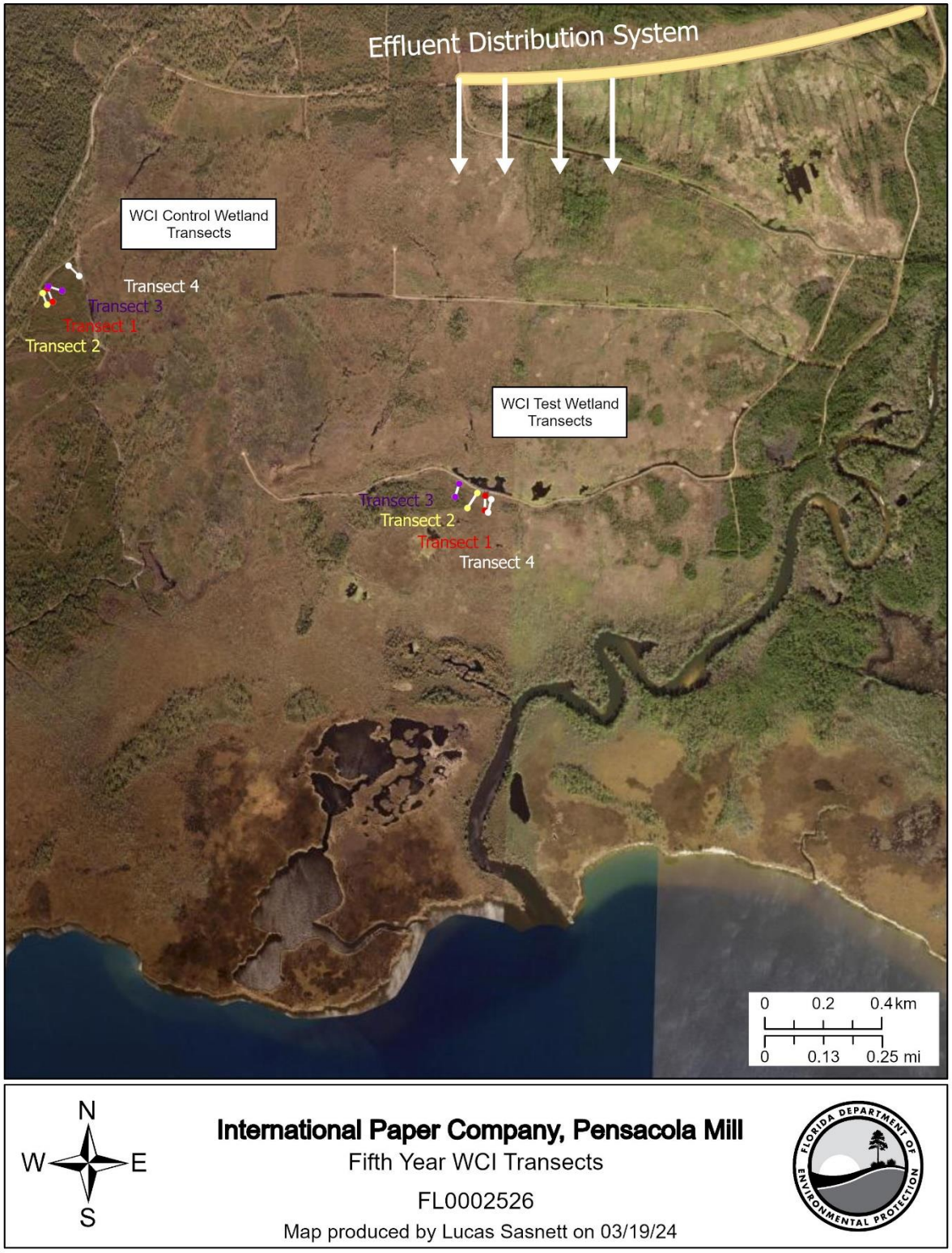


Figure 2. Map of WCI Transects

Results

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

- The DO criteria for Class III fresh waters (Subsection 62-302.533(3), F.A.C.) states that for waterbodies with naturally low background DO, the acceptable criteria shall be 0.1 mg/L below the DO concentration associated with the natural background DO. Using the Control Site DO as the natural background, the Test Site DO exceeded the Class III Water Quality Criterion for Fresh Water.

- The pH criteria for Class III fresh waters (Subsection 62-302.530(52)(c), F.A.C.) states that for waterbodies with natural background less than 6 units, pH shall not vary below natural background or vary more than one unit above natural background. Using the Control Site pH as the natural background, the Test Site pH exceeded the Class III Water Quality Criterion for Fresh Water.

- Field staff noted that the water depth in the Control Site was 0.08 m and there was no flow at the time of the sampling.

- TRC in the effluent grab sample exceeded the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.530(18), F.A.C.). While TRC was detected in the effluent at the time of sampling, it was no longer detectable at the time of laboratory sample preparation and analysis.

Analytical Water Chemistry (See Table 2 and Appendix E)

- The Test and Control sites are wetlands, and there are no numeric nutrient thresholds for wetlands. The wetlands flow to and discharge into Upper Perdido Bay. For comparative purposes only, the Test Site and Control Site single sample results for total nitrogen (calculated) were below or similar to the limit listed in the Estuary-Specific Numeric Interpretations of the NNC for Upper Perdido Bay, Subparagraph 62-302.532(1)(k)(2), F.A.C.), respectively. The single sample result for total phosphorus at the Test Site and for chlorophyll *a* at the Control Site were above the limit (Subparagraph 62-302.532(1)(k)(2), F.A.C.).

- Total phosphorus concentrations were an order of magnitude higher in the effluent composite, effluent grab and Test Site samples compared to the Control Site sample. Total nitrogen concentrations in effluent samples were approximately double the concentrations at the Test and Control Sites.

- Effluent composite samples for ortho-phosphate, total phosphorus, total ammonia, nitrate and nitrite, total Kjeldahl nitrogen, total suspended solids, and color were received outside of acceptable temperature range due to shipment delay. Results were Y qualified.

- Effluent grab samples for ortho-phosphate, total phosphorus, total ammonia, nitrate and nitrite, total Kjeldahl nitrogen, total organic carbon, chlorophyll *a* - corrected, phaeophytin, total suspended solids, turbidity, color, alkalinity, sulfate were received outside of acceptable temperature range due to shipment delay. Results were Y qualified.

- The effluent grab sample result for chlorophyll *a* - corrected was J qualified due to an analysis error.

- Effluent grab sample for ortho-phosphate, chlorophyll *a* - corrected, phaeophytin, turbidity, and color were received outside of the acceptable hold times due to shipment delay. Results were Q qualified.

Microbiology (See Table 2 and Appendix B)

- *Escherichia coli* (*E. coli*) and fecal coliform levels in the effluent grab sample complied with effluent permit limits.

- *E. coli* levels measured in the Test and Control Site samples complied with the Class III Water Quality Criterion for Fresh Waters.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed July 25, 2023, through August 1, 2023.
- The sample was aerated for 20 minutes at a rate of approximately 100 bubbles per minute to decrease the DO from 9.8 mg/L to 8.2 mg/L.

- Chronic bioassay results are reported as the 25% Inhibition Concentration (IC25). An IC25 is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of Subsection 62-302.200(5), Subsection 62-302.530(20) and/or facility permit limits.

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

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

Metals (See Table 3 and Appendix E)

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

- All metals in the Test Site sample complied with Class III Water Quality Criteria for Fresh Waters.

- Iron in the Control Site sample exceeded the Class III Water Quality Criterion for Fresh Waters (Subsection 62-302.530(38), F.A.C.).

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata*, and *Dunaliella tertiolecta (*marine species), were used to determine the AGP values in the effluent grab, Test Site, and Control Site samples. The analytical chemistry suggests that the effluent grab sample was nitrogen-phosphorus co-limited, and the Test Site was nitrogen-limited. The Control Site was ortho-phosphate limited (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.62 parts per thousand (ppth) to a salinity of approximately 7.2 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta*.

- Orthophosphate was not detected in the Control Site sample. Half the method detection limit (MDL) for orthophosphate was used to calculate the total nitrogen to phosphorus ratio.

- The effluent grab sample AGP result (0.538 mg dry wt/L) is within the AGP range (0.011 to 0.80 mg dry wt/L) suggested to be representative of moderate productivity for freshwater (Miller et al. 1978). AGP in the salinity-adjusted effluent grab, Test Site and Control Site samples was undetected.

Organic Constituents (See Table 5 and Appendix E)

- Atrazine, caffeine, propiconazole and simazine were detected in the effluent grab sample.

- Adsorbable Organic halides (AOX), octachlorodibenzodioxin (OCDD), total heptachlorodibenzo-p-dioxin (total HpCDD) and 1,2,3,4,6,7,8-heptachlorodibenzo-P-dioxin (1,2,3,4,6,7,8 HpCDD) were detected in the effluent composite sample.

- OCDD was detected in the equipment blank between the MDL and PQL.

- The effluent composite sample for adsorbable organic halides was received outside of acceptable temperature range.

Flora (See Table 6 and Appendix D)

- The FWCI is used to examine the ecological integrity of a vascular plant community. Because the method requires additional data for validation in certain regions and for wetland types not included in the original development dataset, it is used by DEP as supporting information, on a site-specific basis. The overall FWCI scores for the International Paper Control and Test Sites were dissimilar, with the Control Site scoring higher, 45 versus 28. The Control Site scored higher for every metric except

% wetland taxa, for which the two sites scored the same. The % tolerant metric and the % exotic metric were the most similar between sites (final metric scores of 10 versus 8 and 6 versus 4 for the Control and Test Sites, respectively). The Control Site scored higher for % sensitive (4 versus 0), average Coefficient of Conservatism (C of C) (7 versus 3), and % native perennial (8 versus 3). The Control and Test Sites were also compared to the mean values for the overall and individual metric scores for the original FWCI method development data for forested wetlands. For comparative purposes, the method development sites were divided into two groups based on Landscape Development Intensity (LDI): sites with low LDI (LDI <2) and sites with high LDI (LDI ≥2). The FWCI score for the Control Site was closest to the mean score (50.3) for the isolated forested development sites in the Panhandle region with low LDI scores (less human disturbance). The FWCI score for the Test Site was closest to the mean score (20.4) for the forested sites in the Panhandle with high LDI scores (more human disturbance). The Control Site had 32 total taxa and the Test Site had 35 total taxa. The % wetland taxa score suggests the sites are both consistently saturated or inundated. While both sites fall slightly to the middle of the development dataset distribution (the Control Site scores slightly lower than the mean low LDI score and the Test Site scores slightly lower than the high LDI score), there is a clear difference in plant community condition between the Control and Test Sites.

Literature Cited

- Miller, W. E., Maloney, T. E. and Greene, J. C. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA600/978-018. U. S. EPA, Cincinnati, Ohio. 126 p.
- Reiss, K.C. and Brown, M. T. 2005. The Florida Wetland Condition Index (FWCI): Developing Biological Indicators for Isolated Depressional Forested Wetlands. Howard T. Odum Center for Wetlands. University of Florida. 168 pp.
- USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

Table 1. Measured field parameters

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab	Test Site	Control Site
Sample Depth	m	-	-	-	0.2	0.08
Temperature	C	-	Report	34.3	27.5	26.2
pH	SU	4.2-5.2[1]	5.0 - 8.5	6.8	7.0	4.2
Specific Conductance	µmhos/cm	≤ 1,275	≤ 2,500	1,415	1,086	48
Salinity	ppth	-	-	-	0.5	0.02
Salinity	ppth	-	-	0.6 c	0.5 c	0 c
Dissolved Oxygen	% saturation	≥ 67	-	-	6.3 e	25 c
Dissolved Oxygen	mg/L	≥ 1.9[2]	≥ 5.0	5.6 e	0.5 e	2.0
Total Residual Chlorine	mg/L	≤ 0.01	-	0.4 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 Fresh Water Quality Criteria or permit limits
1 - For Class III predominantly fresh waters with natural background less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background (Subsection 62-302.530(52)(c), F.A.C.). The Control Site is considered a reasonable surrogate for the natural background of the wetland.
2 - For Class III predominantly fresh waters applicable criteria shall be 0.1 mg/L below the DO concentration associated with the natural background DO saturation level (Subsection 62-302.533(3), F.A.C.). The Control Site is considered a reasonable surrogate for the natural background of the wetland.

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

Effluent limits, Class III Water Quality Criteria for Fresh Waters, and analytical water chemistry, microbiological, and toxicological data

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site
Ortho-phosphate	mg P/L	-	Report	0.051 Y	0.014 YQ	0.072	0.004 U
Total Phosphorus	mg P/L	-	Report	0.35 Y	0.12 Y	0.14	0.043
Total Ammonia	mg N/L	≤ 1.97 s (Grab) ≤ 2.86 s (Test) ≤ 3.57 s (Control)	Report	1.3 Y	0.92 Y	0.026	0.003 I
Un-ionized Ammonia	mg/L NH3	-	≤ 0.02	-	< 0.02 c	< 0.02 c	< 0.02 c
Nitrate and Nitrite	mg N/L	-	Report	0.23 Y	0.22 Y	0.007 I	0.005 I
Total Kjeldahl Nitrogen	mg N/L	-	Report	2.9 Y	2.1 Y	0.82	1.3
Organic Nitrogen	mg N/L	-	-	1.6 c	1.2 c	0.79 c	1.3 c
Total Nitrogen	mg N/L	-	-	3.1 c	2.3 c	0.83 c	1.3 c
Total Organic Carbon	mg C/L	-	-	-	14 YA	18	17
Chlorophyll a - Corrected	µg/L	-	-	-	2.1 IYJQ	3.9 I	13
Phaeophytin	µg/L	-	-	-	5.9 IYJQ	1.8 U	5.1 I
Chemical Oxygen Demand	mg/L	-	Report	71	-	-	-
BOD, 5 day (mg/L), N - uninhibited	mg/L	-	Report	11	4.4	2.0 U	2.0 U
Total Suspended Solids	mg/L	-	Report	17 Y	14 Y	4 I	26
Turbidity	NTU	≤ 29 t	Report		8.8 YAQ	4.2	12
Color (true)	PCU	-	Report	130 Y	40 YAQ	220	94 A
Alkalinity	mg CaCO3/L	≥ 20	-	-	71 YA	121	0.65 U
Chloride	mg Cl/L	-	-	-	52 A	53	5.3
Fluoride	mg F/L	≤ 10.0	-	-	0.049 I	0.26	0.025 U

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site
Sulfate	mg SO4/L	-	-	-	480 YA	290	0.29 I
Microbiology							
Fecal Coliforms	CFU/100 mL	-	≤ 800	-	10	-	-
Escherichia coli	MPN/100 mL	≤ 410 s	≤ 410 s	-	10	98	10 U
Toxicity							
Chronic Bioassay - Water flea *(Ceriodaphnia dubia)*, NOEC	% effluent	-	-	100	-	-	-
Chronic Bioassay - Water flea *(Ceriodaphnia dubia)*,	% effluent	-	≥ 100	≥100	-	-	-
Bioassay - Fish *(Pimephales promelas)*,	% effluent	-	≥ 100	≥100	-	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
s – Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

