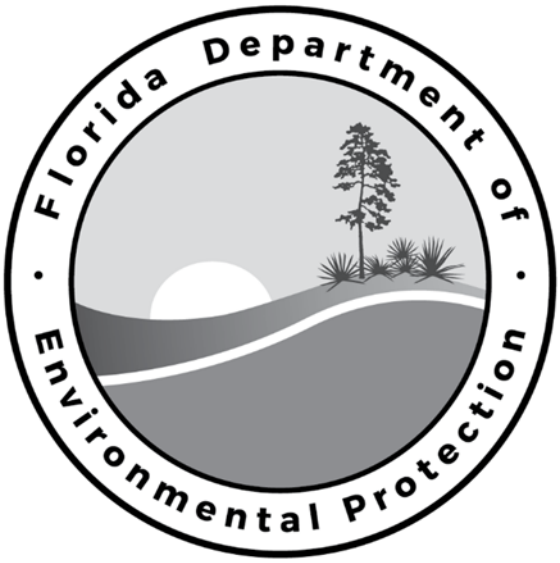


Effluent Quality Assessment of

Macclenny WWTF

Baker County

NPDES # FL0040495

Sampled August 14, 16, and 18, 2017

November 2017

Biology Program

DEP Laboratory

Division of Environmental Assessment and Restoration

DEP Laboratory Quality Manual

NELAC Certification No. E31780

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Macclenny WWTF, 798 East Macclenny Ave., Macclenny, Baker County, Florida, 32063-2120. NPDES #FL0040495.

Facility Overview

Macclenny WWTF uses a four-step procedure to treat domestic wastewater. The influent travels through a grit removal pretreatment, a biological activated sludge treatment, a filtration step, and finally disinfection. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information.

Methods

Effluent composite samples for toxicity testing were collected on August 14, 16, and 18, 2017. Effluent grab samples for biological and chemical analyses for this facility were collected on August 14, 2017. All samples were collected from the EFD-1 NPDES sampling point for Outfall D-001 by Nick Williams, Brittany Dion, and Ed Jamro (FDEP Northeast Regional Operation Center).

All field and laboratory methods followed FDEP Standard Operating Procedures (see http://www.dep.state.fl.us/labs/library/lab_sops.htm and http://www.dep.state.fl.us/water/sas/sop/sops.htm for details) and met DEP quality assurance/quality control standards (see http://www.dep.state.fl.us/water/sas/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix B. References to Rule 62-302.530, F.A.C., are to the current applicable surface water quality criteria table with an effective date of 02/17/16 and a notice identification number of 18212543. The table includes new criteria for *Eschericia coli (E. coli)*, enterococci, and ammonia (total ammonia nitrogen) that were approved by EPA in July 2017.

> Please note that the human health-based water quality criteria (HHC) that were approved for adoption by the Environmental Regulation Commission (ERC) on July 26, 2016 are not yet in effect even though they are included in the version of Chapter 62-302 on the Department of State website. The rule revisions for the HHC have not been submitted to EPA due to an ongoing rule challenge, and cannot be used for Clean Water Act purposes until they have been approved by EPA.

Results

Chemistry Results (See Table 1, Table 2, Table 3 and Appendix C)

- Receiving Waters for this facility fall within the Peninsular Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). The effluent's total phosphorous in both the grab and composite samples (1.2 mg/L and 1.4 mg/L, respectively) were greater than the NNC of 0.12 mg/L for this nutrient region. The effluent's measured total nitrogen in the grab and composite samples bracketed the NNC of 1.54 mg/L for this nutrient region (see Table 2). This FYI event can only provide single sample results; therefore, compliance should be determined with additional sampling events.

  http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

- Bioassay samples were analyzed in the DEP laboratory for total residual chlorine (TRC) and total ammonia. Total residual chlorine was not detected in any of the three bioassay samples. Total ammonia was detected in each of the three bioassay samples (LIMS sample #s 1921459, 1922213, and 1922778), at 1.4, 3.8, and 3.6 mg N/L), respectively. Total ammonia concentration in the grab sample collected and preserved for chemical analysis was 0.77 mg N/L.

- Alkalinity, arsenic, fluoride, nickel, total Kjeldahl nitrogen, total residual chlorine, turbidity, and zinc were detected in the effluent at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Carbonaceous biological oxygen demand, copper, cyanide, iron, and lead were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Class III Freshwater limits are now based on *Eschericia coli* (*E. coli*) instead of fecal coliforms. The level of fecal coliform detected in the effluent (6000 Z), which would have exceeded the previous Class III Freshwater Criteria, along with the general positive correlation between fecal coliforms and *E. coli*, may indicate cause for concern.

Algal Growth Potential (See Table 4 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 22.0 A mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum.* The analytical chemistry suggests that the effluent is nitrogen–limited (Miller et al. 1978) (USEPA 2000).
- The effluent AGP result is greater than the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

Toxicity Test Results (See Appendix C)

- Tests were performed August 15-23, 2017.
- Chronic bioassay results are reported as the 25% Inhibition Concentration (IC25) and the No Observed Effect Concentration (NOEC)*

Ceriodaphnia dubia 7-day chronic definitive bioassay – IC25 is >100%
No Observed Effect Concentration (NOEC) is 100%

Pimephales promelas 7-day chronic definitive bioassay – IC25 is >100%
No Observed Effect Concentration (NOEC) is 100%

* NOTE: 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 62-302.200(5), 62-302.530(108) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(108) and/or facility permit limits.

- The bioassay samples were not chronically toxic to the test organisms.

Conclusion

The effluent samples collected from the EFD-1 NPDES sampling point for this facility on August 14, 16, and 18 were not chronically toxic to either test species during the 7-day chronic definitive bioassays. The effluent AGP result (22.0 A mg dry wt/L) was greater than the 6.10 to 20.0 mg dry wt/L range suggested to be representative of high productivity for freshwater. Nutrient chemistry suggests that the effluent is nitrogen-limited. Class III Freshwater Quality Criteria are now based on *E. coli* rather than fecal coliforms. The high value of fecal coliform detected in the effluent samples collected on August 14, 2017, along with the general correlation between fecal coliforms and level of *E. coli,* may indicate cause for concern.