Table 3. Analytical metals data

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

Analyte	Units	Effluent Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab Class III criteria	Effluent Grab	Test Site Class III criteria	Test Site	Control Site Class III criteria	Control Site
Hardness	mg CaCO3/L	-	Report	76.0	-	76.5 c	-	64.9 c	-	2.0 c
Aluminum	µg/L	≤ 1,500	-	-	-	1,270	-	329	-	385
Arsenic	µg/L	≤ 50	≤ 50 p	0.71	-	0.38	-	0.61	-	0.29
Cadmium	µg/L	≤ 0.221 b	≤ 0.221 bp	0.105	≤ 0.222 b	0.033 I	≤ 0.196 b	0.025 I	≤ 0.1 b	0.020 U
Calcium	mg/L	-	-	-	-	24.6	-	21.0	-	0.42
Chromium, Total[3]	µg/L	68.8 b	11 p	1.2 I	≤ 69.2 b	0.46 I	≤ 60.5 b	0.56 I	≤ 28 b	0.40 U
Copper	µg/L	≤ 7.38 b	≤ 7.38 bp	2.76	≤ 7.42 b	0.82	≤ 6.45 b	0.48 I	≤ 2.9 b	0.40 U
Iron	µg/L	≤ 1,000	≤ 1,000 p	250	-	110 I	-	150	-	1,590 e
Lead	µg/L	≤ 2.24 b	≤ 2.24 bp	0.38 I	≤ 2.26 b	0.20 U	≤ 1.84 b	0.20 U	≤ 0.54 b	0.30 I
Magnesium	mg/L	-	-	-	-	3.66	-	3.03	-	0.24
Mercury	µg/L	≤ 0.012	≤ 0.012	-	-	0.0053	-	0.00039	-	0.002
Nickel	µg/L	≤ 41.4 b	≤ 41.4 bp	3.6	≤ 41.6 b	2.6	≤ 36.2 b	1.5 I	≤ 16 b	0.50 U
Potassium	mg/L	-	-	-	-	10.7	-	10.9	-	0.30 U
Selenium	µg/L	≤ 5.0	≤ 5.0 p	0.25 I	-	0.20 U	-	0.20 U	-	0.20 U
Silver	µg/L	≤ 0.07	≤ 0.07 p	0.014 I	-	0.010 U	-	0.010 U	-	0.010 U
Sodium	mg/L	-	-	-	-	266	-	225	-	2.5
Zinc	µg/L	≤ 95.0 b	≤ 95.0 bp	21	≤ 95.5 b	9.8 I	≤ 83.1 b	5.0 U	≤ 37 b	5.0 U

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
b - Value is calculated based on hardness, (62-302.530, F.A.C.)
p - 24-hour flow proportioned 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 - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III

3 - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III

Table 4. Algal Growth Potential (AGP)

Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus

Location	Test Species	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Grab	*Pseudokirchneriella subcapitata*	0.538	43 ± 8.7	6.0 ± 1.2	88 ± 18	52 ± 10	81	19
Effluent Grab	*Dunaliella tertiolecta*	3.0 U *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	81	19
Test Site	*Pseudokirchneriella subcapitata*	0.300 U	1.3 ± 0.30	31 ± 6.2	31 ± 6.3	60 ± 12	0.50	5.9
Control Site	*Pseudokirchneriella subcapitata*	0.300 U	0.3 ± 0.10	0.86[5]	50 ± 9.9	18 ± 3.7	4.0[3]	30

* - sample salinity adjusted to 7.2 ppth
U- Material analyzed for but not detected; value reported is the method detection limit (MDL)
4 - predictions not applicable to marine matrix
5 - non-detects in the analytical chemistry; prediction calculated using ½ MDL.

Table 5. Detected Organic Constituents

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site
Atrazine	ng/L	-	-	-	3.6	-	-
Caffeine	ng/L	-	-	-	39 I	-	-
Propiconazole	ng/L	-	-	-	81	-	-
Simazine	ng/L	-	-	-	21	-	-
Oils and Greases (HEM)	mg/L	≤ 5.0	≤ 5.0	-	1.4 U	1.5 U	1.5 U
Adsorbable Organic Halides (AOX)	µg/L	-	Report	500 Y	-	-	-
OCDD	pg/L	-	-	11 IV	-	-	-
Total HpCDD	pg/L	-	-	5.9 IVJ	-	-	-
2,3,7,8-TCDD	pg/L	-	<0.014	0.39 U	-	-	-
1,2,3,4,6,7,8-HpCDD	pg/L	-	-	4.0 IVJ	-	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
V - Analyte was detected in both sample and method blank
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

Table 6. Florida Wetland Condition Index – Vegetation (FWCI-V)

	Test Site	Control Site	Low LDI* (≤2)	High LDI* (>2)
FWCI score	28	45	50.3	20.4
% Tolerant metric score	8	10	8.1	2.1
% Sensitive metric score	0	4	8.8	2.5
Average CC# metric score	3	7	8.5	3.2
% Exotic metric score	4	6	9.3	4.0
% Native Perennial metric score	3	8	8.6	5.2
% Wetland Status metric score	10	10	7.0	3.3

*Values represent the mean scores for development sites in each LDI group with (Standard Deviation).
CC=Coefficient of Conservatism. Described on pgs. 27-28 of the document at this link:
https://publicfiles.dep.state.fl.us/Labs/lds/reports/15106.pdf

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event	
Prepared By: Mike Brumfield	**Contact Number:** (850) 595-0557
Facility Name (as it appears on permit): International Paper Company, Pensacola Mill	**Former Names:**
NPDES Permit Number: FL0002526	**Permit Expiration Date:** March 14, 2015 (remains effective by rule)
Physical Address: 621 Muscogee Road, Cantonment, Florida 32533	
District: Northwest	**County:** Escambia
Function of Facility: Production of unbleached linerboard Kraft paper and 465 (ADBT) of integrated production of bleached Kraft pulp	
Facility Type: IW	**Permitted Capacity (MGD):** 23.8
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): Flow through plant (5/22 – 6/23) 28.58 mgd monthly average	
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): **EFF-3:** Final effluent from IWWTP prior to entering effluent transmission pipeline. Approximately at latitude 30° 34’ 25” N and longitude 87° 19’ 18” W. **EFF-4:** Point of discharge at the end of the effluent transmission pipeline after passive aeration structure. **SWD-2:** Elevenmile Creek at Hwy 90 (USGS gage station #02376115). **OTH-1:** ECUA’s Effluent into Effluent Transmission Pipeline. **CAL-01:** Adjusted Flow Elevenmile Creek at Hyw 90 = Flow at SWD-2 + Flow at EFF-3. **OUI-1:** Pine Bleach Plant Acid Sewer. **OUI-2:** Pine Bleach Plant Alkaline Sewer. The Facility also has monitoring wells they are required to sample.	
Description of Permitted Outfall(s): **Outfall D-001:** A stormwater outfall, which is composed of runoff from immediate area upstream of the parshall flume and discharging at the parshall flume. The point of discharge is located approximately at latitude 30° 35’ 25” N, longitude 87° 19’ 18” W. **Outfall D-002:** An onsite stormwater detention pond collects and treats stormwater from onsite and offsite areas and discharges at outfall # D-002. This stormwater discharge is in addition to the stormwater discharge as described above for D-001. The point of discharge is located approximately at latitude 30° 34’ 51” N, longitude 87° 19’ 13” W. Discharges from D-001 and D-002, combine with other stormwater and an unnamed tributary that flow into an on-site impoundment. The on-site impoundment discharges through a 48-inch pipe into Elevenmile Creek south of State Road 186. See attachment (2) Fig 1.3 Mill Watershed Boundaries attached.	

Outfall D-003: Effluent from Permittee's modified treatment system that will be conveyed via an effluent transmission pipeline and discharged to the effluent distribution system to the wetlands. The point of discharge at the end of the effluent transmission pipeline and passive aeration structure is located approximately at latitude 30° 29' 06" N, longitude 87° 21' 57" W.

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

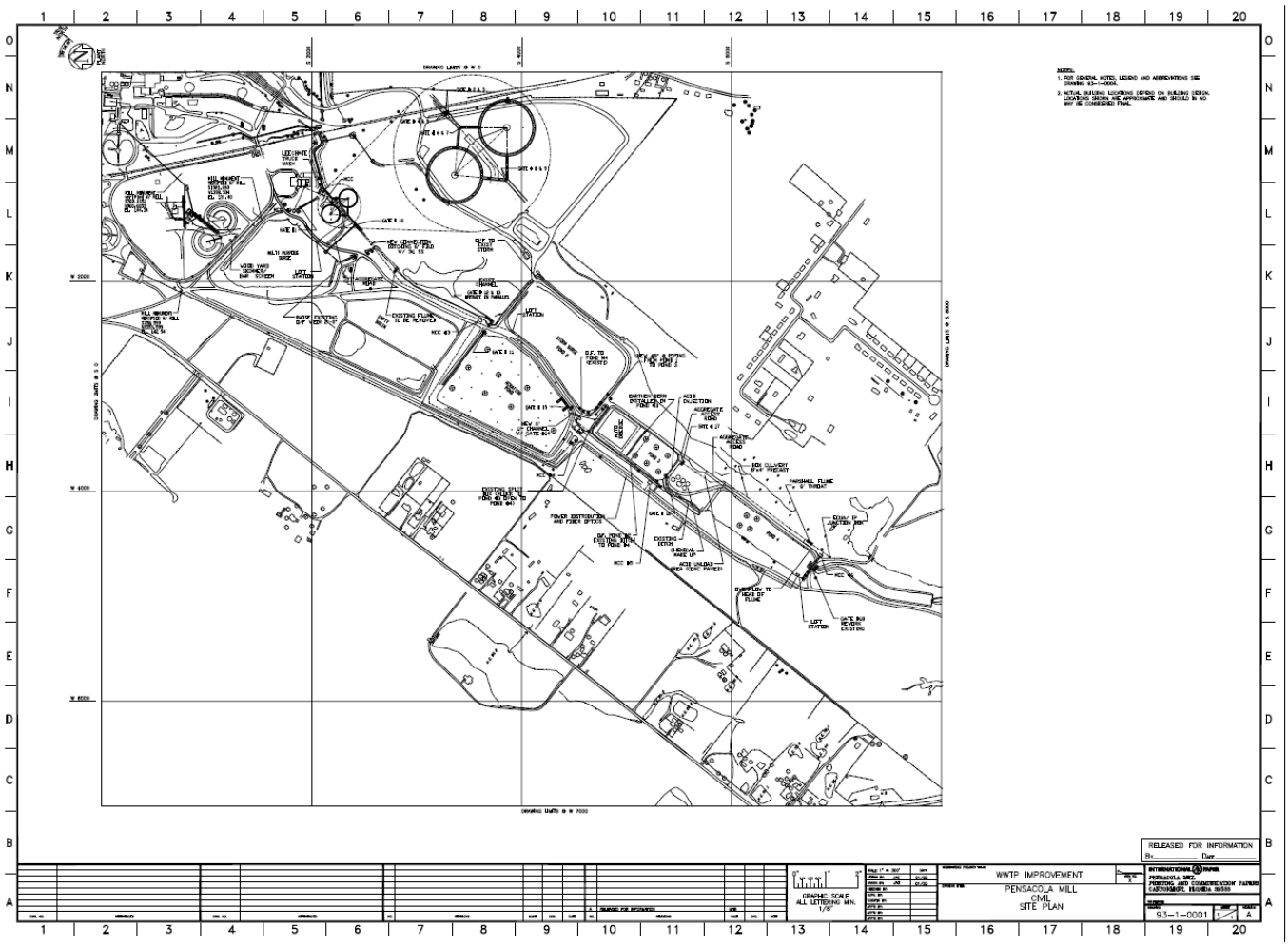
Existing Wastewater Treatment System: The current wastewater treatment plant's multi-pond primary and secondary treatment system, consisting of a primary treatment system (bar screen, dual primary clarifiers, polymer addition, multi-purpose surge basin), and secondary treatment system (four ponds in series; two aerated stabilization basins with approximately 2,200 horsepower (HP) of aeration capacity, a nutrient feed system, two non-aerated polishing ponds and a final riffle section to re-aerate the effluent), will be modified. Primary sludge is treated in a flocculation tank, then gravity flow to rotary screens and the screw press. Sanitary waste is pretreated separately before mixing with process wastewater. A system of lift stations pump sanitary wastewater to a 0.060 MGD package activated sludge plant for biological treatment. Treated effluent from the activated sludge plant is pumped to the bleach plant acid sewer before subsequently combining with other process wastewater before entering the wastewater treatment facility described above for further treatment.

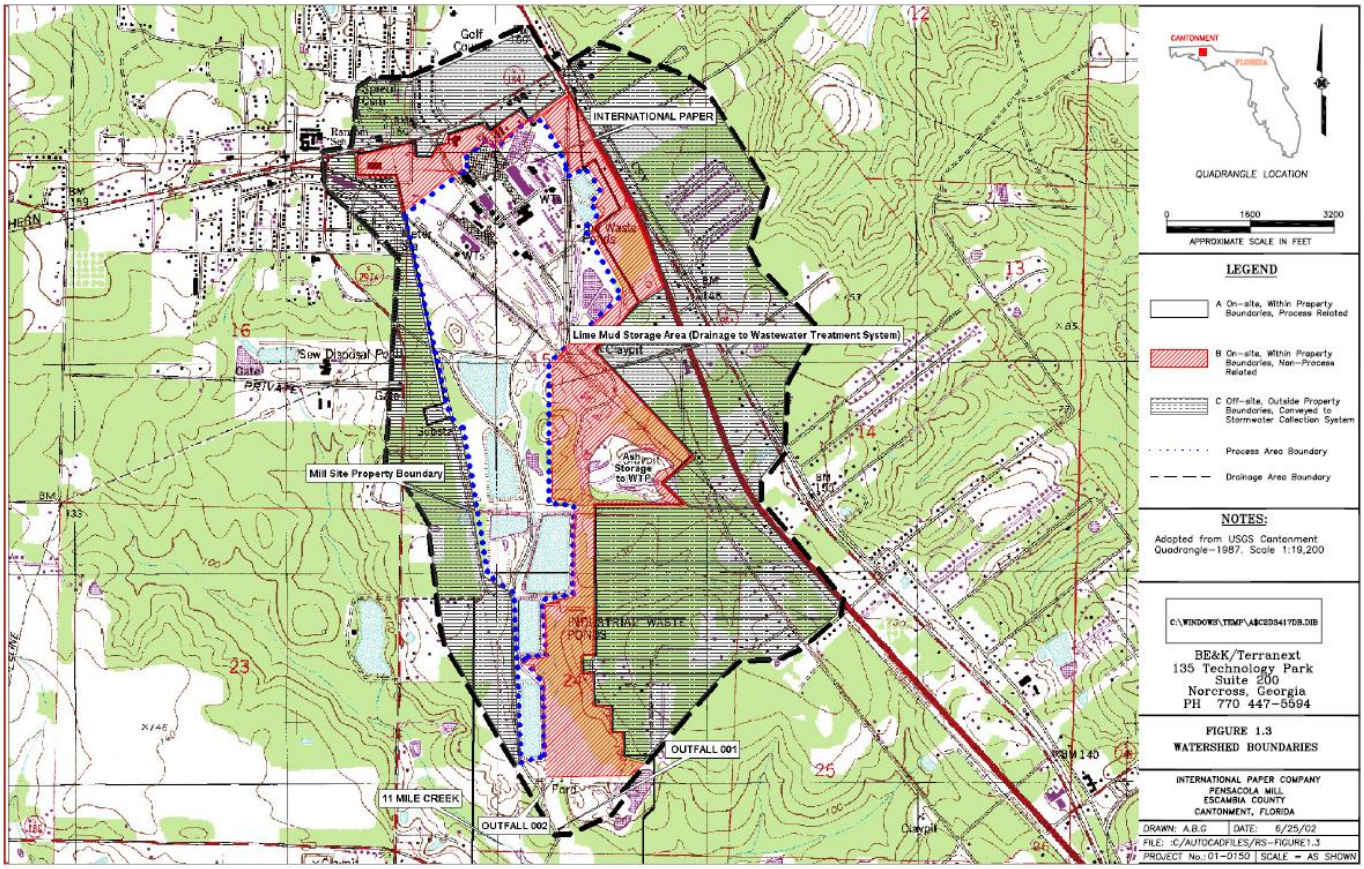
An onsite stormwater detention pond collects and treats stormwater from onsite and offsite areas and discharges at Outfall # D-002 to Elevenmile Creek. This discharge is in addition to activities that generate industrial wastewater as described above.

Modified Wastewater Treatment System: Modifications include conversion to modified activated sludge treatment system with increased aeration capacity (approximately 2,900 HP), storm surge ponds, and effluent pH adjustment equipment for carbon dioxide and/or sulfuric acid. Secondary sludge will be treated with the primary sludge as described in the existing treatment system. Storm surge capacity will accommodate a 25-year, 24-hour (10.8") storm event. See Attachment (1) *IP Mill IWWTP proposed site plan 93-1-00011*.

Effluent Transmission Pipeline: Construction of an approximately 10-mile long gravity pipeline with a nominal capacity between 30 and 37.5 MGD to be determined by International Paper. Effluent from the modified International Paper treatment system and potentially up to 5.0 MGD annual average daily effluent flow from an Emerald Coast Utility Authority (ECUA) Advanced Wastewater Treatment facility will be combined and conveyed by gravity to wetlands on property owned by International Paper bordering lower Elevenmile Creek and Perdido Bay. ECUA's discharge is not authorized by this permit.

Wetland Effluent Distribution System: An effluent distribution system will be constructed to distribute effluent to wetlands that are on the East Rainwater tract owned by International Paper located approximately at latitude 30° 29' 06" N, longitude 87° 21' 57" W. The effluent distribution system is designed to accommodate a peak effluent flow of 37.5 MGD (consisting of 30 MGD from IP and 7.5 MGD from ECUA). The system is designed to distribute effluent into approximately 1,381 acres of the 2,638 acre wetland project area approximately 10 miles south of the mill and bordering lower Elevenmile Creek and Perdido Bay. The waters from the wetlands flow into lower Elevenmile Creek and through Wicker and Tee Lakes to upper Perdido Bay.


WWTP IMPROVEMENT
PENSACOLA MILL
CIVIL
SITE PLAN
93-1-0001
RELEASED FOR INFORMATION


INTERNATIONAL PAPER
Lime Mud Storage Area (Drainage to Wastewater Treatment System)
Mill Site Property Boundary
OUTFALL 001
OUTFALL 002
11 MILE CREEK
Golf Course
Sludge Disposal Pond
Ash Storage to WTP
INDUSTRIAL WASTE PONDS
Gate
PRIVATE
Cemetery
Pond
Clay pit
CANTONMENT
FLORIDA
QUADRANGLE LOCATION
0 1600 3200
APPROXIMATE SCALE IN FEET
LEGEND
A On-site, Within Property Boundaries, Process Related
B On-site, Within Property Boundaries, Non-Process Related
C Off-site, Outside Property Boundaries, Conveyed to Stormwater Collection System
Process Area Boundary
Drainage Area Boundary
NOTES:
Adopted from USGS Cantonment Quadrangle-1987. Scale 1:19,200
C:\WINDOWS\TEMP\A$CD3417DB.DIB
BE&K/Terranext
135 Technology Park
Suite 200
Norcross, Georgia
PH 770 447-5594
FIGURE 1.3
WATERSHED BOUNDARIES
INTERNATIONAL PAPER COMPANY
PENSACOLA MILL
ESCAMBIA COUNTY
CANTONMENT, FLORIDA
DRAWN: A.B.G DATE: 6/25/02
FILE: :C/AUTOCADFILES/RS-FIGURE1.3
PROJECT No.: 01-0150 SCALE = AS SHOWN

PART I: Continued

List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under
(Leave cell blank if not applicable)

D-003		**Discharge Limitations**			**Monitoring Requirements**		
Parameter	**Units**	**Monthly Average**	**Daily Max**	**Other specify**	**Monitoring Frequency**	**Sample type**	**Sample point**
Flow (flow through modified WWTP)	MGD	Report	Report	NA	Continuous	Recorder	EFF-3
Flow (to wetlands)	MGD	Report	Report	NA	Daily	Calculated	EFF-4
Stream flow, mean daily (Elevenmile Creek Hwy 90)	cfs	Report 14-day average	Report (min)	NA	Daily	Calculated	SWD-2
Adjusted stream flow, mean daily (Elevenmile Creek Hwy 90)	cfs	Report 14-day average	Report (min)	NA	Daily	Calculated	CAL-01
BOD_5	Concentration mg/L	Report	Report	NA	3/week	24 hour composite	EFF-3
BOD_5 loading Summer (May-October)	lbs/day	4,500	9,000	NA	3/week	24 hour composite	EFF-3
BOD_5 loading Winter (November-April)	lbs/day	5,100	10,200	NA	3/week	24 hour composite	EFF-3
Total Suspended Solids	Concentration mg/L	Report	Report	NA	3/week	24 hour composite	EFF-3
Total Suspended Solids	Loading lbs/day	8,000	16,000	NA	3/week	24 hour composite	EFF-3
Adsorbable Organics Halides (AOX) (EPA method 1650)	mg/L	Report	Report	NA	Daily	24 hour composite	EFF-3

Adsorbable Organics Halides (AOX)	lbs/day	623	951	NA	Daily	24 hour composite	EFF-3
pH	Standard Units	NA	5.0-8.5	NA	Daily	Grab or Instantaneous	EFF-3
Dissolve Oxygen	mg/L	NA	NA	5.0 minimum	Daily	Instantaneous	EFF-3
Dissolve Oxygen	mg/L	NA	NA	5.0 minimum	Daily	Instantaneous	EFF-4
Rainfall	Inches	NA	Report	Monthly total	Daily, 24 hrs	Measured	EFF-3
Nitrate-Nitrite	Concentration mg/L	Report	Report	NA	3/week	24 hour composite	EFF-3
Nitrate-Nitrite	Loading lbs/day	See I.A.5	Report	NA	3/week	24 hour composite	EFF-3
TKN	Concentration mg/L as N	Report	Report	NA	3/week	24 hour composite	EFF-3
TKN	Loading lbs/day as N	Report	Report	NA	3/week	24 hour composite	EFF-3
Ortho-Phosphate	Concentration mg/L as P	Report	Report	NA	3/week	Calculated	EFF-3
Ortho-Phosphate	Loading lbs/day as P	80.7	Report	NA	3/week	Calculated	EFF-3
Total Phosphorus	Concentration mg/L as P	Report	Report	NA	3/week	24 hour composite	EFF-3
Total Phosphorus	Loading lbs/day as P	184.0	Report	NA	3/week	24 hour composite	EFF-3
Total Ammonia	Concentration mg/L as N	Report	Report	NA	3/week	24 hour composite	EFF-3

Total Ammonia	Loading lbs/day as N	See I.A.5	Report	NA	3/week	24 hour composite	EFF-3
Unionized Ammonia	Concentration mg/L as NH_3	NA	0.02 See Cond. I.A.8		3/week	Grab and calculated	EFF-3
Temperature	°C	Report	Report See Cond. I.A.8	NA	3/week	Instantaneous	EFF-3
Specific Conductance	µohms/cm	NA	2,500	NA	3/week	Instantaneous	EFF-3
Color (NCASI method)	Pt-co Units	325	Report	NA	3/week	24 hour composite	EFF-3
Turbidity	NTU	50	Report	NA	3/week	Calculated Grab	EFF-3
Oil and grease	mg/L	NA	5.0	NA	1/month	Grab	EFF-3
Fecal coliform	#/100 mL	200	800	NA	3/week	Grab	EFF-3
COD	Concentration mg/L	Report	Report	NA	1/month	24 hour composite	EFF-3
COD	Loading lbs/day	Report	Report	NA	1/month	24 hour composite	EFF-3
Chronic Whole Toxicity	IC25 ≥ 100 % effluent (See Item I F)						
Total Mercury	µg/L	NA	0.012	NA	1/year	Grab	EFF-3
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	µg/L	0.014	0.014	NA	1/quarter	24 hour composite	EFF-3
Total Recoverable Arsenic	µg/L	NA	50	NA	1/quarter	24 hour composite	EFF-3
Hardness	mg/L as CaCO3	NA	Report See Cond. I.A.10	NA	1/year	24 hour composite	EFF-3

Total Recoverable Cadmium	µg/L	NA	See Cond. I.A.10		1/year	24 hour composite	EFF-3
Total Recoverable Chromium	µg/L	NA	11	NA	1/year	24 hour composite	EFF-3
Total Recoverable Copper	µg/L	NA	See Cond. I.A.10	NA	1/year	24 hour composite	EFF-3
Total Recoverable Iron	mg/L	NA	1.0	NA	1/year	24 hour composite	EFF-3
Total Recoverable Lead	µg/L	NA	See Cond. I.A.10	NA	1/year	24 hour composite	EFF-3
Total Recoverable Nickel	µg/L	NA	See Cond. I.A.10	NA	1/year	24 hour composite	EFF-3
Total Recoverable Selenium	µg/L	NA	5.0	NA	1/year	24 hour composite	EFF-3
Total Recoverable Silver	µg/L	NA	0.07	NA	1/year	24 hour composite	EFF-3
Total Recoverable Zinc	µg/L	NA	See Cond. I.A.10	NA	1/year	24 hour composite	EFF-3

Effluent limitation and Monitoring requirements

Surface Water discharge

1. During the period beginning upon issuance of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge stormwater from areas not associated with industrial process activity located immediately upstream of the parshall flume from existing outfall #D-001. Such discharge shall be controlled through implementation of the Best Management Practices, see permit condition VII.D. and shall not require monitoring by the Permittee.

2. During the period beginning on the issuance date and lasting through the expiration of this permit, the Permittee is authorized to discharge from outfall #D-002, stormwater runoff from areas associated with industrial process activity. Such discharge shall be controlled through implementation of the Best Management Practices, see Permit condition VII.D. and shall not require monitoring by the Permittee.

3. During the period beginning upon placing the modified WWTP and the gravity effluent transmission pipeline into operation and lasting through the expiration of this permit, the permittee is authorized to discharge from Outfall #D-003, process wastewater, treated sanitary wastewater, and stormwater runoff from areas associated with industrial process activity, and leachate from Rock Crossing landfill. Such discharge shall be limited and monitored by the permittee as specified below and per I.E.7.

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
Wetland (flows to Elevenmile Creek, WBID 489)	Class 3F Stream (fresh)

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

August 15, 2011 changed frequency to semiannually.

Whole effluent toxicity Testing requirements

The permittee shall comply with the following and initiate a series of tests described below beginning in the 4th month after placing the modified WWTP and the Wetland Transmission pipeline into operation, unless otherwise directed by the Department in writing, to evaluate chronic whole effluent toxicity of the discharge from outfall #D-001.

Effluent limitation

(1) Whole effluent chronic toxicity shall not exceed a 25% inhibition concentration (IC25) of less than 100% effluent in any test. (Rule 62-302-530(61) and 62-4.241(1)(b), F.A.C.).
(2) Whole effluent acute toxicity shall not exceed a 96 hours LC50 of less than 100% effluent in any test (Rule 62-302-500(1)(a)4 and 62-4.241(1)(a), F.A.C.).

Monitoring Frequency

a. "Routine" toxicity tests shall be conducted once every three months for the duration of this permit. b. Upon completion of four consecutive, valid "routine" tests that demonstrate compliance with the effluent limitation in I.F.1.above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in I.F.1. above.
c. If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, 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 valid tests for the purpose of evaluating the reduction of monitoring frequency.
I.F.3. Sampling Requirements
a. For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used per the sampling protocol discussed in EPA-821-R-02-013, Section 8.
b. 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.

Test Requirements

Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test concentrations: 100%, 50%, 25%, 12.5%, and 6.25% final effluent.
The permittee shall conduct a daphnid, Ceriodaphnia dubia, Survival and Reproduction Test and a fathead minnow, Pimephales promelas, Larval Survival and Growth Test, concurrently.
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 ed., 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.
The control water and dilution water used shall be moderately hard water as described in EPA-821-R-02-013, Section 7.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
The facility is operating under a Consent Order (OGC File No. 19-1453 effective on April 28, 2020. The facility is in compliance with the requirements and due dates in the Consent Order.

Facility Mixing Zone Details (if applicable):

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

Date	Parameter and Units	Limit	Result
9/30/2021	Antimony, Total Recoverable	0.006	0.022
9/30/2021	Iron, Total Recoverable	0.3	3.5
9/30/2021	pH	6.5-8.5	4.8
9/30/2021	Antimony, Total Recoverable	0.006	0.022
9/30/2021	Iron, Total Recoverable	0.3	0.44
9/30/2021	pH	6.5-8.5	4.8
12/31/2021	Antimony, Total Recoverable	0.006	0.022
12/31/2021	Iron, Total Recoverable	0.3	1.8
12/31/2021	pH	6.5-8.5	4.6
12/31/2021	Antimony, Total Recoverable	0.006	0.022
12/31/2021	pH	6.5-8.5	4.8
12/31/2021	Odor (threshold no. at room temperature)	3	4
1/31/2022	Oil and Grease	5	5.1
3/31/2022	Iron, Total Recoverable	0.3	2.2
3/31/2022	pH	6.5-8.5	4.5
6/30/2022	Antimony, Total Recoverable	0.006	0.022
6/30/2022	Iron, Total Recoverable	0.3	3.7
6/30/2022	pH	6.5-8.5	4.8
6/30/2022	Antimony, Total Recoverable	0.006	0.022
6/30/2022	Iron, Total Recoverable	0.3	0.46
6/30/2022	pH	6.5-8.5	4.6
9/30/2022	Iron, Total Recoverable	0.3	3.8
9/30/2022	Color	15	19
9/30/2022	pH	6.5-8.5	4.6
9/30/2022	Odor (threshold no. at room temperature)	3	4
9/30/2022	pH	6.5-8.5	4.6

Describe previous FYI and WQBEL study:

Describe previous or current Enforcement Actions (including WLs):

Consent Order OGC File No. 19-1453 executed on April 28, 2020, supersedes the 2010 Consent Order (OGC File No. 08-0357). The timelines in the Consent Order are listed below.

17. Within 30 days of the effective date of this Order, Respondent shall pay the Department $190,000.00 in civil penalties for the Exceedances and $1,000.00 for costs and expenses incurred by the Department during the investigation of this matter and the preparation and tracking of this Order.

18. In addition to making the penalty payment of $191,000.00 as set forth in paragraph 17 above, Respondent shall implement a mitigation project, which must first be approved by the Department. The mitigation project must be either an environmental enhancement or an environmental restoration project. The Department may also consider the donation of environmentally sensitive land as the implementation of a mitigation project. The dollar value of the mitigation project shall be equivalent to at least $1,000,000.00. Respondent shall comply with all the requirements and time frames in Exhibit 2 (Mitigation Project) attached and incorporated to this Order.

Moderating Provision - Corrective Action

19. Respondent shall continue to cooperate with the Department in the processing of the SSAC Petition for Rulemaking pursuant to Rule 62-302.800(2), F.A.C. If a proposed SSAC is adopted by the Department and approved by EPA, the SSAC will be incorporated into the Renewal. In the event that either the Department denies the Petition for SSAC Rulemaking, or the Department subsequently determines that a variance is the more appropriate moderating provision, the Respondent shall apply for a variance for designated parameter(s) within 30 days of written notification by the Department. If needed and approved by the Department and the EPA, the variance will be incorporated into the Renewal. The Respondent shall comply with all requests for additional information from the Department within 30 days of the date of the request, but may receive additional time upon written request to, and approval by, the Department.

Level II WOBEL - Rule 62-650.500, F.A.C.

20. Within 30 days of the effective date of this Order, Respondent shall commence a Level II Water Quality Based Effluent Limitation (WQBEL) study to address the low DO in Tee and Wicker Lakes and a downstream portion of Elevenmile Creek. Based on the long-term comprehensive monitoring described above, Respondent has demonstrated that Tee and Wicker Lakes and a downstream portion of Elevenmile Creek do not attain the generally applicable Class III marine water quality criteria for DO. With respect to the Renewal, the purpose ofthe Level II WQBEL is to provide reasonable assurance that Respondent's discharge does not cause or contribute to the low DO in Tee and Wicker Lakes and a downstream portion of Elevenmile Creek. The Level II WQBEL shall also provide reasonable assurance that Respondent's discharge does not cause or contribute to exceedances of Upper Perdido Bay's new estuary specific numeric interpretation of the narrative nutrient criterion (NNC), Rule 62-302.532(1)(k)2, F.A.C., and the revised dissolved oxygen percent saturation criteria in Rule 62- 302.533, F.A.C. As a condition precedent to agency action on the Renewal, based upon the Level II WQBEL, the Respondent shall provide reasonable assurance that the discharge is consistent with the antidegradation requirements of Rules 62-4.242 and 62-302.300, F.A.C. The Level II WQBEL shall comply with the applicable requirements of Rule 62-650.500, F.A.C., and be complete and submitted to the Department on or before April 15, 2021.