For additional information concerning this sampling event, including bioassay bench sheets and SRT data, please contact Amelia.Rankin@dep.state.fl.us and/or Joseph.Faircloth@dep.state.fl.us.

Literature Cited

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

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

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

Table 1. Effluent limits, Class III Freshwater Criteria and field parameters

Macclenny WWTF	Units	Class III Criteria	Effluent Permit Limits	Macclenny Comp EFD [1]	Macclenny Grab EFD [1]
pH	SU	6.0 - 8.5	6.0 - 8.5 s	7.1 [1]	-
Temperature	C	-	Report s	28.9 [1]	-
Specific Conductance	µmhos	≤ 1,275	-	449 [1]	-
Salinity	ppt	-	-	0.2 [1]	-
Dissolved Oxygen	mg/L	≥ 5.0	≥ 6.0 s	7.2 [1]	-

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

s - Single sample

1 – Parameters not taken during initial sampling event. Field values in Table 1 were measured on 8/18/2017.

Table 2. Effluent limits, Class III Freshwater Criteria and analytical water chemistry data.

Macclenny WWTF	Units	Class III Criteria	Effluent Permit Limits	Macclenny Comp EFD	Macclenny Grab EFD
Ortho-phosphate	mg P/L	-	Report	-	1.1
Total Phosphorus	mg P/L	-	Report	1.4	1.2
Total Ammonia	mg N/L	< 2.51	Report	0.77	0.36
Nitrate and Nitrite	mg N/L	-	Report	0.36	0.14
Total Kjeldahl Nitrogen	mg N/L	-	≤ 2.10	1.4	1.1
Organic Nitrogen	mg N/L	-	Report	0.6 c	0.7 c
Total Nitrogen	mg N/L	-	Report	1.8 c	1.2 c
Total Organic Carbon	mg C/L	-	-	7.8	7.8
Chlorophyll *a* - Corrected	µg/L	-	-	-	1.4 I
Phaeophytin	µg/L	-	-	-	0.40 U
Chlorophyll *a* - Uncorrected	µg/L	-	-	-	1.3
CBOD, 5 day, N - inhibited	mg/L	-	≤ 9.0	1.5 I	-
Total Residual Chlorine	mg/L	≤ 0.01	-	<0.03[2]	-
Total Suspended Solids	mg/L	-	≤ 10.0	2 U	-
Turbidity	NTU	< 29 t	-	-	0.60
Color (true)	PCU	-	-	-	22
Alkalinity	mg CaCo3/L	≥ 20	-	-	114
Chloride	mg Cl/L	-	-	-	37
Cyanide	mg/L	≤ 5.2	-	-	0.0047 I
Fluoride	mg F/L	≤ 10.0	-	-	0.49
Sulfate	mg SO4/L	-	-	-	30
Microbiology					
Fecal Coliforms [3]	cfu/100 mL	-	-	-	6000 Z[4]
Toxicity (IC25, Chronic Definitive, % effluent)					
Bioassay - Water flea *(Ceriodaphnia dubia)*	% effluent	≥ 100	≥ 100	> 100	-
Bioassay - Fish *(Pimephales promelas)*	% effluent	≥ 100	≥ 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
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
Z - Colonies were too numerous to count (TNTC)
2 - Measurement taken in the FDEP laboratory
3 - Fecal coliform analysis performed by ALS Environmental (Columbia) Lab
4 - Class III Freshwater criteria is now for *E. coli*; however, fecal coliforms were tested.

Table 3. Effluent limits, Class III Freshwater Criteria and analytical metals data.

Macclenny WWTF	Units	Class III Criteria	Effluent Permit Limits	Macclenny Comp EFD	Macclenny Grab EFD
Hardness	mg $CaCO_3$/L	-	Report	137	142 c
Aluminum	µg/L	-	-	-	20
Arsenic	µg/L	≤ 50	-	-	0.95
Cadmium	µg/L	≤ 0.352 b	-	-	0.020 U
Calcium	mg/L	-	-	-	41.6
Chromium, Total [5]	µg/L	≤ 115 b	-	-	0.40 U
Copper	µg/L	≤ 12.6 b	≤ 12.6 b	-	0.76 I [6]
Iron	µg/L	≤ 1,000	-	-	75 I
Lead	µg/L	≤ 4.99 b	-	-	0.16 I
Magnesium	mg/L	-	-	-	9.37
Mercury	ng/L	≤ 12	≤ 12	-	0.89
Nickel	µg/L	≤ 70.4 b	-	-	0.98
Potassium	mg/L	-	-	-	6.3
Selenium	µg/L	≤ 5.0	-	-	0.20 U
Silver	µg/L	≤ 0.07	≤ 0.07	-	0.010 U
Sodium	mg/L	-	-	-	30.6
Zinc	µg/L	≤ 162 b	-	-	47

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
b - Value is calculated based on hardness, (62-302.530(3))
c - Value is calculated
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
5 - Class III Freshwater Quality Criterion (62-302.530(19)(a), F.A.C.) is for chromium-III
6 - Analyte was detected in the Field Blank (0.58 I µg/L)

Table 4. 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
Macclenny Grab EFD	*Pseudokirchneriella subcapitata*	22.0 A	19 ± 3.8	473 ± 94.6	47.1 ± 9.4	516 ± 103.2	0.5	1

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

Appendix A

Facility Summary State of Florida

Department of Environmental Protection

Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Brittany Dion	Contact Number: (904) 256-1678
Facility Name (as it appears on permit): Macclenny WWTF	Former Names: N/A
NPDES Permit Number: FL0040495	Permit Expiration Date: January 15th, 2019
Physical Address: 798 East Macclenny Ave., Macclenny FL, 32063-2120	
District: Northeast	County: Baker
Function of Facility: Domestic wastewater treatment plant	
Facility Type: Domestic Wastewater	Permitted Capacity (MGD): 1.3
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): May 2016- May 2017 D-001 – 0.597 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
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): EFD-1 Effluent after dechlorination prior to discharge CAL-1 Calculated value EFA-1 Effluent after disinfection prior to dechlorination SWB-1 Located on Turkey Creek about 200-ft downstream of SR-121 bridge. SWB-2 0.95 miles downstream of Outfall D-001 in Turkey Creek SWB-3 Located on south prong about 200-ft upstream of the confluence with Turkey Creek	

SWB-4	Located on the south prong in the shaded reach upstream of the railroad trestles prior to shallows (about 600-ft upstream of the US-90 bridge)

Description of Permitted Outfall(s):

D-001 – Discharge to Turkey Creek, Class III fresh waters, (WBID# 2318). The point of discharge is located approximately at latitude 30º 16' 11" N, longitude 82º 07' 37" W.

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

To operate an existing 1.30 million gallons per day (MGD) average annual daily flow (AADF) permitted capacity advanced secondary activated sludge domestic wastewater treatment facility (WWTF) consisting of the following major treatment processes:

• Pretreatment Unit Processes: The pretreatment unit processes comprise an influent pumping station, two manually-cleaned influent bar screens, a grit removal chamber, grit classification equipment,

• Biological Treatment Processes: The plant utilizes a complete mix activated sludge process via four sequencing batch reactors (SBRs) with a combined volume of approximately 1.668 million gallons (417,000 gallon each);

• Filtration system: the filtration system consists of two traveling bridge filters and automatic backwash with a combined surface area of approximately 850 square feet (425 square feet each)

• Disinfection System: gas chlorination for disinfection, a chlorine contact chamber with a volume of approximately 31,400 gallons (15,700 gallons each side);

• A stilling channel with a flow meter and totalizer with a weir for effluent flow measurement by ultrasonic meter, sodium dioxide gas equipment for the addition of the dechlorination agent in the post-aeration basin with a floating aerator and a volume of approximately 18,145 gallons, two aerobic digesters with a combined volume of approximately 448,000 gallons (224,000 gallons each), and four polymer-assisted sludge drying beds with a combined surface area of approximately 6,400 ft_2 (1,600 ft_2 each). Biosolids meeting Class B stabilization requirements are land applied at the Aaron Fish Farm (fka Single X) biosolids application site on application zones #1 (40-acre) and #4 (25-acre)

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max	1.30	Annual Average	Continuous	Recording Flow Meter with Totalizer	EFD-1	See I.A.4
		Max	Report	Monthly Average				
		Max	Report	Quarterly Average				
Percent Capacity, (QADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	CAL-1	
BOD, Carbonaceous 5 day, 20C (Winter Months: December – April)	mg/L	Max	5.0	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	6.25	Monthly Average				
		Max	7.5	Weekly Average				
		Max	10.0	Single Sample				

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Nitrogen, Kjeldahl, Total (as N) (Winter Months: December – April)	mg/L	Max	Report	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	1.75	Monthly Average				
		Max	2.10	Weekly Average				
		Max	2.80	Single Sample				
Oxygen, Dissolved (DO) (Winter Months: December – April)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Grab	EFD-1	
BOD, Carbonaceous 5 day, 20C (Summer Months: May – November)	mg/L	Max	5.0	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	6.0	Monthly Average				
		Max	6.25	Weekly Average				
		Max	9.0	Single Sample				
Nitrogen, Kjeldahl, Total (as N) (Summer Months: May – November)	mg/L	Max	Report	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	1.30	Monthly Average				
		Max	1.40	Weekly Average				
		Max	2.10	Single Sample				

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Oxygen, Dissolved (DO) (Summer Months: May – November)	mg/L	Min	6.0	Single Sample	Daily; 24 hours	Grab	EFD-1	
Solids, Total Suspended	mg/L	Max	5.0	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	6.25	Monthly Average				
		Max	7.5	Weekly Average				
		Max	10.0	Single Sample				
Coliform, Fecal	#/100mL	Max	200	Annual Average	Weekly	Grab	EFD-1	See I.A.5
		Max	200	Monthly Geometric Mean				
		Max	800	Single Sample				
pH	s.u.	Min	6.0	Single Sample	Continuous	Meter	EFD-1	See I.A.3
		Max	8.5	Single Sample				
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	Continuous	Meter	EFA-1	See I.A.3 and I.A.6

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Daily; 24 hours	Grab	EFD-1	
Nitrogen, Total, as N	mg/L	Max	Report	Annual Average	Weekly	16-hr FPC	EFD-1	
		Max	Report	Monthly Average				
		Max	Report	Weekly Average				
		Max	Report	Single Sample				
Nitrogen, Total, as N (Load)	lb/yr	Max	Report	Annual Total	Monthly	Calculated	CAL-1	See I.A.11
	lb/mth	Max	Report	Monthly Total				
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Monthly	Grab	EFD-1	See I.A.12
Temperature (ºC), Water	Deg C	Max	Report	Single Sample	Monthly	Meter	EFD-1	See I.A.12
Ammonia, Unionized (as NH3)	mg/L	Max	0.02	Single Sample	Monthly	Calculated	CAL-1	See I.A.12

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Phosphorus, Total (as P)	mg/L	Max	Report	Annual Average	Monthly	16-hr FPC	EFD-1	
		Max	Report	Monthly Average				
		Max	Report	Weekly Average				
		Max	Report	Single Sample				
Phosphorus, Total (as P)	lb/yr	Max	Report	Annual Total	Monthly	Calculated	CAL-1	See I.A.11
	lb/month	Max	Report	Monthly Total				
Silver, Total Recoverable	µg/L	Max	0.07	Single Sample	Monthly	Grab	EFD-1	
Mercury, Total Recoverable	µg/L	Max	0.012	Single Sample	Monthly	Grab	EFD-1	See I.A.8
Cyanide, Total (as CN)	µg/L	Max	5.2	Single Sample	Monthly	Grab	EFD-1	
Copper, Total Recoverable	µg/L	Max	$e^{(0.8545[\ln H]-1.702)}$	Single Sample	Monthly	16-hr FPC	EFD-1	See I.A.14
Hardness, Total (as CaCO3)	mg/L	Max	Report	Single Sample	Monthly	16-hr FPC	EFD-1	See I.A.14
Nitrogen, Organic, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	16-hr FPC	EFD-1	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Quarterly	16-hr FPC	EFD-1	
Phosphate, Ortho (as P)	mg/L	Max	Report	Single Sample	Quarterly	Grab and filtered	EFD-1	
Oxygen, Dissolved (DO)	mg/L	Min	Report	Annual Average	Monthly	Meter	SWB-1 SWB-2 SWB-3 SWB-4	
		Min	Report	Single Sample				
BOD, Carbonaceous 5 day, 20C	mg/L	Max	Report	Single Sample	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	
Ammonia, Unionized (as NH3)	mg/L	Max	Report	Single Sample	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	See I.A.13
Nitrogen, Total	mg/L	Max	Report	Annual Geometric Mean	Semi- Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	
		Max	Report	Single Sample				