Interim Limits, Deadlines for Compliance with Applicable Permit Conditions and Effluent Limitations

Commencing immediately on the effective date of this Order and continuing until January 1, 2022, or final agency action on the Renewal, whichever occurs later, any discharge of wastewater from Outfall #D-003mshall comply with the interim discharge limits and monitoring requirements set forth in Table 1 below:

Table 1 - Interim Limits at D-003

Parameters	Units	Monthly Avg.	Daily Max.	Other-specify	Frequency	Sample Type	Sample Point
pH	standard units	NA	Range 5.0-8.5	NA	Daily	Grab or Instantaneous	EFF-3
Specific Conductance	µrnhos/cm	Report	2,500	NA	3/week	Instantaneous	EFF-3
Turbidity Dissolved Oxygen	NTU mg/L	50 Report	Report Report	NA Report **Minimum**	3/week 3/week	Grab Instantaneous	EFF-3 EFF-4

Describe any violations or problems noted in previous inspection:

The facility's hand-held turbidimeter was being calibrated quarterly with formazin rather than monthly as required. The facility corrected this timely and started monthly primary calibrations as required.
The facility's flow meter was calibrated 3 months late from the previous calibration date.

Describe any violations or problems noted in previous inspection:
Clarifier #2 has solids flowing over weirs and sections of weirs were dented in and broken.
DMRs indicated effluent quality and/or permit violations from September 1, 2019 to June 30, 2021.
Groundwater review indicated effluent quality and/or permit violations from September 1, 2019 to June 30, 2021.

Discuss whether DMR trends within previous five years are improving or declining

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

PART II: Sampling Event Information	
Date(s) sample collected: 7/24/23, 7/26/23, 7/28/23 and 10/16/23	**Sampler(s):** Mike Brumfield, Christina Horstmann, Cameron Arthur
Temperature (Deg C): 34.3	**pH (SU):** 6.85
Dissolved Oxygen (mg/L): 5.61	**Conductivity (umhos/cm):** 1415
Total Residual Chlorine (mg/L): 0.38	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**
Flow During Sample Collection for each outfall (MGD): 26.53	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day): EFF-03 30.40 geomean flow June 2022-July 2023	
Describe Discharge during Sampling Event: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify:**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix B. Explanations of Measurements

Biological assessments are prepared by DEP staff to provide information for review of NPDES permit renewal applications. Biological assessments, in conjunction with other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions. References to Rule 62-302.530, F.A.C., are to the currently applicable surface water quality criteria table with an effective date of 02/17/2016 and a notice identification number of 17115667.

- **Chemical Analyses of the Effluent**
  The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following DEP SOPs. The results from these analyses were compared with Water Quality Criteria (Chapter 62-302, F.A.C.) and facility permit limits.
- **Toxicity Bioassays**
  Greater than 50% mortality in an acute toxicity test may constitute an exceedance of Paragraph 62-302.500(1)(a) and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of Subsection 62-302.530(20), Subsection 62-302.530(62) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of Subsection 62-302.530(62) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.
- **Bacteriological Testing**
  High levels of fecal indicator bacteria may constitute an exceedance of Subsection 62-302.530(6) and/or facility permit limits. Fecal coliform results often are based on colony counts outside the acceptable range (B-qualifier). The dilutions performed on the sample did not yield results within the method acceptable range of 20- 60 colony forming units per plate. The B-qualifier does not affect data quality.
- **Algal Growth Potential (AGP)**
  The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. AGP results within the range 6.10 to 20.0 mg dry wt/L are suggested to be representative of high productivity for freshwaters (Miller et al. 1978). High AGP values may constitute exceedances of Subsection 62-302.530(47), F.A.C., Paragraph 62-302.530(48)(a), F.A.C. and/or Paragraph 62-302.530(48)(b), F.A.C.
  The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of ± 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater, phosphorus limitation is likely (USEPA. 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition

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

- **Florida Wetland Condition Index-Vegetation**
  The Florida Wetland Condition Index-Vegetation (WCI-VI) for isolated, forested wetlands is a biological assessment of wetland health conducted by sampling vascular plants along transects, identifying them to the species level, and calculating metric values based on attributes of the plant community that change predictably along an independent gradient of human disturbance. The index is calculated based on six metrics: percent tolerant indicator species, percent sensitive indicator species, percent exotic macrophyte species, average Coefficient of Conservatism (CC) score, percent native perennial species, and percent wetland status species. These metrics are calibrated for four ecoregions within the state including the Panhandle, North, Central, and South regions. The score is based on a 0-60 scale, with 60 representing high biological integrity. This current index is based on the Florida Wetland Condition Index (FWCI) developed by Reiss and Brown (2005) to provide a quantitative measure of the biological integrity of a wetland system.
- **Definition of Qualifiers** (Rule 62-160.700, F.A.C.)
  A - Value reported is the mean of two or more determinations
  B - Results based on colony counts outside the acceptable range.
  I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
  J - Estimated value
  K - Actual value is known to be less than value given
  L - Actual value is known to be greater than value given
  N - Presumptive evidence of presence of material.
  O - Sampled, but analysis lost or not performed.
  Q - Sample held beyond normal holding time.
  T - Value reported is less than the criterion of detection.
  U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
  V - Analyte was detected in both sample and method blank.
  X - Too few individuals to calculate SCI value.
  Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
  Z - Colonies were too numerous to count (TNTC)

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.

Appendix C. Chain of Custody

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CHAIN OF CUSTODY FORM

Date:	7/24/2023	**Collected By:**	Nathan Mulkey, Frank Butera
Customer:	NW-DIST	**Sampling Agency:**	FDEP
RQ:	RQ-2023-07-10-53	**Project ID:**	SPPROJECTS

PLEASE RETURN THE ORIGINAL OF THIS FORM WITH SAMPLE SUBMITTAL FORMS AND THE COOLER PACKING WORKSHEET TO THE LAB

Number of Coolers Shipped: 2 **Delivery Method:** FedEx

FIELD ID (Labels) submitted under this RQ for this collection date.

Site Location	Field ID/WIN ID
G5NWIPTEST	G5IPTEST
IP Control Wetland	G5IPCONTROL

RELINQUISHED BY(SIGNATURE):

DATE/TIME: 7/24/2023
1600 CEN

THIS SECTION TO BE COMPLETED BY LABORATORY

Rec'd/Inspected By: BK/BK

Rec'd/Inspected Date: 7-25-23 / 0930

RQ-2023-07-10-53	**Collected By**: Nathan Mulkey, Frank Butera
Customer: FDEP	**Field Report Prepared by**: Nathan Mulkey, Frank Butera
Project ID: SPPROJECTS	**Sampling Agency**: FDEP
WIN ID/Field ID:  **WIN ID/Field ID**: G5IPTEST	**Comments**: Microbiology sample(s) submitted to contract laboratory.
Location: G5NWIPTEST	
Matrix: Fresh	(Check One) ✓Grab ☐ Composite

Date and Time {CEN}	DO (mg/L)	DO (%SAT)	Temp. °C	pH	Sample Depth (m)	Secchi Depth	Total Depth (m)	Sp COND (µmhos /cm)	Salinity (PPTh)
7/24/2023 845	0.49	6.3	27.5	7.04	0.2	0.4	0.4	1086	0.53

Parameter Suite	Parameter Methods	Preservation	pH Check	# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	X W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP Lot # SA3013020 Exp: 01/25/2024	x Ice x H2SO4*	X <2	1	C
Metals (P-500ML)	x W-ICPMS X W-ICP X W-HARD Lot # NA3123030 Exp: 05/10/2024	x Ice x HNO3*	X <2	1	C
Filtered Nutrients (P125ML)	x W-PO4-F x Field Filtered 0.45 um Filter Filter Lot # 17460495 Syringe Lot # 136514	x Ice		1	C
BOD (BP-1L)	x OV-BODUNIN	Ice			
Chlorophyll (BP-1L)	x CHLSUITE-W	x Ice		1	C
Physical/Aggregate (Fresh) (P-1L)	X Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W-TDS	x Ice		1	C
Physical/Aggregate (Marine) (P-1L)	Alkalinity / W-F / W-TSS / TURBIDITY	Ice			
Macroinvertebrates (PJ-2L)	MI-FW-QLDC **Formalin Lot #**	Formalin			
Periphyton (PT-50ML)	ALGAE-ID	Ice			
Microbiology (Contract Lab Bottle)	X E Coli F Coli Enterococci X Contract Lab	x Ice		1	C
Molecular (QPCR-P-500ML)	PCR-HF183 PCR-BacR PCR-DG3 PCR-GULL2 PCR-GFD	Ice			
Tracers (BG-500ML)	X W-E8321-DI X W-E8321-MS	x Ice		1	C
Pesticides (BG-500ML) (BG-1L)	W-E8321-DI W-E8321-MS W-PSNP-TQ W-PCL-TQ-R W-CARB-AA (5 ml of MCAA Buffer Solution) W-CT-CL-R W-TR-SQ-R W-PCB-TQ-R	Ice MCAA Exp.	MCAA Lot#		
Phytoplankton (BP-1L)	DTY-QN-C PKD-QN-BV	Ice			
DOC (P-500ML)	W-DOC Field Filtered 0.45 um Filter **Acid Preservative Expiration Date** **Acid Preservative Lot Number**	Ice H2SO4*	<2		

RQ-2023-07-10-53	**Collected By:** Nathan Mulkey, Frank Butera
Customer: FDEP	**Field Report Prepared by:** Nathan Mulkey, Frank Butera
Project ID: SPPROJECTS	**Sampling Agency:** FDEP
WIN ID/Field ID:  **WIN ID/Field ID:** G5IPCONTROL	**Comments:** Microbiology sample(s) submitted to contract laboratory.
Location: IP Control Wetland	
Matrix: Fresh	(Check One) ✓Grab ☐ Composite

Date and Time {CEN}	DO (mg/L)	DO (%SAT)	Temp. °C	pH	Sample Depth (m)	Secchi Depth	Total Depth (m)	Sp COND (µmhos /cm)	Salinity (PPTh)
7/24/2023 1020	2.05	25.3	26.2	4.18	0.08	0.15	0.15	48	0.02

Parameter Suite	Parameter Methods	Preservation	pH Check		# Bottles sent to Lab	Bottle Group
Preserved Nutrients (P-500ML)	X W-NH3 / W-NO2NO3 / W-TKN / W-TOC / W-S-A-TP Lot # SA3013020 Exp: 01/25/2024	X Ice X H2SO4*	X	<2	1	C
Metals (P-500ML)	x W-ICPMS X W-ICP X W-HARD Lot # NA3123030 Exp: 05/10/2024	X Ice X HNO3*		<2	1	C
Filtered Nutrients (P125ML)	x W-PO4-F x Field Filtered 0.45 um Filter Filter Lot # 17460495 Syringe Lot # 136514	x Ice			1	C
BOD (BP-1L)	x OV-BODUNIN	Ice				
Chlorophyll (BP-1L)	x CHLSUITE-W	x Ice			1	C
Physical/Aggregate (Fresh) (P-1L)	X Alkalinity / W-F / W-TSS / TURBIDITY / W-Cl-IC / W-COLOR / W-SO4-IC / W- TDS	x Ice			1	C
Physical/Aggregate (Marine) (P-1L)	Alkalinity / W-F / W-TSS / TURBIDITY	Ice				
Macroinvertebrates (PJ-2L)	MI-FW-QLDC **Formalin Lot #**	Formalin				
Periphyton (PT-50ML)	ALGAE-ID	Ice				
Microbiology (Contract Lab Bottle)	X E Coli F Coli Enterococci X Contract Lab	x Ice			1	C
Molecular (QPCR-P-500ML)	PCR-HF183 PCR-BacR PCR-DG3 PCR-GULL2 PCR-GFD	Ice				
Tracers (BG-500ML)	X W-E8321-DI X W-E8321-MS	x Ice			1	C
Pesticides (BG-500ML) (BG-1L)	W-E8321-DI W-E8321-MS W-PSNP-TQ W-PCL-TQ-R W-CARB-AA (5 ml of MCAA Buffer Solution) W-CT-CL-R W-TR-SQ-R W-PCB-TQ-R	Ice MCAA Exp.	MCAA Lot#			
Phytoplankton (BP-1L)	DTY-QN-C PKD-QN-BV	Ice				
DOC (P-500ML)	W-DOC Field Filtered 0.45 um Filter Acid Preservative Expiration Date Acid Preservative Lot Number	Ice H2SO4*		<2		

SAMPLE TRANSMITTAL FORM
Document Reference # 05.1.0

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

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

Samples delivered by: NM, FB of FDEP | Date/Time: 7-24-2023 / 11:44

Sample received by: [signature] of WRL | Date/Time: 7/24/2023 / 11:44

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

CST

Lab ID	Sample ID	Matrix[1]	Type[2]	Container Type	Analyses Requested	Preservative	Sample (°C)[3]	Sampling Date/Time
23-51710	FL0002526 IP Company-Wetland Control	FW	G	Sterile plastic	Escherichia coli 18-QT	ice/$Na_2S_2O_3$	4.9	7/24/23 10:20
23-51711	FL0002526 IP Company-Wetland Test	FW	G	Sterile plastic	Escherichia coli 18-QT	ice/Na2S2O3	4.9	18:45

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

RQ -2023-07-10-53

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

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

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

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

Wetlands Research Laboratory\Fldep1\dear\WQAP\Regional Operation Centers\NW ROC\UWF\SW 2023 Field Sheets and Labels\Biology Only (950 644 429)\Bacteria CoC\UWF_Sample_Transmittal_Form

Request Number: RQ-2023-07-10-53

FYI5 International Paper Company - Pensacola Mill
FL0002526 NWD

Customer: NW-DIST

Project ID: FYI5

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: MIKE BRUMFIELD

Collected By: MIKE BRUMFIELD CAMERON ARTHUR CHRISTINA HORSTMANN

Sampling Agency: FDEP

Location: International Paper Company -Pensacola Mill	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23 Time 9:55 am	Eastern Central	Composite end Date	Time				Bottle Group(s) (See pg 2): A
Field ID: EFF -3 GRAB	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent			Diss. Oxygen 5.61	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) 0.38			
WIN/STORET #	Temp (C) 34.3	pH 6.85		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm) 1415			
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments						
Location: International Paper Company -Pensacola Mill	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/23/23 Time 0914	Eastern Central	Composite end Date 7/24/23 Time 0914					Bottle Group(s): B
Field ID: EFF -3 Composite	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)			
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)			
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Samples collected using Facility composite sampler. Samples collected on 9:14 7/24/23						
Location: International Paper Company -Pensacola Mill	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23 Time 10:30 am	Eastern Central	Composite end Date	Time				Bottle Group(s): E
Field ID: Field Blanks	Matrix (type, e.g., Salt, Fresh, etc): DI Water			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)			
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)			
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Samples collected near EFF -3						
Location: International Paper Company -Pensacola Mill	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23 Time 9:40 am	Eastern Central	Composite end Date	Time				Bottle Group(s): F
Field ID: Equipment Blanks	Matrix (type, e.g., Salt, Fresh, etc): Rinsate			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: Samples collected on Facility composite sampler						

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
MB	7/24/23 11:30 am	FEDEX	5	Brian Krech	7/25/23 0930