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Phosphorus, Total (as P)	mg/L	Max	Report	Annual Geometric Mean	Semi-Annually; twice per year	Grab	SWB-1 SWB-2 SWB-3 SWB-4	
		Max	Report	Single Sample				
pH	s.u.	Max	Report	Single Sample	Semi-Annually; twice per year	Meter	SWB-1 SWB-2 SWB-3 SWB-4	
Temperature (ºC), Water	Deg C	Max	Report	Single Sample	Semi-Annually; twice per year	Meter	SWB-1 SWB-2 SWB-3 SWB-4	
Specific Conductance	µmhos/cm	Max	Report	Single Sample	Semi-Annually; twice per year	Meter	SWB-1 SWB-2 SWB-3 SWB-4	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Water Level, at sample collection time	ft	Min	Report	Single Sample	Semi-Annually; twice per year	Meter	SWB-1 SWB-2 SWB-3 SWB-4	
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Ceriodaphnia dubia*)	percent	Min	100	Single Sample	Annually	16-hr FPC	EFD-1	See I.A.16
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Pimephales promelas*)	percent	Min	100	Single Sample	Annually	16-hr FPC	EFD-1	See I.A.16

PART I: Continued	
Receiving Waters: Turkey Creek	Classification (indicate whether fresh or marine): Class III Fresh Water

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

a. Effluent Limitation (1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. *[Rules 62-302.530(61) and 62-4.241(5), F.A.C.]*

(2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. *[Rules 62-302.500(1)(a)4 and 62-4.241(5), F.A.C.]*

b. Monitoring Frequency (1) Routine toxicity tests shall be conducted annually, once every 12 months, starting within 12 months of the most recent test and lasting for the duration of the permit.

c. Sampling Requirements (1) For each routine test or additional follow-up test conducted, a total of three *flow proportional 16-hour composite* samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.

(3) Samples for routine and additional follow-up tests shall not be collected on the same day.

d. Test Requirements (1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.

(2) The permittee shall conduct a daphnid, ***Ceriodaphnia dubia***, Survival and Reproduction Test and a fathead minnow, ***Pimephales promelas***, Larval Survival and Growth Test, concurrently.

(3) All test species, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Edition, EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

e. Quality Assurance Requirements (1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet any test acceptability criteria, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (***Ceriodaphnia dubia***) and Section 11.11 (***Pimephales promelas***). The repeat test shall be started within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.
f. Reporting Requirements (1) Results from all required tests shall be entered on the MONTHLY Discharge Monitoring Report (DMR) as the calculated IC_{25} for each test species.
(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed or ***emailed*** to the Department at the address below ***within 30 days*** after the last day of the test.
(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed or ***emailed within 30 days*** after the last day of the second valid additional follow-up test.
(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
(5) The same bioassay data shall not be reported as the results of more than one test.
(6) All bioassay laboratory reports shall be mailed or ***e-mailed*** to *Jacksonville* only:
g. Test Failures (1) A test fails when the test results do not meet the limits in 16.a.(1).
(2) Additional Follow-up Tests: (a) If a routine test does not meet the chronic toxicity limitation in 16.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests according to16.d. on each species that failed the test.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.
(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure. (a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
(b) The Department shall review and approve the plan before initiation.
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
(d) Progress reports shall be submitted quarterly to the Department at the address above.
(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with16.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in16.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 16.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests.
(g) If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.
(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in16.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.
(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

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

1) CO 14-0551- Mercury & Silver & TKN & CN Exceedances, effective date 1/20/2017.

Facility Mixing Zone Details (if applicable):

Facility is not currently granted a mixing zone.

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

4/30/2017	EFD-1	P 71901	Mercury, Total Recoverable	0.31	0.012	µg/L	MB - Maximum
3/31/2017	EFD-1	P 71901	Mercury, Total Recoverable	0.017	0.012	µg/L	MB - Maximum
2/28/2017	EFD-1	P 71901	Mercury, Total Recoverable	0.078	0.012	µg/L	MB - Maximum
1/31/2017	EFD-1	P 71901	Mercury, Total Recoverable	0.20	0.012	µg/L	MB - Maximum
12/31/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.051	0.012	µg/L	MB - Maximum
11/30/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.025	0.012	µg/L	MB - Maximum
10/31/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.081	0.012	µg/L	MB - Maximum
9/30/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.054	0.012	µg/L	MB - Maximum
9/30/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	3.8	1.4	mg/L	WA - Weekly Average
9/30/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	1.089	1.05	mg/L	AB - Annual Average
9/30/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	3.8	2.1	mg/L	MB - Maximum
8/31/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.034	0.012	µg/L	MB - Maximum
8/31/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	1.6	1.4	mg/L	WA - Weekly Average
7/31/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	1.9	1.4	mg/L	WA - Weekly Average
7/31/2016	EFD-1	P 71901	Mercury, Total Recoverable	0.19	0.012	µg/L	MB - Maximum
7/31/2016	EFD-1	P 01079	Silver, Total Recoverable	1.0	0.07	µg/L	MB - Maximum
6/30/2016	EFD-1	P 00625	Nitrogen, Kjeldahl, Total (as N)	2.0	1.4	mg/L	WA - Weekly Average

Describe previous FYI and WQBEL study:

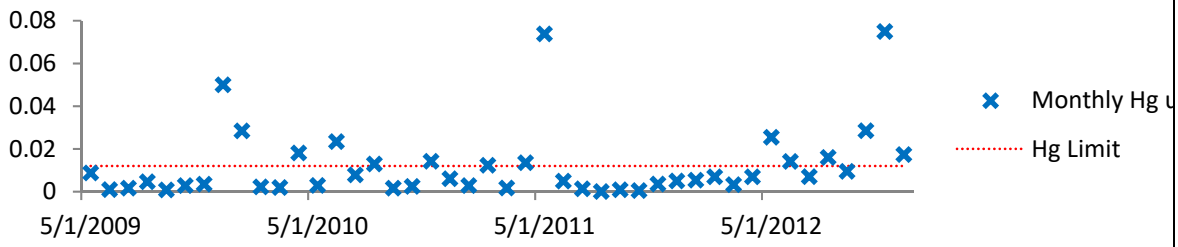
In order to protect existing water quality and preserve the designated beneficial uses of Florida's surface waters, the discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Florida State Surface Water Quality Standards (Chapter 62-302, FAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state.