Request Number: RQ-2023-07-10-53

FYI5 International Paper Company - Pensacola Mill
FL0002526 NWD

Customer: NW-DIST

Project ID: FYI5

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Mike Brumfield

Collected By: MIKE BRUMFIELD

Sampling Agency: FDEP

Location: International Paper Company -Pensacola Mill	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/25/23 Time 0900 am	Eastern Central	Composite end Date 7/26/23 Time 0900		Bottle Group(s) (See pg 2): B
Field ID: EFF -3 Composite	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Samples collected using Facility composite sampler. Samples collected on 0910 am			
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): Fresh Effluent		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
MIKE BRUMFIELD	7/26/23 1015 am	FEDEX	1		7.27.23 1135

Request Number: RQ-2023-07-10-53

FYI5 International Paper Company - Pensacola Mill
FL0002526 NWD

Customer: NW-DIST

Project ID: FYI5

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Mike Brumfield

Collected By: MIKE BRUMFIELD

Sampling Agency: FDEP

Location: International Paper Company -Pensacola Mill	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/27/23 Time 0900	Eastern Central	Composite end Date 7/28/23 Time 0900		Bottle Group(s) (See pg 2): B
Field ID: EFF -3 Composite	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Samples collected using Facility composite sampler. Samples collected on 7/28/23 0915			
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): Fresh Effluent		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			
Location	☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time		Bottle Group(s)
Field ID	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen ☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #	Temp (C)	pH	Sample Depth ☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments			

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
MEB	7/28/23 1000	FEDEX	1	M. Sopo	7.29.23 0911

MEB BRUMFIELD

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

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

670-23735-1

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

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

Contractor Representatives Contacted: Noel Savoie

Date: 6/26/2023
Means of Contact: Email

Task Assignment Number: OV466 Maximum Cost: $166.00 Turnaround Time: 5 BD

Sample Delivery Date: 7/25/2023

Project Name/Description:
RQ-2023-07-10-53; FY15 International Paper Company - Pensacola Mill FL0002526 NWD

Deliverable Number/ Parameter Group/ Method	Sample Matrix	# of Samples	# of Containers	DEP ID #	Unit Cost	% Mark-up (if any)	Cost
Quote/OV-BOD-IN BOD, NOT nitrogen-inhibited 5210B-2011	W	4 NM	4 NM		$39.00		$156.00
217/Sample Disposal Fee.	4				$2.50		$10.00
Total Number of Containers Shipped:		4 NM	4			**Total:**	$166.00

NOTE: 2 SAMPLES OUT OF 4 ~~BEING~~ SHIP BY FDEP MIKE BRUMFIELD. THE ~~OTHER~~ 2 WILL BE SHIP ~~BY~~ DEAR PERSONNEL.

All 4 BOD Samples/containers present

QC Instructions:

Comments:

Samples released to Contract Lab by: MIKE BRUMFIELD Date/Time: 7/24/23 11:30

Delivery Method: _____ Shipping FEDEX

Samples Accepted by: Orlando Date/Time 7/25/2023 0830

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

Page 14 of 19 8/1/2023

Request Number: RQ-2023-07-10-53

FYI5 International Paper Company - Pensacola Mill
FL0002526 NWD

Customer: NW-DIST

Project ID: FYI5

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Page 1 of 7

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Mike Brumfield

Collected By: MILLER/BRUMFIELD CHRISTINA KORSTMAN CAMERON ARTHUR

Sampling Agency: FDEP

Location: International Paper Company -Pensacola Mill	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23	Time 955 am	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2)				
Field ID: EFF -3 GRAB	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent			Diss. Oxygen 5.61	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L) 0.38	A				
WIN/STORET #	Temp (C) 34.3	pH 6.85		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm) 1415					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								
Location: International Paper Company -Pensacola Mill	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/23/23	Time 9:14 am	Eastern Central	Composite end Date 7/24/23	Time 9:14 am	Bottle Group(s)				
Field ID: EFF -3 Composite	Matrix (type, e.g., Salt, Fresh, etc): Fresh Effluent			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	B				
WIN/STORET #	Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments: Samples collected using Facility composite sampler. Samples collected on 7/24/23 0914								
Location: International Paper Wetland	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23	Time 1035	Eastern Central	Composite end Date	Time	Bottle Group(s)				
Field ID: IP Test Wetland	Matrix (type, e.g., Salt, Fresh, etc): Fresh			Diss. Oxygen 0.49	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	C				
WIN/STORET #	Temp (C) 27.5	pH 7.04		Sample Depth 0.2	☐ ft ☒ m	Sp. Conductance (umho/cm) 1086					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								
Location: International Paper Wetland	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/24/23	Time 1020	Eastern Central	Composite end Date	Time	Bottle Group(s)				
Field ID: IP Control Wetland	Matrix (type, e.g., Salt, Fresh, etc): Fresh			Diss. Oxygen 2.05	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)	C				
WIN/STORET #	Temp (C) 26.2	pH 4.18		Sample Depth 0.08	☐ ft ☒ m	Sp. Conductance (umho/cm) 48					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments								

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
[signature]	7/24/23 11:30	FEDEX	1	[signature]	7-25-23 0930

596 3.8 / 3.3 FedEx

670-23735 Chain of Custody

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8/1/2023

Appendix D. Physical/ Chemical and Wetland Condition Index Field Sheets

Wetland Condition Index Vegetation Transect Survey Data Sheet

	Wetland: I.D. Control				Transect 1		County: Escambia							
	Analyst: F. Bistoe						Date: 10/16/2023							
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature:							
	Except where noted on sheet, species level identification required.													
	HERBACEOUS SPECIES	Meter Mark												Collected
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50			
1	Nyssa	1			1		1	1	1	1	1			
2	Ilex Myrtle	1		1	1		1	1		1	1			
3	Hypericum brachy	1	1	1	1	1	1	1	1	1	1			
4	Xyris	1	D	D	D	1	D	C	1	1	1			
5	Helenium		1											
6	Eleocha. vivi	1	1	1										
7	Cyperus lucida	1	1	1	1	1	C	C	1	D	1			
8	Osmunda cinnam.	1	1	1		1		1	1	1				
9	Juncus polycarp		1			1				1				
10	Myrica			1	1	1	1		D	1				
11	Pinus elliottii	1		1										
12	Ilex coriacea					1				1				
13	Rhyncho. sp													✓
14	Eriocaulon						1							
15	Taxodium							1	1		1			
16	Magnolia virginiana							1						
17	Lauraceae									1				✓
	If no Dom or Co-Dom were selected,mark with an "X"													
	Sphagnum	1	1	1	1	1	1	1	1	1	1			

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: F.P. Control				Transect 2		County: Escambia							
	Analyst: E. Buten, S. Slade						Date: 10/16/2023							
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature:							
	Except where noted on sheet, species level identification required.													
	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
1/18	Myrica	1	1	1	1		1	1	1			
2/19	Ilex myrtle	1		1		1	1					
3/20	Lyonia lucida	1	1	1	1	1	1	1	1	1	1	
4/21	Osmunda cinnamomea	1	1	1	1	1	1	1	1	1	1	
5/22	Carex glaucescens	1		1	1		1		1	1	D	✓
6/23	Xyris	1			1	1	1	1		1	1	
7/24	Eleocharis	1		1						1		
8/25	Nyssa	1	1		1		1		1	1		
9/26	Ilex coriacea	D	1	1							1	
10/27	~~Upland Shrub~~		+									✓
11/28	Pinus elliottii		1	1	1				1	1	1	
12/29	Myrica Indaorca		1									✓
13/30	Hypericum brachy			1	1	1		1	1	1	1	
14/31	Taxodium					1		1		1		
15/32	Clifftonia	1	1		1				1	1	1	
16/33												
17/34	S											
	If no Dom or Co-Dom were selected,mark with an "X"											
	Species Number	1	1	D	D	D	D	D	D	D	1	

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

Wetland: I.P. Control | Transect 3 | County: Escambia
Analyst: F. Bates S. Slade | Date: 10/16/2023
Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive. | Signature:
Except where noted on sheet, species level identification required.

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
6/35	Myrica cerifera	1	1	1	1				1	1	1	
7/36	Myriophyllum aqu. Parrot Feather	1		1	1	1						
8/37	Eriocaulon	1	1	1			1	1	1	1		
9/38	Ludwigia repens	1										
10/39	Alligator Weed	1										
11/40	Cliftonia	1	1		C	1	1	1	C	C	C	
12/41	Ilex myrtifolia	1										
13/42	Osmunda cinn	1	1	1	1	1	C	1	1	1	1	
14/43	Leucothoe racemosa	1	1	1	1	1	1	1			1	
15/44	Pinguicula pinguicula		1	1					1			
16/45	Ulmus		1	1	1	1				1	1	
17/46	Sphagnum	D	D	D	C	C	C	F	F	C	C	
18/47	Xyris		1	1	1	C	C		1	1	1	
19/48	Hypericum			1	1	1	1	C	1	1	1	
20/49	Eleocharis sp.		1	1	1	1		1	1	1	1	
21/50	Juncus sp.						1		1	1		
22/51	Ilex coriacea						1			1		
	If no Dom or Co-Dom were selected,mark with an "X"							1				

Tag down

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: I.P. Control	Transect	County: Escambia
	Analyst: F Butler, S. Slade	3	Date: 10/16/23
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.		Signature:
	Except where noted on sheet, species level identification required.		

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
52	Cenchrus								P			
53	Taxodium							1	P			
54												
55												
56												
57												
58												
59												
60												
61												
62												
63												
64												
65												
66												
67												
68												
	If no Dom or Co-Dom were selected,mark with an "X"											

Wetland Condition Index Vegetation Transect Survey Data Sheet

	Wetland: I.P. Control				Transect 4		County: Escambia						
	Analyst: F. Burby S. Shuler						Date: 4/16/2024						
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature: F Burby						
	Except where noted on sheet, species level identification required.												
	HERBACEOUS SPECIES	Meter Mark											Collected
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50		
1	Cliftonia	D	1	1					1	1	1		
2	Nyssa	1											
3	Eleocharis	1	1		1		1	1	1	1	1		
4	Lyonia lucida	1		1	1								
5	Pinus elliottii	1							1				
6	Persea Myrs	1					1	1	1				
7	Ilex myrtle	1											
8	Eriocaulon decangulare	1	1	1	1	1	1	1	1	1	1		
9	Symphyotrichum	1	1	1					1		1		
10	Drosera	1	1	1		1	1	1	1				
11	Andropogon	1	1										
12	Fuirena scirpoidea	1	1	1	1	1	1	1	1	1			
13	Pinus elliottii	1		1	1		1	1					
14	Sphagnum	1											
15	Hypericum brachyphyllum	1	D	D	D	D	D	D	D	D	D		
16	Helianthus		1				1	1	1	1			
17	Pitcher rubra												
	If no Dom or Co-Dom were selected,mark with an "X"												

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: I. P. Control				Transect 4		County: Escambia						
	Analyst: F. Burba, S. Slade						Date: 10/17/2023						
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature: F. Burba						
	Except where noted on sheet, species level identification required.												
	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
18	Kyris		1		1	1						
19	Solidago		1									
20	Dichanthelium		1	1								
21	Juncus marginatus	1	1		1	1	1	1		1	1	✓
22	Juncus polycephalus				1		1			1	1	
23	Ilex coriacea					1						
24	Myrica cerifera							1		1	1	
25	Utricularia cornuta									1		
26												
27												
28												
29												
30												
31												
32												
33												
34												
	If no Dom or Co-Dom were selected,mark with an "X"											

Wetland Condition Index Vegetation Transect Survey Data Sheet

	Wetland: E.P. Test Wetland				Transect			County: Escambia					
	Analyst: F Butler, S. Slade				1			Date: 10/16/2023					
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.							Signature:					
	Except where noted on sheet, species level identification required.												
	HERBACEOUS SPECIES	Meter Mark											Collected
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50		
1	Typha	D	D	D	D	D	D	D	D	D	D		
2	Hydrocotyle	1	1	1	1	1	1	1	1	1	1		
3	Salvinia minima	1	1	1	1	1	1	1	1	1	1		
4	Leman 1-stem	+	1	1	1	1	1	1	1	1	1		
5	Mikania scandens	1	1	1	1	1	1		1	1	1		
6	Alligator weed	1	1	1	1	1	1	1		1	1		
7	Ludwigia leptocarpa	+	1	1	1	1	1	1	1	1	1		
8	Panicum repens	+	1	1		1							
9	Taxodium	+	1			1	1						
10	Persicaria hydropiper	+		1					1	1			
11	Cyperus odoratus			1			1						
12	Nyssa					1							
13	Ludwigia peruviana					1	1	1	1	1			
14	Osmunda cinn.						1	1					
15	Crypt. sp.						1	1	1	1			
16	Baccharis								1		1		
17	Magnolia virg.								1				
	If no Dom or Co-Dom were selected,mark with an "X"												

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

TEST

Wetland: ~~Control~~ I. Paper		Transect 2	County: Escambia	
Analyst: F Butler, S. Slade			Date: 10/16/2023	
Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.			Signature:	
Except where noted on sheet, species level identification required.				

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
1 ~~18~~	Typha	D	D	D	D	D	D	D	D	D	D	
2 ~~19~~	Milcania	1	1	1			1	1	1	1	1	
3 ~~20~~	Hydrocotyle	1	1				1			1	1	
4 ~~21~~	Myrica	1		1			1	1		1	1	
5 ~~22~~	Alligator	1	1	1	1	1	1	1	1	1	1	
6 ~~23~~	Salvinia	1		1	1	1	1	1	1	1	1	
7 ~~24~~	Lemna	1	1	1	1	1		1	1		1	
8 ~~25~~	Ludwigia Leptocarpa	1		1		1	1	1				
9 ~~26~~	Oxypolis		1									
10 ~~27~~	Lilliaeopsis		1									
11 ~~28~~	Panicum rens		1									
12 ~~29~~	Baccharis			1				1	1			
13 ~~30~~	~~Toxicodendron~~ Sesbania sp.			1			1	1	1	1	1	
14 ~~31~~	Cherokee Rose			1								
15 ~~32~~	Toxicodendron			1		1	1		1	1	1	
16 ~~33~~	Persicaria						1	1		1	1	
17 ~~34~~	Osmunda cinn						1	1	1	1	1	
	If no Dom or Co-Dom were selected,mark with an "X"											

Toxicodendron = Yellow flowers?
Sesbania

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: I. P. Control				Transect 4		County: Escambia						
	Analyst: F. Burba, S. Slade						Date: 10/17/2023						
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature: F. Burba						
	Except where noted on sheet, species level identification required.												
	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
18	Kyris		1		1	1						
19	Solidago		1									
20	Dichanthelium		1	1								
21	Juncus marginatus	1	1		1	1	1	1		1	1	✓
22	Juncus polycephalus				1		1			1	1	
23	Ilex coriacea					1						
24	Myrica cerifera							1		1	1	
25	Utricularia cornuta									1		
26												
27												
28												
29												
30												
31												
32												
33												
34												
	If no Dom or Co-Dom were selected,mark with an "X"											

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

Test

	Wetland: ~~Control~~ I. Paper				Transect 2		County: Escambia						
	Analyst: F. Butler, S. Slade						Date: 10/26/2023						
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature: F Butler						
	Except where noted on sheet, species level identification required.												
	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected	
~~17~~ 35	Osmunda regalis						1	1					
~~18~~ 36	Boehmeria						1	1		1	1		
~~19~~ 37	~~Unknown SAV~~						1						~~X~~
~~20~~ 38	Woodwardia aro						1						
~~21~~ 39	Solidago							1					
~~22~~ 40	Rubus									1	1		
~~23~~ 41	Rhynchospora										1		✓
~~24~~ 42													
~~25~~ 43													
~~26~~ 44													
~~27~~ 45													
~~28~~ 46													
~~29~~ 47													
~~30~~ 48													
~~31~~ 49													
~~32~~ 50													
~~33~~ 51													
	If no Dom or Co-Dom were selected,mark with an "X"												

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

Wetland: Test I. Paper | Transect: 3 | County: Escambia
Analyst: E. Bulin, S. Sluh | Date: 10/16/2023
Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive. | Signature:
Except where noted on sheet, species level identification required.