Effluent limitations are based on a Level I WQBEL developed by District staff and available in the District permit files.

(a) The permittee has provided results of expanded effluent testing for major facility. Results show that volatile organic compounds, acid-extractable, base-neutral compounds were either undetectable or complied with the Florida Water Quality Criteria (WQC). Concentrations of most heavy metals (total recoverable) were below the WQC.

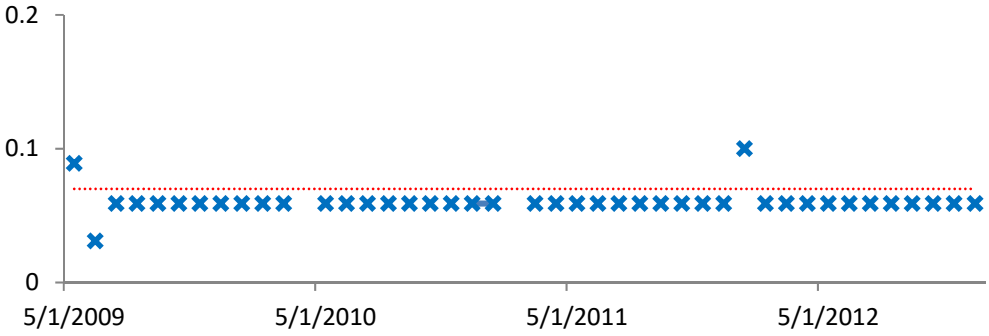
(b) Measurement to protect 303(d) List impaired waters:

(i) Mercury: Mercury is listed as an impaired parameter in the WBID 2247 (basin south/downstream of the outfall).
The facility has monitored for mercury the last five years of the permit cycle, and results show that the average, median and mode concentrations of mercury were 0.012µg/L, 0.006µg/L, and 0.002 µg/L, respectively. Although the results also show that the maximum concentration of mercury was 0.075µg/L, it is not enough evidence to conclude that the discharge causes an impaired waterbody. Nevertheless, the facility shall continue to monitor and be required to meet the fresh water criterion for mercury.



(c) Other Concerned Pollutants

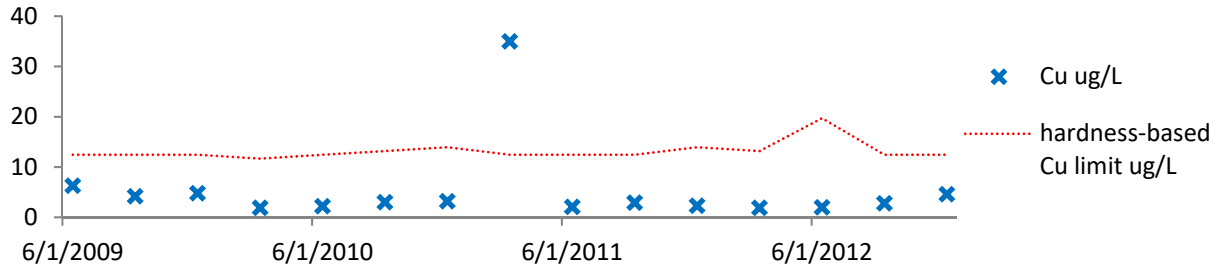
(ii) Silver: The facility has monitored silver the last five years of the permit cycle, and results show that the average, median, mode and maximum concentrations of mercury were 0.07 µg/L, 0.03 µg/L, 0.03 µg/L, and 0.14 µg/L, respectively.



Although the stream is not listed for silver on the 303(d) list, concentration of silver in the discharge does not consistently meet the water quality criterion. The facility shall continue to monitor and be required to meet the fresh water criterion for silver.

(iii) Copper: The facility has monitored copper the last five years of the permit cycle, and results show that the average, median, mode and maximum concentrations of mercury were 5.28 µg/L, 2.9 µg/L, 1.9 µg/L, and 35

µg/L, respectively. The receiving waterbody is Class III – fresh water; thus, the water quality criterion for copper is based on the hardness concentration.



Although the stream is not listed for copper on the 303(d) list, concentration of copper in the discharge does not consistently meet the water quality criterion. The facility shall continue to monitor and be required to meet the fresh water criterion for copper.

(iv) Iron, Nickel, Arsenic and other heavy metals: Expanded Effluent Testing Data show that the maximum concentrations of iron, nickel, chromium, cadmium and arsenic were 1.59 µg/L and 0.72 µg/L, respectively. In addition, results from the Department 3rd Year Sampling Inspection show that concentrations of iron, nickel, chromium, cadmium and arsenic in the effluent sample were 80µg/L, 1.29µg/L, and 0.30µg/L, 38.5µg/L, respectively. Both results indicated that concentration of the parameters were below the water quality criteria. There is no evidence to show that the discharge would or will impact the iron, nickel, chromium, cadmium and arsenic levels of the waterbodies (WBID 2318 and WBID 2247). Monitoring for iron, nickel, and arsenic is not required.

(v) Total Cyanide: The facility has monitored cyanide for the last five years of the permit cycle, and results show that the average, median, mode and maximum concentrations of cyanide were 3.22 µg/L, 2.4 µg/L, 2.4 µg/L, and 16 µg/L, respectively. Results show that concentration of cyanide in the discharge does not consistently meet the water quality criterion. The facility shall continue to monitor and be required to meet the fresh water criterion for cyanide.