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
1 52	Typha	D	1								1	
2 53	Persicaria	1	1		1					1		
3 54	Mikania	1	1	1	1		1	1	1	1	1	
4 55	Hydrocotyle	1	1	1	1							
5 56	Baccharis	1	1		1	1				1	1	
6 57	Lemna	√										
7 58	Salvinia	1										
8 59	Sagittaria	1	1	1	1	1	1	1	1	1	1	
9 60	Alligator	1			1	1	1	1			1	
10 61	~~Rosa~~ BEAN NOT Toxicodendron	1	1									
11 62	Oxypolis	1	1									
12 63	~~Rubus~~ Ludwigia hexapetala		1	1				1	1	1	1	Rubus
13 64	Osmunda cinn.		1	1	1		1		1	1	1	
14 65	Ludwigia leptocarpa		1									
15 66	Juncus effusus		1									
16 67	Myrica		1	1		1	1	1	1	1	1	
17 68	~~Rhynchospora~~ Paspalum urvillei		1									
	If no Dom or Co-Dom were selected,mark with an "X"											

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: I.P. Test				Transect 3		County: Escambia							
	Analyst: F. Butera, S. Slade						Date: 10/16/2023							
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.						Signature: F. B							
	Except where noted on sheet, species level identification required.													
	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected		
18	Rhynchospora		1	1	1	1	1	1	1	1	1			
19	Magnolia virginiana			1		1	1	1	1	1	1			
20	Bohemeria			1	1	1	1		1	1	1			
21	Salix			1	1					1	1			
22	Rubus			1	1	1								
23	Taxodium			1	1	1	1	1	1	1	1			
24	Centella				1	1	1	1	1	1	1			
25	Ludwigia peruviana sp						1							
26	Osmunda regalis							1						
27	Nyssa							1			1			
28	Poison Ivy								1					
29	Laurel Oak								1					
30	Andropogon										1			
31														
32														
33														
34														
	If no Dom or Co-Dom were selected,mark with an "X"													

Wetland Condition Index Vegetation Transect Survey Data Sheet

Wetland: Test I. P. | Transect 4 | County: Escambia
Analyst: F. Butera, S. Slade | Date: 10/16/2023
Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive. | Signature:
Except where noted on sheet, species level identification required.

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
1	Taxodium	1			1	1	1	1		1		
2	Typha	1	D	D	D	D	D	D	D	D	D	
3	Salvinia	1	1	1	1	1	1	1	1	1	1	
4	Lemna	1	1	1	1	1	1	1	1	1	1	
5	Alligator	1	1	1	1	1	1	1	1	1	1	
6	Hydrocotyle	1	1			1	1	1	1	1		
7	Ludwigia peruviana leptocarpa	D	1			0	1	1				
8	Persicaria	1	1							1		
9	Mikania	1	1	1			1			1		
10	Sacciolepis	1										
11	Bacopa	1	1	1								
12	Osmunda cinnamomea	1	1									
13	Ludwigia leptocarpa		1	1		1	1	1	1	1	1	
14	Boehmeria		1	1						1		
15	Rubus		1	1								
16	Myrica		1	1			1					
17	Nyssa			1								
	If no Dom or Co-Dom were selected,mark with an "X"					0	1					Sagittaria lancifolia

Wetland Condition Index Vegetation Transect Survey Data Sheet (10-12-23)

	Wetland: F. P. Trail	Transect 4	County: Escambia
	Analyst: F. Butera, S. Slade		Date: 10/16/2023
	Plants in bold=exotic. (1)= category 1 invasive (worst), (2)=category 2 invasive.		Signature: John J. Butera
	Except where noted on sheet, species level identification required.		

	HERBACEOUS SPECIES	Meter Mark 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	Collected
~~35~~	Oxypolis					1	2					
36	Cyperus odoratus						1		1			
37	Panicum repens							1	1	1	1	
38	Azolla							1	1	1		
39	Osmunda regalis									1		
40	Lilaeopsis										1	
41												
42												
43												
44												
45												
46												
47												
48												
49												
50												
51												
	If no Dom or Co-Dom were selected,mark with an "X"											

Appendix E. Chemical Analysis of Effluent and Receiving Water

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:14	EFF-3 Composite	Overflow	Biochemical Oxygen Demand	11	mg/L	2.0	2.0
7/24/2023 10:14	EFF-3 Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
7/24/2023 10:14	EFF-3 Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
7/24/2023 10:14	EFF-3 Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	100	NOEC		
7/24/2023 10:14	EFF-3 Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100 L	IC25		
7/24/2023 10:14	EFF-3 Composite	Metals	Zinc	21	µg/L	5.0	20
7/24/2023 10:14	EFF-3 Composite	Metals	Lead	0.38 I	µg/Lµg/L	0.20	0.40
7/24/2023 10:14	EFF-3 Composite	Metals	Silver	0.014 I	µg/L µg/L	0.010	0.040
7/24/2023 10:14	EFF-3 Composite	Metals	Arsenic	0.71	µg/Lµg/L	0.050	0.20
7/24/2023 10:14	EFF-3 Composite	Metals	Selenium	0.25 I	µg/L	0.20	0.80
7/24/2023 10:14	EFF-3 Composite	Metals	Iron	250	µg/L	30	120
7/24/2023 10:14	EFF-3 Composite	Metals	Hardness	76.0	mg/L	0.35	1.4
7/24/2023 10:14	EFF-3 Composite	Metals	Copper	2.76	µg/Lµg/L	0.40	0.80
7/24/2023 10:14	EFF-3 Composite	Metals	Chromium	1.2 I	µg/Lµg/L	0.40	1.6
7/24/2023 10:14	EFF-3 Composite	Metals	Cadmium	0.105	µg/Lµg/L	0.020	0.080
7/24/2023 10:14	EFF-3 Composite	Metals	Nickel	3.6	µg/Lµg/L	0.50	2.0
7/24/2023 10:14	EFF-3 Composite	Nutrients	Ammonia-N	1.3 Y	mg N/L	0.10	0.25
7/24/2023 10:14	EFF-3 Composite	Nutrients	Total-P	0.35 Y	mg P/L	0.010	0.050
7/24/2023 10:14	EFF-3 Composite	Nutrients	TSS	17 Y	mg/L	3.3	17
7/24/2023 10:14	EFF-3 Composite	Nutrients	Color (true)	130 Y	PCU	2.5	6.0
7/24/2023 10:14	EFF-3 Composite	Nutrients	Kjeldahl Nitrogen	2.9 Y	mg N/L	0.080	0.20
7/24/2023 10:14	EFF-3 Composite	Nutrients	NO2NO3-N	0.23 Y	mg N/L	0.0040	0.010
7/24/2023 10:14	EFF-3 Composite	Nutrients	O-Phosphate-P	0.051 Y	mg P/L	0.0040	0.010
7/24/2023 10:14	EFF-3 Composite	Overflow	Total TCDD	0.39 UJ	pg/L	0.39	10
7/24/2023 10:14	EFF-3 Composite	Overflow	OCDF	1.7 UJ	pg/L	1.7	100
7/24/2023 10:14	EFF-3 Composite	Overflow	OCDD	11 IV	pg/L	1.1	100
7/24/2023 10:14	EFF-3 Composite	Overflow	2,3,4,7,8-PeCDF	2.5 UJ	pg/L	2.5	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,7,8-PeCDF	2.4 UJ	pg/L	2.4	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Adsorbable Organic Halides	500	µg/Lµg/L	6.2	20
7/24/2023 10:14	EFF-3 Composite	Overflow	Total HpCDD	5.9 IVJ	pg/L	1.1	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,6,7,8-HxCDD	6.4 UJ	pg/L	6.4	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Total PeCDD	4.0 UJ	pg/L	4.0	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Total HxCDF	7.7 UJ	pg/L	7.7	51
7/24/2023 10:14	EFF-3 Composite	Overflow	2,3,7,8-TCDF	0.23 U	pg/L	0.23	10

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,7,8,9-HxCDF	0.25 U	pg/L	0.25	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,7,8,9-HxCDD	5.9 UJ	pg/L	5.9	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,4,7,8-HxCDD	6.3 UJ	pg/L	6.3	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,7,8-PeCDD	4.0 UJ	pg/L	4.0	51
7/24/2023 10:14	EFF-3 Composite	Overflow	2,3,7,8-TCDD	0.39 U	pg/L	0.39	10
7/24/2023 10:14	EFF-3 Composite	Overflow	2,3,4,6,7,8-HxCDF	0.68 UJ	pg/L	0.68	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,6,7,8-HxCDF	6.9 UJ	pg/L	6.9	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,4,6,7,8-HpCDF	11 UJ	pg/L		
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,4,6,7,8-HpCDD	4.0 IVJ	pg/L	1.1	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Total HpCDF	11 UJ	pg/L	11	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,4,7,8-HxCDF	7.7 UJ	pg/L	7.7	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Total TCDF	0.23 UJ	pg/L	0.23	10
7/24/2023 10:14	EFF-3 Composite	Overflow	Total PeCDF	2.5 UJ	pg/L	2.5	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Total HxCDD	6.4 UJ	pg/L	6.4	51
7/24/2023 10:14	EFF-3 Composite	Overflow	1,2,3,4,7,8,9-HpCDF	1.1 UJ	pg/L	1.1	51
7/24/2023 10:14	EFF-3 Composite	Overflow	Chemical Oxygen Demand	71	mg/L	6.4	10
7/24/2023 10:55	EFF 3 Grab	AGP/LN	AlgalGrowthPotential-SalinityAdjusted	3.0 U	mg DryWt/L	3.0	3.0
7/24/2023 10:55	EFF 3 Grab	AGP/LN	Algal Growth Potential	0.538	mg DryWt/L	0.300	0.900
7/24/2023 10:55	EFF 3 Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.1 UYJQ	µg/Lµg/L	2.1	6.2
7/24/2023 10:55	EFF 3 Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	5.9 IYJQ	µg/Lµg/L	2.2	6.8
7/24/2023 10:55	EFF 3 Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	3.0 IYJQ	µg/Lµg/L	1.5	4.5
7/24/2023 10:55	EFF 3 Grab	Overflow	Biochemical Oxygen Demand	4.4	mg/L	2.0	2.0
7/24/2023 10:55	EFF 3 Grab	Overflow	Fecal Coliform-Quanti-Tray	10	MPN/100 mL	10	10
7/24/2023 10:55	EFF 3 Grab	Overflow	Escherichia Coli-Quanti-Tray	10	MPN/100 mL	10	10
7/24/2023 10:55	EFF 3 Grab	Metals	Iron	110 I	µg/Lµg/L	30	120
7/24/2023 10:55	EFF 3 Grab	Metals	Cadmium	0.033 I	µg/Lµg/L	0.020	0.080
7/24/2023 10:55	EFF 3 Grab	Metals	Sodium	266	mg/L	2.5	10
7/24/2023 10:55	EFF 3 Grab	Metals	Silver	0.010 U	µg/Lµg/L	0.010	0.040
7/24/2023 10:55	EFF 3 Grab	Metals	Arsenic	0.38	µg/L	0.050	0.20
7/24/2023 10:55	EFF 3 Grab	Metals	Copper	0.82	µg/L	0.40	0.80
7/24/2023 10:55	EFF 3 Grab	Metals	Aluminum	1.27E+03	µg/L	5.0	20
7/24/2023 10:55	EFF 3 Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/24/2023 10:55	EFF 3 Grab	Metals	Zinc	9.8 I	µg/L	5.0	20
7/24/2023 10:55	EFF 3 Grab	Metals	Potassium	10.7	mg/L	0.30	1.2
7/24/2023 10:55	EFF 3 Grab	Metals	Nickel	2.6	µg/L	0.50	2.0
7/24/2023 10:55	EFF 3 Grab	Metals	Chromium	0.46 I	µg/L	0.40	1.6

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:55	EFF 3 Grab	Metals	Magnesium	3.66	mg/L	0.040	0.16
7/24/2023 10:55	EFF 3 Grab	Metals	Calcium	24.6	mg/L	0.075	0.30
7/24/2023 10:55	EFF 3 Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/24/2023 10:55	EFF 3 Grab	Nutrients	Total Alkalinity	71 YA	mg CaCO3/L	0.65	2.5
7/24/2023 10:55	EFF 3 Grab	Nutrients	Fluoride	0.049 I	mg F/L	0.025	0.10
7/24/2023 10:55	EFF 3 Grab	Nutrients	Sulfate	480 YA	mg SO4/L	2.0	5.0
7/24/2023 10:55	EFF 3 Grab	Nutrients	Chloride	52 A	mg Cl/L	2.0	5.0
7/24/2023 10:55	EFF 3 Grab	Nutrients	Turbidity	8.8 YAQ	NTU	0.10	1.0
7/24/2023 10:55	EFF 3 Grab	Nutrients	Organic Carbon	14 YA	mg C/L	0.50	1.0
7/24/2023 10:55	EFF 3 Grab	Nutrients	NO2NO3-N	0.22 Y	mg N/L	0.0040	0.010
7/24/2023 10:55	EFF 3 Grab	Nutrients	Total-P	0.12 Y	mg P/L	0.010	0.050
7/24/2023 10:55	EFF 3 Grab	Nutrients	O-Phosphate-P	0.014 YQ	mg P/L	0.0040	0.010
7/24/2023 10:55	EFF 3 Grab	Nutrients	Ammonia-N	0.92 Y	mg N/L	0.10	0.25
7/24/2023 10:55	EFF 3 Grab	Nutrients	TSS	14 Y	mg/L	2.0	10
7/24/2023 10:55	EFF 3 Grab	Nutrients	Color (true)	40 YAQ	PCU	2.5	6.0
7/24/2023 10:55	EFF 3 Grab	Nutrients	Kjeldahl Nitrogen	2.1 Y	mg N/L	0.080	0.20
7/24/2023 10:55	EFF 3 Grab	Overflow	Mercury	5.3	ng/L	0.20	0.50
7/24/2023 10:55	EFF 3 Grab	Overflow	HEM	1.4 U	mg/L	1.4	4.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Acetochlor	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Azinphos Methyl	3.2 U	ng/L	3.2	16
7/24/2023 10:55	EFF 3 Grab	Pesticides	Chlorpyrifos Methyl	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fipronil Desulfinyl	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fluazifop-P-butyl	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fludioxonil	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Metalaxyl	0.53 U	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Metolachlor	0.80 U	ng/L	0.80	4.0
7/24/2023 10:55	EFF 3 Grab	Pesticides	Oxyfluorfen	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Sulfentrazone	1.5 U	ng/L	1.5	7.4
7/24/2023 10:55	EFF 3 Grab	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
7/24/2023 10:55	EFF 3 Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
7/24/2023 10:55	EFF 3 Grab	Pesticides	Chlorpyrifos Ethyl	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Pesticides	Disulfoton	0.64 U	ng/L	0.64	3.2
7/24/2023 10:55	EFF 3 Grab	Pesticides	Simazine	21	ng/L	0.27	1.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Stirophos	0.42 U	ng/L	0.42	3.4
7/24/2023 10:55	EFF 3 Grab	Pesticides	Etridiazole	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Carfentrazone Ethyl	0.16 U	ng/L	0.16	0.80