(vi) Dissolved Oxygen: Stream health is directly related to the dissolved oxygen (DO) level which is an important water quality parameter that influences the living conditions of all aquatic organisms that require oxygen. Sources of dissolved oxygen in the waterbody include re-aeration from the atmosphere, photosynthesis by aquatic plants, dissolved oxygen in the effluent and/or in coming tributaries. In the waterbody, dissolved oxygen is consumed due to oxidation of carbonaceous waste, oxidation of nitrogenous waste (nitrification), demand by sediments, and the respiration of aquatic plants. Dissolved oxygen level in the stream is a function of many factors; therefore, it's difficult to calculate accurately the DO concentration downstream of the discharge. However, there are models which can be used to estimate/predict the DO concentration.

This WBID (2318) as well as the south prong St Mary's River (2247) has a site specific alternative criterion (SSAC) for dissolved oxygen allowing an annual average dissolved oxygen of 3.0 mg/L, with no more than 10% of the individual measurements below 1.35 mg/L on an annual basis. Thus, the target concentration of DO used in the models is 3.0 mg/L

Describe previous or current Enforcement Actions (including WLs):

CO 14-0551 open due to exceedances.

Describe any violations or problems noted in previous inspection:

No violations as of February 2015 inspection.

Discuss whether DMR trends within previous five years are improving or declining: Facility has been exceeding in Mercury consistently since 9/2016. They have also seen Nitrogen exceedances multiple months of 2016.	
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse): N/A	
PART II: Sampling Event Information	
Date(s) sample collected:	Sampler(s):
Temperature (Deg C):	pH (SU):
Dissolved Oxygen (mg/L):	Conductivity (µmhos/cm):
Total Residual Chlorine (mg/L):	Total Residual Chlorine - after Disinfection (mg/L):
Method of Chlorination:	Method of De-chlorination:
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☐ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify:	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix B

Explanation of Measurements

(1) Quality Assurance and Quality Control

FDEP's quality assurance requirements for analytical laboratories and field activities are codified in Chapter 62-160, F.A.C., Quality Assurance (QA Rule) and in internal Standard Operating Procedures (FDEP SOPs). Methods for all analyses are on file at the FDEP Central Laboratory in Tallahassee and may be viewed on the web at http://www.dep.state.fl.us/labs/library/lab_sops.htm and/or http://www.dep.state.fl.us/water/sas/sop/sops.htm.

(2) Chemical Analyses of the Effluent

The effluent was analyzed for nutrients, metals, organic constituents (base, neutral, and acid extractables) and pesticides following FDEP SOPs. The results from these analyses were compared with Water Quality Criteria (62-302, F.A.C.) and facility permit limits.

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62.302.200(1), F.A.C., and 62-302.500(1)a, F.A.C., 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 62-302.200(5), F.A.C., and 62-302.530(108), F.A.C., and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(108), F.A.C., and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

(4) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of facility permit limits. Class III Water Quality Criteria are based on *Eschericia coli* and enterococci levels (F.A.C. 62-302.530(11)(c) and (d)).

(5) Chlorophyll *a* Content

Chlorophyll *a* content is an estimate algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may constitute exceedances of 62-302.530(89), F.A.C. 62-302.530(90)(a), F.A.C., and/or 62-302.530(90)(b), F.A.C..

(6) 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. The AGP range of 6.10 to 20.0 mg dry wt/L is suggested to be representative of high productivity for freshwater (Miler et al. 1978). High AGP values may constitute exceedances of 62-302.530(89), F.A.C., 62-302.530(90)(a), F.A.C. and/or 62-302.530(90)(b), F.A.C..

The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP in a low salinity sample 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 $\pm$ 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 (EPA-822-B-00-002). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(108) F.A.C. Expected AGP is not calculated for marine samples incubated with *Dunaliella*.

(7) Definition of Qualifiers

A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value
K - Actual value is known to be less than value given
L - Actual value is known to be greater than value given
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate
Z - Colonies were too numerous to count (TNTC)

Appendix C

Chemical analysis of effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	MACCLENNY COMP EFD	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.5 I	mg/L	0.2	2
08/14/17	MACCLENNY COMP EFD	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100 L	IC25		
08/14/17	MACCLENNY COMP EFD	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
08/14/17	MACCLENNY COMP EFD	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
08/14/17	MACCLENNY COMP EFD	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	100	NOEC		
08/14/17	MACCLENNY COMP EFD	Metals	Hardness	137	mg/L	0.35	1.4
08/14/17	MACCLENNY COMP EFD	Nutrients	NO2NO3-N	0.36	mg N/L	0.004	0.01
08/14/17	MACCLENNY COMP EFD	Nutrients	Kjeldahl Nitrogen	1.4	mg N/L	0.08	0.2
08/14/17	MACCLENNY COMP EFD	Nutrients	TSS	2 U	mg/L	2	10
08/14/17	MACCLENNY COMP EFD	Nutrients	Ammonia-N	0.77	mg N/L	0.02	0.05
08/14/17	MACCLENNY COMP EFD	Nutrients	Total-P	1.4	mg P/L	0.025	0.25
08/14/17	MACCLENNY COMP EFD	Nutrients	Organic Carbon	7.8	mg C/L	0.5	1
08/14/17	MACCLENNY GRAB EFD	AGP/LN	Algal Growth Potential	22.0 A	mg DryWt/L	0.3	0.9
08/14/17	MACCLENNY GRAB EFD	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40 U	µg/L	0.4	1.2
08/14/17	MACCLENNY GRAB EFD	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.3	µg/L	0.4	1.2
08/14/17	MACCLENNY GRAB EFD	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.4 I	µg/L	0.55	1.7
08/14/17	MACCLENNY GRAB EFD	Overflow	Fecal Coliforms-Membrane Filter	>6000 Z	cfu/100 mL	100	100
08/14/17	MACCLENNY GRAB EFD	Metals	Chromium	0.40 U	µg/L	0.4	1.6
08/14/17	MACCLENNY GRAB EFD	Metals	Magnesium	9.37	mg/L	0.04	0.16
08/14/17	MACCLENNY GRAB EFD	Metals	Potassium	6.3	mg/L	0.3	1.2
08/14/17	MACCLENNY GRAB EFD	Metals	Aluminum	20	µg/L	3	12
08/14/17	MACCLENNY GRAB EFD	Metals	Nickel	0.98	µg/L	0.2	0.8
08/14/17	MACCLENNY GRAB EFD	Metals	Iron	75 I	µg/L	30	120
08/14/17	MACCLENNY GRAB EFD	Metals	Selenium	0.20 U	µg/L	0.2	0.8
08/14/17	MACCLENNY GRAB EFD	Metals	Calcium	41.6	mg/L	0.075	0.3
08/14/17	MACCLENNY GRAB EFD	Metals	Copper	0.76 I	µg/L	0.2	0.8
08/14/17	MACCLENNY GRAB EFD	Metals	Mercury	0.89	ng/L	0.1	0.3
08/14/17	MACCLENNY GRAB EFD	Metals	Zinc	47	µg/L	5	20
08/14/17	MACCLENNY GRAB EFD	Metals	Silver	0.010 U	µg/L	0.01	0.04
08/14/17	MACCLENNY GRAB EFD	Metals	Cadmium	0.020 U	µg/L	0.02	0.08
08/14/17	MACCLENNY GRAB EFD	Metals	Arsenic	0.95	µg/L	0.05	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	MACCLENNY GRAB EFD	Metals	Sodium	30.6	mg/L	0.5	2
08/14/17	MACCLENNY GRAB EFD	Metals	Lead	0.16 I	µg/L	0.05	0.2
08/14/17	MACCLENNY GRAB EFD	Nutrients	Color (true)	22	PCU	2.5	6
08/14/17	MACCLENNY GRAB EFD	Nutrients	Chloride	37	mg Cl/L	0.2	0.5
08/14/17	MACCLENNY GRAB EFD	Nutrients	Fluoride	0.49	mg F/L	0.035	0.1
08/14/17	MACCLENNY GRAB EFD	Nutrients	NO2NO3-N	0.14	mg N/L	0.004	0.01
08/14/17	MACCLENNY GRAB EFD	Nutrients	Ammonia-N	0.36	mg N/L	0.02	0.05
08/14/17	MACCLENNY GRAB EFD	Nutrients	O-Phosphate-P	1.1	mg P/L	0.024	0.06
08/14/17	MACCLENNY GRAB EFD	Nutrients	Organic Carbon	7.8	mg C/L	0.5	1
08/14/17	MACCLENNY GRAB EFD	Nutrients	Total-P	1.2	mg P/L	0.025	0.25
08/14/17	MACCLENNY GRAB EFD	Nutrients	Total Alkalinity	114	mg CaCO3/L	0.65	2.5
08/14/17	MACCLENNY GRAB EFD	Nutrients	Turbidity	0.60	NTU	0.1	0.1
08/14/17	MACCLENNY GRAB EFD	Nutrients	Kjeldahl Nitrogen	1.1	mg N/L	0.08	0.2
08/14/17	MACCLENNY GRAB EFD	Nutrients	Sulfate	30	mg SO4/L	0.2	0.5
08/14/17	MACCLENNY GRAB EFD	Overflow	Cyanide	0.0047 I	mg/L	0.0025	0.01
08/14/17	MACCLENNY GRAB EFD	Pesticides	Fenuron	0.0080 U	µg/L	0.008	0.032
08/14/17	MACCLENNY GRAB EFD	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Metalaxyl	0.038 UJ	µg/L	0.038	0.15
08/14/17	MACCLENNY GRAB EFD	Pesticides	Metolachlor	0.057 UJ	µg/L	0.057	0.23
08/14/17	MACCLENNY GRAB EFD	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Bromacil	0.038 UJ	µg/L	0.038	0.15
08/14/17	MACCLENNY GRAB EFD	Pesticides	Butylate	0.019 U	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Demeton	0.023 U	µg/L	0.023	0.091
08/14/17	MACCLENNY GRAB EFD	Pesticides	Diazinon	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Fenamiphos	0.028 UJ	µg/L	0.028	0.11
08/14/17	MACCLENNY GRAB EFD	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Fluridone	4.0E-04 U	µg/L	0.0004	0.0016
08/14/17	MACCLENNY GRAB EFD	Pesticides	Mevinphos	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Naled	0.038 UJ	µg/L	0.038	0.15
08/14/17	MACCLENNY GRAB EFD	Pesticides	Imidacloprid	0.069	µg/L	0.0008	0.0032
08/14/17	MACCLENNY GRAB EFD	Pesticides	Linuron	0.0040 U	µg/L	0.004	0.016
08/14/17	MACCLENNY GRAB EFD	Pesticides	Acetaminophen	0.0080 U	µg/L	0.008	0.032
08/14/17	MACCLENNY GRAB EFD	Pesticides	Carbamazepine	0.13	µg/L	0.0004	0.0016
08/14/17	MACCLENNY GRAB EFD	Pesticides	Sucralose	25	µg/L	0.5	2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	MACCLENNY GRAB EFD	Pesticides	Atrazine	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Chlorpyrifos Ethyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Chlorpyrifos Methyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Ethion	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Malathion	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Simazine	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Phorate	0.0047 U	µg/L	0.0047	0.019
08/14/17	MACCLENNY GRAB EFD	Pesticides	Primidone	0.084	µg/L	0.004	0.016
08/14/17	MACCLENNY GRAB EFD	Pesticides	Atrazine Desethyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Ethoprop	0.0047 U	µg/L	0.0047	0.019
08/14/17	MACCLENNY GRAB EFD	Pesticides	Fonofos	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Diuron	0.0073	µg/L	0.0008	0.0032
08/14/17	MACCLENNY GRAB EFD	Pesticides	Alachlor	0.057 U	µg/L	0.057	0.23
08/14/17	MACCLENNY GRAB EFD	Pesticides	Atrazine Desisopropyl	0.011 U	µg/L	0.011	0.044
08/14/17	MACCLENNY GRAB EFD	Pesticides	Hexazinone	0.028 UJ	µg/L	0.028	0.11
08/14/17	MACCLENNY GRAB EFD	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.076
08/14/17	MACCLENNY GRAB EFD	Pesticides	Norflurazon	0.028 U	µg/L	0.028	0.11
08/14/17	MACCLENNY GRAB EFD	Pesticides	Parathion Methyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Pesticides	Disulfoton	0.0047 U	µg/L	0.0047	0.019
08/14/17	MACCLENNY GRAB EFD	Pesticides	Ametryn	0.0095 U	µg/L	0.0095	0.038
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8 U	µg/L	2.8	11
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8 U	µg/L	2.8	11
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Pentachlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Naphthalene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Nitrobenzene	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	µg/L	14	57
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Acenaphthylene	0.19 U	µg/L	0.19	0.75