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:55	EFF 3 Grab	Pesticides	Cyanazine	5.3 U	ng/L	5.3	27
7/24/2023 10:55	EFF 3 Grab	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.66
7/24/2023 10:55	EFF 3 Grab	Pesticides	EPTC	0.53 U	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Iprodione	0.53 UJ	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Mevinphos	1.1 U	ng/L	1.1	5.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Oxadiazon	0.37 U	ng/L	0.37	1.9
7/24/2023 10:55	EFF 3 Grab	Pesticides	Terbuthylazine	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Caffeine	39 I	ng/L	8.0	40
7/24/2023 10:55	EFF 3 Grab	Pesticides	Chlorfenapyr	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Pesticides	Bromacil	0.64 U	ng/L	0.64	3.2
7/24/2023 10:55	EFF 3 Grab	Pesticides	Butylate	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Demeton	3.7 U	ng/L	3.7	19
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	2.4
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fonofos	0.16 U	ng/L	0.16	0.80
7/24/2023 10:55	EFF 3 Grab	Pesticides	Malathion	0.37 U	ng/L	0.37	1.9
7/24/2023 10:55	EFF 3 Grab	Pesticides	Molinate	0.27 U	ng/L	0.27	1.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Myclobutanil	0.37 U	ng/L	0.37	1.9
7/24/2023 10:55	EFF 3 Grab	Pesticides	Prometon	3.2 U	ng/L	3.2	16
7/24/2023 10:55	EFF 3 Grab	Pesticides	Propargite	0.85 U	ng/L	0.85	4.2
7/24/2023 10:55	EFF 3 Grab	Pesticides	Ametryn	1.2 U	ng/L	1.2	5.8
7/24/2023 10:55	EFF 3 Grab	Pesticides	Azoxystrobin	0.42 U	ng/L	0.42	2.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Hexazinone	0.53 U	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Imazalil	0.69 U	ng/L	0.69	3.5
7/24/2023 10:55	EFF 3 Grab	Pesticides	Metribuzin	0.42 U	ng/L	0.42	2.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Phorate	0.27 U	ng/L	0.27	1.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Pyriproxyfen	0.27 UJ	ng/L	0.27	1.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Triadimefon	0.16 U	ng/L	0.16	0.80
7/24/2023 10:55	EFF 3 Grab	Pesticides	Difenoconazole	0.64 UJ	ng/L	0.64	3.2
7/24/2023 10:55	EFF 3 Grab	Pesticides	Dimethenamid	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Ethoprop	0.13 U	ng/L	0.13	0.66
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fenbuconazole	0.53 UJ	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fipronil	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fipronil Sulfide	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Naled	2.7 U	ng/L	2.7	13
7/24/2023 10:55	EFF 3 Grab	Pesticides	Parathion Ethyl	0.16 U	ng/L	0.16	0.80
7/24/2023 10:55	EFF 3 Grab	Pesticides	Parathion Methyl	0.21 U	ng/L	0.21	1.1

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:55	EFF 3 Grab	Pesticides	Prometryn	0.37 U	ng/L	0.37	1.9
7/24/2023 10:55	EFF 3 Grab	Pesticides	Pronamide	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Terbufos	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Phenytoin	5.6 U	ng/L	5.6	28
7/24/2023 10:55	EFF 3 Grab	Pesticides	Propanil	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Pyraflufen Ethyl	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Pesticides	Pyridaben	1.5 U	ng/L	1.5	7.4
7/24/2023 10:55	EFF 3 Grab	Pesticides	Thiobencarb	0.53 U	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Dimethomorph	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Pesticides	Cyprodinil	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Sucralose	12	µg/L	0.10	0.40
7/24/2023 10:55	EFF 3 Grab	Pesticides	Atrazine	3.6	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Atrazine Desethyl	1.4 U	ng/L	1.4	6.9
7/24/2023 10:55	EFF 3 Grab	Pesticides	Carbophenothion	0.53 U	ng/L	0.53	2.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Dithiopyr	1.1 U	ng/L	1.1	5.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fluxapyroxad	0.27 U	ng/L	0.27	1.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Norflurazon	1.1 U	ng/L	1.1	5.3
7/24/2023 10:55	EFF 3 Grab	Pesticides	Pendimethalin	0.80 U	ng/L	0.80	4.0
7/24/2023 10:55	EFF 3 Grab	Pesticides	Prodiamine	0.21 U	ng/L	0.21	1.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Napropamide	0.74 U	ng/L	0.74	3.7
7/24/2023 10:55	EFF 3 Grab	Pesticides	Alachlor	0.42 U	ng/L	0.42	2.1
7/24/2023 10:55	EFF 3 Grab	Pesticides	Ethion	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Pesticides	Fipronil Sulfone	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Flumioxazin	3.2 UJ	ng/L	3.2	16
7/24/2023 10:55	EFF 3 Grab	Pesticides	Flutolanil	0.11 U	ng/L	0.11	0.53
7/24/2023 10:55	EFF 3 Grab	Pesticides	Propiconazole	81	ng/L	0.64	3.2
7/24/2023 10:55	EFF 3 Grab	Pesticides	Tebuconazole	1.5 U	ng/L	1.5	7.4
7/24/2023 10:55	EFF 3 Grab	Pesticides	Coumaphos	1.1 U	ng/L	1.1	5.8
7/24/2023 10:55	EFF 3 Grab	Pesticides	Loratadine	0.32 U	ng/L	0.32	1.6
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.2 U	µg/L	2.2	8.7
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2-Nitrophenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Chrysene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Phenol	0.054 U	µg/L	0.054	0.22

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Nitrobenzene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Fluoranthene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2 U	µg/L	2.2	8.7
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,4-Dinitrophenol	11 UJ	µg/L	11	43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	1,4-Dioxane	0.37	µg/L	0.040	0.16
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Dimethyl phthalate	0.22 U	µg/L	0.22	0.87
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Fluorene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Hexachloroethane	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2-Chlorophenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Acenaphthene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Acenaphthylene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Anthracene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.4 U	µg/L	5.4	22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.3
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Diethyl phthalate	2.2 U	µg/L	2.2	8.7
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Hexachlorobenzene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.3 U	µg/L	3.3	13
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.054 U	µg/L	0.054	0.22

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Pentachlorophenol	0.54 UJ	µg/L	0.54	2.2
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	43
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.027 U	µg/L	0.027	0.11
7/24/2023 10:55	EFF 3 Grab	Priority Organic Pollutants	Isophorone	0.054 U	µg/L	0.054	0.22
7/24/2023 10:55	EFF 3 Grab	Nutrients	Dissolved Oxygen %Sat	5.61	%Sat		
7/24/2023 10:55	EFF 3 Grab	Nutrients	Temperature	34.3	C		
7/24/2023 10:55	EFF 3 Grab	Nutrients	Specific Conductance	1415	umhos/cm		
7/24/2023 10:55	EFF 3 Grab	Nutrients	pH	6.85			
7/24/2023 11:20	G5IP Control	AGP/LN	Algal Growth Potential	0.300 U	mg DryWt/L	0.300	0.900
7/24/2023 11:20	G5IP Control	Chlorophyll/Grain Size/BOD	Phaeophytin-a	5.1 I	µg/L	3.0	9.0
7/24/2023 11:20	G5IP Control	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	13	µg/L	2.8	8.2
7/24/2023 11:20	G5IP Control	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	17	µg/L	2.0	6.0
7/24/2023 11:20	G5IP Control	Overflow	Escherichia Coli-Quanti-Tray	10 U	MPN/100 mL	10	10
7/24/2023 11:20	G5IP Control	Overflow	Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
7/24/2023 11:20	G5IP Control	Metals	Calcium	0.42	mg/L	0.075	0.30
7/24/2023 11:20	G5IP Control	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/24/2023 11:20	G5IP Control	Metals	Copper	0.40 U	µg/L	0.40	0.80
7/24/2023 11:20	G5IP Control	Metals	Chromium	0.40 U	µg/L	0.40	1.6
7/24/2023 11:20	G5IP Control	Metals	Lead	0.30 I	µg/L	0.20	0.40
7/24/2023 11:20	G5IP Control	Metals	Magnesium	0.24	mg/L	0.040	0.16
7/24/2023 11:20	G5IP Control	Metals	Nickel	0.50 U	µg/L	0.50	2.0
7/24/2023 11:20	G5IP Control	Metals	Zinc	5.0 U	µg/L	5.0	20
7/24/2023 11:20	G5IP Control	Metals	Sodium	2.5	mg/L	0.50	2.0
7/24/2023 11:20	G5IP Control	Metals	Silver	0.010 U	µg/L	0.010	0.040
7/24/2023 11:20	G5IP Control	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
7/24/2023 11:20	G5IP Control	Metals	Potassium	0.30 U	mg/L	0.30	1.2
7/24/2023 11:20	G5IP Control	Metals	Iron	1.59E+03	µg/L	30	120
7/24/2023 11:20	G5IP Control	Metals	Arsenic	0.29	µg/L	0.050	0.20
7/24/2023 11:20	G5IP Control	Metals	Aluminum	385	µg/L	5.0	20
7/24/2023 11:20	G5IP Control	Nutrients	Ammonia-N	0.003 I	mg N/L	0.0020	0.0050

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 11:20	G5IP Control	Nutrients	Organic Carbon	17	mg C/L	0.50	1.0
7/24/2023 11:20	G5IP Control	Nutrients	Color (true)	94 A	PCU	2.5	6.0
7/24/2023 11:20	G5IP Control	Nutrients	Sulfate	0.29 I	mg SO4/L	0.20	0.50
7/24/2023 11:20	G5IP Control	Nutrients	TSS	26	mg/L	5.0	25
7/24/2023 11:20	G5IP Control	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
7/24/2023 11:20	G5IP Control	Nutrients	Fluoride	0.025 U	mg F/L	0.025	0.10
7/24/2023 11:20	G5IP Control	Nutrients	Kjeldahl Nitrogen	1.3	mg N/L	0.080	0.20
7/24/2023 11:20	G5IP Control	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
7/24/2023 11:20	G5IP Control	Nutrients	Total-P	0.043	mg P/L	0.0020	0.0050
7/24/2023 11:20	G5IP Control	Nutrients	Turbidity	12	NTU	0.10	1.0
7/24/2023 11:20	G5IP Control	Nutrients	NO2NO3-N	0.005 I	mg N/L	0.0040	0.010
7/24/2023 11:20	G5IP Control	Nutrients	Chloride	5.3	mg Cl/L	0.20	0.50
7/24/2023 11:20	G5IP Control	Overflow	HEM	1.5 U	mg/L	1.5	4.2
7/24/2023 11:20	G5IP Control	Overflow	Mercury	2.0	ng/L	0.20	0.50
7/24/2023 11:20	G5IP Control	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
7/24/2023 11:20	G5IP Control	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
7/24/2023 11:20	G5IP Control	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
7/24/2023 11:20	G5IP Control	Priority Organic Pollutants	1,4-Dioxane	0.040 U	µg/L	0.040	0.16
7/24/2023 11:20	G5IP Control	Nutrients	pH	4.18			
7/24/2023 11:20	G5IP Control	Nutrients	Dissolved Oxygen %Sat	25.3	%Sat		
7/24/2023 11:20	G5IP Control	Nutrients	Temperature	26.2	C		
7/24/2023 11:20	G5IP Control	Nutrients	Specific Conductance	48	umhos/cm		
7/24/2023 11:20	G5IP Control	Nutrients	Sample Depth	0.08	m		
7/24/2023 9:45	G5IP Test	AGP/LN	Algal Growth Potential	0.300 U	mg DryWt/L	0.300	0.900
7/24/2023 9:45	G5IP Test	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3.9 I	µg/L	1.6	5.0
7/24/2023 9:45	G5IP Test	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8 U	µg/L	1.8	5.4
7/24/2023 9:45	G5IP Test	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	3.6	µg/L	1.2	3.6
7/24/2023 9:45	G5IP Test	Overflow	Escherichia Coli-Quanti-Tray	98	MPN/100 mL	10	10
7/24/2023 9:45	G5IP Test	Overflow	Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
7/24/2023 9:45	G5IP Test	Metals	Silver	0.010 U	µg/L	0.010	0.040
7/24/2023 9:45	G5IP Test	Metals	Cadmium	0.025 I	µg/L	0.020	0.080
7/24/2023 9:45	G5IP Test	Metals	Iron	150	µg/L	30	120
7/24/2023 9:45	G5IP Test	Metals	Calcium	21.0	mg/L	0.075	0.30
7/24/2023 9:45	G5IP Test	Metals	Chromium	0.56 I	µg/L	0.40	1.6
7/24/2023 9:45	G5IP Test	Metals	Arsenic	0.61	µg/L	0.050	0.20
7/24/2023 9:45	G5IP Test	Metals	Aluminum	329	µg/L	5.0	20

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 9:45	G5IP Test	Metals	Zinc	5.0 U	µg/L	5.0	20
7/24/2023 9:45	G5IP Test	Metals	Potassium	10.9	mg/L	0.30	1.2
7/24/2023 9:45	G5IP Test	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/24/2023 9:45	G5IP Test	Metals	Sodium	225	mg/L	2.5	10
7/24/2023 9:45	G5IP Test	Metals	Nickel	1.5 I	µg/L	0.50	2.0
7/24/2023 9:45	G5IP Test	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/24/2023 9:45	G5IP Test	Metals	Copper	0.48 I	µg/L	0.40	0.80
7/24/2023 9:45	G5IP Test	Metals	Magnesium	3.03	mg/L	0.040	0.16
7/24/2023 9:45	G5IP Test	Nutrients	Ammonia-N	0.026	mg N/L	0.0020	0.0050
7/24/2023 9:45	G5IP Test	Nutrients	Total-P	0.14	mg P/L	0.010	0.050
7/24/2023 9:45	G5IP Test	Nutrients	Color (true)	220	PCU	5.0	12
7/24/2023 9:45	G5IP Test	Nutrients	TSS	4 I	mg/L	2.0	10
7/24/2023 9:45	G5IP Test	Nutrients	Chloride	53	mg Cl/L	0.40	1.0
7/24/2023 9:45	G5IP Test	Nutrients	O-Phosphate-P	0.072	mg P/L	0.0040	0.010
7/24/2023 9:45	G5IP Test	Nutrients	NO2NO3-N	0.007 I	mg N/L	0.0040	0.010
7/24/2023 9:45	G5IP Test	Nutrients	Sulfate	290	mg SO4/L	2.0	5.0
7/24/2023 9:45	G5IP Test	Nutrients	Fluoride	0.26	mg F/L	0.025	0.10
7/24/2023 9:45	G5IP Test	Nutrients	Turbidity	4.2	NTU	0.10	1.0
7/24/2023 9:45	G5IP Test	Nutrients	Organic Carbon	18	mg C/L	0.50	1.0
7/24/2023 9:45	G5IP Test	Nutrients	Total Alkalinity	121	mg CaCO3/L	0.65	2.5
7/24/2023 9:45	G5IP Test	Nutrients	Kjeldahl Nitrogen	0.82	mg N/L	0.080	0.20
7/24/2023 9:45	G5IP Test	Overflow	Mercury	0.39 I	ng/L	0.20	0.50
7/24/2023 9:45	G5IP Test	Overflow	HEM	1.5 U	mg/L	1.5	4.2
7/24/2023 9:45	G5IP Test	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
7/24/2023 9:45	G5IP Test	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
7/24/2023 9:45	G5IP Test	Pesticides	Sucralose	14	µg/L	0.10	0.40
7/24/2023 9:45	G5IP Test	Priority Organic Pollutants	1,4-Dioxane	0.17	µg/L	0.040	0.16
7/24/2023 9:45	G5IP Test	Nutrients	Temperature	27.5	C		
7/24/2023 9:45	G5IP Test	Nutrients	Specific Conductance	1086	umhos/cm		
7/24/2023 9:45	G5IP Test	Nutrients	Sample Depth	0.2	m		
7/24/2023 9:45	G5IP Test	Nutrients	Dissolved Oxygen %Sat	6.3	%Sat		
7/24/2023 9:45	G5IP Test	Nutrients	pH	7.04			
7/24/2023 10:40	Equipment blanks	Metals	Zinc	5.0 U	µg/L	5.0	20
7/24/2023 10:40	Equipment blanks	Metals	Iron	30 U	µg/L	30	120
7/24/2023 10:40	Equipment blanks	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/24/2023 10:40	Equipment blanks	Metals	Hardness	0.35 U	mg/L	0.35	1.4

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:40	Equipment blanks	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
7/24/2023 10:40	Equipment blanks	Metals	Nickel	0.50 U	µg/L	0.50	2.0
7/24/2023 10:40	Equipment blanks	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
7/24/2023 10:40	Equipment blanks	Metals	Silver	0.010 U	µg/L	0.010	0.040
7/24/2023 10:40	Equipment blanks	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/24/2023 10:40	Equipment blanks	Metals	Copper	0.40 U	µg/L	0.40	0.80
7/24/2023 10:40	Equipment blanks	Metals	Chromium	0.40 U	µg/L	0.40	1.6
7/24/2023 10:40	Equipment blanks	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
7/24/2023 10:40	Equipment blanks	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
7/24/2023 10:40	Equipment blanks	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
7/24/2023 10:40	Equipment blanks	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
7/24/2023 10:40	Equipment blanks	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
7/24/2023 10:40	Equipment blanks	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
7/24/2023 10:40	Equipment blanks	Overflow	Total HxCDF	5.4 UJ	pg/L	5.4	49
7/24/2023 10:40	Equipment blanks	Overflow	Adsorbable Organic Halides	6.2 U	µg/L	6.2	20
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,6,7,8-HxCDD	4.8 UJ	pg/L	4.8	49
7/24/2023 10:40	Equipment blanks	Overflow	2,3,7,8-TCDD	0.35 U	pg/L	0.35	9.8
7/24/2023 10:40	Equipment blanks	Overflow	OCDD	2.8 IV	pg/L	0.72	98
7/24/2023 10:40	Equipment blanks	Overflow	Total HpCDD	0.73 UJ	pg/L	0.73	49
7/24/2023 10:40	Equipment blanks	Overflow	Total TCDD	0.35 UJ	pg/L	0.35	9.8
7/24/2023 10:40	Equipment blanks	Overflow	Total HxCDD	4.8 UJ	pg/L	4.8	49
7/24/2023 10:40	Equipment blanks	Overflow	2,3,7,8-TCDF	0.19 U	pg/L	0.19	9.8
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,4,7,8,9-HpCDF	0.81 UJ	pg/L	0.81	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,4,7,8-HxCDF	5.4 UJ	pg/L	5.4	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,4,7,8-HxCDD	4.5 UJ	pg/L	4.5	49
7/24/2023 10:40	Equipment blanks	Overflow	Total PeCDD	4.0 UJ	pg/L	4.0	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,7,8-PeCDD	4.0 UJ	pg/L	4.0	49
7/24/2023 10:40	Equipment blanks	Overflow	Total TCDF	0.19 UJ	pg/L	0.19	9.8
7/24/2023 10:40	Equipment blanks	Overflow	2,3,4,7,8-PeCDF	1.6 UJ	pg/L	1.6	49
7/24/2023 10:40	Equipment blanks	Overflow	2,3,4,6,7,8-HxCDF	0.45 UJ	pg/L	0.45	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,7,8,9-HxCDD	4.3 UJ	pg/L	4.3	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,4,6,7,8-HpCDF	9.6 UJ	pg/L		
7/24/2023 10:40	Equipment blanks	Overflow	Total PeCDF	1.9 UJ	pg/L	1.9	49
7/24/2023 10:40	Equipment blanks	Overflow	Total HpCDF	9.6 UJ	pg/L	9.6	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,4,6,7,8-HpCDD	0.73 UJ	pg/L	0.73	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,6,7,8-HxCDF	5.0 UJ	pg/L	5.0	49

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,7,8-PeCDF	1.9 UJ	pg/L	1.9	49
7/24/2023 10:40	Equipment blanks	Overflow	1,2,3,7,8,9-HxCDF	0.15 U	pg/L	0.15	49
7/24/2023 10:40	Equipment blanks	Overflow	OCDF	1.3 UJ	pg/L	1.3	98
7/24/2023 11:30	Field Blanks	Metals	Calcium	0.075 U	mg/L	0.075	0.30
7/24/2023 11:30	Field Blanks	Metals	Silver	0.010 U	µg/L	0.010	0.040
7/24/2023 11:30	Field Blanks	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/24/2023 11:30	Field Blanks	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
7/24/2023 11:30	Field Blanks	Metals	Potassium	0.30 U	mg/L	0.30	1.2
7/24/2023 11:30	Field Blanks	Metals	Zinc	5.0 U	µg/L	5.0	20
7/24/2023 11:30	Field Blanks	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/24/2023 11:30	Field Blanks	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
7/24/2023 11:30	Field Blanks	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
7/24/2023 11:30	Field Blanks	Metals	Iron	30 U	µg/L	30	120
7/24/2023 11:30	Field Blanks	Metals	Sodium	0.50 U	mg/L	0.50	2.0
7/24/2023 11:30	Field Blanks	Metals	Copper	0.40 U	µg/L	0.40	0.80
7/24/2023 11:30	Field Blanks	Metals	Nickel	0.50 U	µg/L	0.50	2.0
7/24/2023 11:30	Field Blanks	Metals	Aluminum	5.0 U	µg/L	5.0	20
7/24/2023 11:30	Field Blanks	Metals	Chromium	0.40 U	µg/L	0.40	1.6
7/24/2023 11:30	Field Blanks	Nutrients	Total Alkalinity	0.65 UY	mg CaCO3/L	0.65	2.5
7/24/2023 11:30	Field Blanks	Nutrients	Color (true)	2.5 UYQ	PCU	2.5	6.0
7/24/2023 11:30	Field Blanks	Nutrients	Ammonia-N	0.002 UY	mg N/L	0.0020	0.0050
7/24/2023 11:30	Field Blanks	Nutrients	Organic Carbon	0.50 UY	mg C/L	0.50	1.0
7/24/2023 11:30	Field Blanks	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
7/24/2023 11:30	Field Blanks	Nutrients	Fluoride	0.025 U	mg F/L	0.025	0.10
7/24/2023 11:30	Field Blanks	Nutrients	Sulfate	0.20 UY	mg SO4/L	0.20	0.50
7/24/2023 11:30	Field Blanks	Nutrients	Total-P	0.002 UY	mg P/L	0.0020	0.0050
7/24/2023 11:30	Field Blanks	Nutrients	NO2NO3-N	0.004 UY	mg N/L	0.0040	0.010
7/24/2023 11:30	Field Blanks	Nutrients	Kjeldahl Nitrogen	0.080 UY	mg N/L	0.080	0.20
7/24/2023 11:30	Field Blanks	Nutrients	Turbidity	0.10 UYQ	NTU	0.10	1.0
7/24/2023 11:30	Field Blanks	Nutrients	O-Phosphate-P	0.004 UYQ	mg P/L	0.0040	0.010
7/24/2023 11:30	Field Blanks	Overflow	HEM	1.4 U	mg/L	1.4	4.0
7/24/2023 11:30	Field Blanks	Overflow	Mercury	1.7	ng/L	0.20	0.50
7/24/2023 11:30	Field Blanks	Pesticides	Alachlor	0.42 UY	ng/L	0.42	2.1
7/24/2023 11:30	Field Blanks	Pesticides	Azinphos Methyl	3.1 UY	ng/L	3.1	16
7/24/2023 11:30	Field Blanks	Pesticides	Metribuzin	0.42 UY	ng/L	0.42	2.1
7/24/2023 11:30	Field Blanks	Pesticides	Cyanazine	5.2 UY	ng/L	5.2	26

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 11:30	Field Blanks	Pesticides	Ethion	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Pesticides	Ethoprop	0.13 UY	ng/L	0.13	0.65
7/24/2023 11:30	Field Blanks	Pesticides	Fluazifop-P-butyl	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Fonofos	0.16 UY	ng/L	0.16	0.78
7/24/2023 11:30	Field Blanks	Pesticides	Iprodione	0.52 UYJ	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Terbufos	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Sulfentrazone	1.5 UY	ng/L	1.5	7.3
7/24/2023 11:30	Field Blanks	Pesticides	Cyprodinil	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Hexazinone	0.52 UY	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Mevinphos	1.0 UY	ng/L	1.0	5.2
7/24/2023 11:30	Field Blanks	Pesticides	Prometon	3.1 UY	ng/L	3.1	16
7/24/2023 11:30	Field Blanks	Pesticides	Loratadine	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Pesticides	Triadimefon	0.16 UY	ng/L	0.16	0.78
7/24/2023 11:30	Field Blanks	Pesticides	Atrazine	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Butylate	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Carbophenothion	0.52 UY	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Fipronil	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Fipronil Sulfide	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Imazalil	0.68 UY	ng/L	0.68	3.4
7/24/2023 11:30	Field Blanks	Pesticides	Norflurazon	1.0 UY	ng/L	1.0	5.2
7/24/2023 11:30	Field Blanks	Pesticides	Phenytoin	5.5 UY	ng/L	5.5	28
7/24/2023 11:30	Field Blanks	Pesticides	Sucralose	0.010 UY	µg/L	0.010	0.040
7/24/2023 11:30	Field Blanks	Pesticides	Bromacil	0.62 UY	ng/L	0.62	3.1
7/24/2023 11:30	Field Blanks	Pesticides	Chlorpyrifos Ethyl	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Pesticides	Dimethenamid	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Disulfoton	0.62 UY	ng/L	0.62	3.1
7/24/2023 11:30	Field Blanks	Pesticides	Propiconazole	0.62 UY	ng/L	0.62	3.1
7/24/2023 11:30	Field Blanks	Pesticides	Dimethomorph	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Pesticides	Metolachlor	0.78 UY	ng/L	0.78	3.9
7/24/2023 11:30	Field Blanks	Pesticides	Atrazine Desethyl	1.4 UY	ng/L	1.4	6.8
7/24/2023 11:30	Field Blanks	Pesticides	Diazinon	0.13 UY	ng/L	0.13	0.65
7/24/2023 11:30	Field Blanks	Pesticides	EPTC	0.52 UY	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Fenamiphos	0.47 UY	ng/L	0.47	2.3
7/24/2023 11:30	Field Blanks	Pesticides	Fipronil Sulfone	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Malathion	0.36 UY	ng/L	0.36	1.8
7/24/2023 11:30	Field Blanks	Pesticides	Myclobutanil	0.36 UY	ng/L	0.36	1.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 11:30	Field Blanks	Pesticides	Naled	2.6 UY	ng/L	2.6	13
7/24/2023 11:30	Field Blanks	Pesticides	Phorate	0.26 UY	ng/L	0.26	1.3
7/24/2023 11:30	Field Blanks	Pesticides	Prometryn	0.36 UY	ng/L	0.36	1.8
7/24/2023 11:30	Field Blanks	Pesticides	Simazine	0.26 UY	ng/L	0.26	1.3
7/24/2023 11:30	Field Blanks	Pesticides	Etridiazole	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Pyridaben	1.5 UY	ng/L	1.5	7.3
7/24/2023 11:30	Field Blanks	Pesticides	Thiobencarb	0.52 UY	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Ibuprofen	0.080 UY	µg/L	0.080	0.32
7/24/2023 11:30	Field Blanks	Pesticides	Naproxen	0.0080 UY	µg/L	0.0080	0.032
7/24/2023 11:30	Field Blanks	Pesticides	Ametryn	1.1 UY	ng/L	1.1	5.7
7/24/2023 11:30	Field Blanks	Pesticides	Oxadiazon	0.36 UY	ng/L	0.36	1.8
7/24/2023 11:30	Field Blanks	Pesticides	Parathion Ethyl	0.16 UY	ng/L	0.16	0.78
7/24/2023 11:30	Field Blanks	Pesticides	Pronamide	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Azoxystrobin	0.42 UY	ng/L	0.42	2.1
7/24/2023 11:30	Field Blanks	Pesticides	Demeton	3.6 UY	ng/L	3.6	18
7/24/2023 11:30	Field Blanks	Pesticides	Chlorpyrifos Methyl	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Difenoconazole	0.62 UYJ	ng/L	0.62	3.1
7/24/2023 11:30	Field Blanks	Pesticides	Fipronil Desulfinyl	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Fludioxonil	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Flumioxazin	3.1 UYJ	ng/L	3.1	16
7/24/2023 11:30	Field Blanks	Pesticides	Fluxapyroxad	0.26 UY	ng/L	0.26	1.3
7/24/2023 11:30	Field Blanks	Pesticides	Molinate	0.26 UY	ng/L	0.26	1.3
7/24/2023 11:30	Field Blanks	Pesticides	Prodiamine	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Coumaphos	1.1 UY	ng/L	1.1	5.7
7/24/2023 11:30	Field Blanks	Pesticides	Napropamide	0.73 UY	ng/L	0.73	3.6
7/24/2023 11:30	Field Blanks	Pesticides	Propanil	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Propargite	0.83 UY	ng/L	0.83	4.2
7/24/2023 11:30	Field Blanks	Pesticides	Stirophos	0.42 UY	ng/L	0.42	3.3
7/24/2023 11:30	Field Blanks	Pesticides	Acetochlor	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Carfentrazone Ethyl	0.16 UY	ng/L	0.16	0.78
7/24/2023 11:30	Field Blanks	Pesticides	Dithiopyr	1.0 UY	ng/L	1.0	5.2
7/24/2023 11:30	Field Blanks	Pesticides	Fenbuconazole	0.52 UYJ	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Flutolanil	0.10 UY	ng/L	0.10	0.52
7/24/2023 11:30	Field Blanks	Pesticides	Metalaxyl	0.52 UY	ng/L	0.52	2.6
7/24/2023 11:30	Field Blanks	Pesticides	Terbuthylazine	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Oxyfluorfen	0.21 UY	ng/L	0.21	1.0

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 11:30	Field Blanks	Pesticides	Parathion Methyl	0.21 UY	ng/L	0.21	1.0
7/24/2023 11:30	Field Blanks	Pesticides	Pendimethalin	0.78 UY	ng/L	0.78	3.9
7/24/2023 11:30	Field Blanks	Pesticides	Pyriproxyfen	0.26 UYJ	ng/L	0.26	1.7
7/24/2023 11:30	Field Blanks	Pesticides	Tebuconazole	1.5 UY	ng/L	1.5	7.3
7/24/2023 11:30	Field Blanks	Pesticides	Caffeine	7.8 UY	ng/L	7.8	39
7/24/2023 11:30	Field Blanks	Pesticides	Chlorfenapyr	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Pesticides	Pyraflufen Ethyl	0.31 UY	ng/L	0.31	1.6
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 UY	µg/L	10	42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Isophorone	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Pyrene	0.10 UY	µg/L	0.10	0.42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2-Nitrophenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Acenaphthylene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 UY	µg/L	5.2	21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Hexachlorobutadiene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2-Chlorophenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Nitrobenzene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Hexachlorobenzene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 UY	µg/L	2.1	8.3
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,4-Dinitrophenol	10 UY	µg/L	10	42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzo(a)anthracene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2-Chloronaphthalene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Anthracene	0.052 UY	µg/L	0.052	0.21

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 UY	µg/L	1.0	4.2
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Dimethyl phthalate	0.21 UY	µg/L	0.21	0.83
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Fluoranthene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	1,4-Dioxane	0.040 UY	µg/L	0.040	0.16
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	4-Nitrophenol	10 UY	µg/L	10	42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Acenaphthene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 UY	µg/L	2.1	8.3
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Pentachlorophenol	0.52 UY	µg/L	0.52	2.1
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Phenanthrene	0.10 UY	µg/L	0.10	0.42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Phenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 UY	µg/L	3.1	12
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzidine	10 UY	µg/L	10	42
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Benzo(a)pyrene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Chrysene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Diethyl phthalate	2.1 UY	µg/L	2.1	8.3
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Fluorene	0.026 UY	µg/L	0.026	0.10
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Hexachloroethane	0.052 UY	µg/L	0.052	0.21
7/24/2023 11:30	Field Blanks	Priority Organic Pollutants	Naphthalene	0.10 UY	µg/L	0.10	0.42