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Phenanthrene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2-Chlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Phenol	0.94 UJ	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,4-Dichlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8 U	µg/L	2.8	11
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Chrysene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	1,4-Dioxane	0.25	µg/L	0.02	0.08
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2-Chloronaphthalene	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Acenaphthene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Hexachlorobenzene	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Isophorone	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 UJ	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,4-Dimethylphenol	9.4 U	µg/L	9.4	38
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	4-Nitrophenol	14 UJ	µg/L	14	57
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Benzidine	94 U	µg/L	94	380
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Di-n-octyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Hexachlorobutadiene	2.8 U	µg/L	2.8	11
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Hexachloroethane	2.8 U	µg/L	2.8	11

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2-Nitrophenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	µg/L	38	150
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Dimethyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	MACCLENNY GRAB EFD	Priority Organic Pollutants	Fluorene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Metals	Potassium	0.30 U	mg/L	0.3	1.2
08/14/17	FIELD BLANK	Metals	Zinc	5.0 U	µg/L	5	20
08/14/17	FIELD BLANK	Metals	Arsenic	0.050 U	µg/L	0.05	0.2
08/14/17	FIELD BLANK	Metals	Iron	30 U	µg/L	30	120
08/14/17	FIELD BLANK	Metals	Lead	0.050 U	µg/L	0.05	0.2
08/14/17	FIELD BLANK	Metals	Calcium	0.075 U	mg/L	0.075	0.3
08/14/17	FIELD BLANK	Metals	Sodium	0.50 U	mg/L	0.5	2
08/14/17	FIELD BLANK	Metals	Cadmium	0.020 U	µg/L	0.02	0.08
08/14/17	FIELD BLANK	Metals	Copper	0.58 I	µg/L	0.2	0.8
08/14/17	FIELD BLANK	Metals	Nickel	0.20 U	µg/L	0.2	0.8
08/14/17	FIELD BLANK	Metals	Chromium	0.40 U	µg/L	0.4	1.6
08/14/17	FIELD BLANK	Metals	Mercury	0.10 U	ng/L	0.1	0.3
08/14/17	FIELD BLANK	Metals	Silver	0.010 U	µg/L	0.01	0.04
08/14/17	FIELD BLANK	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
08/14/17	FIELD BLANK	Metals	Selenium	0.20 U	µg/L	0.2	0.8
08/14/17	FIELD BLANK	Metals	Aluminum	3.0 U	µg/L	3	12
08/14/17	FIELD BLANK	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
08/14/17	FIELD BLANK	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
08/14/17	FIELD BLANK	Nutrients	Color (true)	2.5 U	PCU	2.5	6
08/14/17	FIELD BLANK	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
08/14/17	FIELD BLANK	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
08/14/17	FIELD BLANK	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
08/14/17	FIELD BLANK	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
08/14/17	FIELD BLANK	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
08/14/17	FIELD BLANK	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
08/14/17	FIELD BLANK	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
08/14/17	FIELD BLANK	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	FIELD BLANK	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
08/14/17	FIELD BLANK	Overflow	Cyanide	0.0025 U	mg/L	0.0025	0.01
08/14/17	FIELD BLANK	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Fenuron	0.0080 U	µg/L	0.008	0.032
08/14/17	FIELD BLANK	Pesticides	Linuron	0.0040 U	µg/L	0.004	0.016
08/14/17	FIELD BLANK	Pesticides	Alachlor	0.057 U	µg/L	0.057	0.23
08/14/17	FIELD BLANK	Pesticides	Demeton	0.023 U	µg/L	0.023	0.091
08/14/17	FIELD BLANK	Pesticides	Hexazinone	0.028 UJ	µg/L	0.028	0.11
08/14/17	FIELD BLANK	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Simazine	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Fluridone	4.0E-04 U	µg/L	0.0004	0.0016
08/14/17	FIELD BLANK	Pesticides	Atrazine Desisopropyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Butylate	0.019 U	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Chlorpyrifos Ethyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Diazinon	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Sucralose	0.010 U	µg/L	0.01	0.04
08/14/17	FIELD BLANK	Pesticides	Ametryn	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Ethoprop	0.0047 U	µg/L	0.0047	0.019
08/14/17	FIELD BLANK	Pesticides	Metolachlor	0.057 UJ	µg/L	0.057	0.23
08/14/17	FIELD BLANK	Pesticides	Primidone	0.0040 U	µg/L	0.004	0.016
08/14/17	FIELD BLANK	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Bromacil	0.038 UJ	µg/L	0.038	0.15
08/14/17	FIELD BLANK	Pesticides	Disulfoton	0.0047 U	µg/L	0.0047	0.019
08/14/17	FIELD BLANK	Pesticides	Ethion	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Fenamiphos	0.028 UJ	µg/L	0.028	0.11
08/14/17	FIELD BLANK	Pesticides	Carbamazepine	4.0E-04 U	µg/L	0.0004	0.0016
08/14/17	FIELD BLANK	Pesticides	Atrazine Desethyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Chlorpyrifos Methyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Fonofos	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Metalaxyl	0.038 UJ	µg/L	0.038	0.15
08/14/17	FIELD BLANK	Pesticides	Mevinphos	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Phorate	0.0047 U	µg/L	0.0047	0.019
08/14/17	FIELD BLANK	Pesticides	Imidacloprid	8.0E-04 U	µg/L	0.0008	0.0032

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	FIELD BLANK	Pesticides	Naled	0.038 UJ	µg/L	0.038	0.15
08/14/17	FIELD BLANK	Pesticides	Norflurazon	0.028 U	µg/L	0.028	0.11
08/14/17	FIELD BLANK	Pesticides	Diuron	8.0E-04 U	µg/L	0.0008	0.0032
08/14/17	FIELD BLANK	Pesticides	Atrazine	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Malathion	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Parathion Methyl	0.0095 U	µg/L	0.0095	0.038
08/14/17	FIELD BLANK	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.076
08/14/17	FIELD BLANK	Pesticides	Acetaminophen	0.0080 U	µg/L	0.008	0.032
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	1,4-Dioxane	0.020 U	µg/L	0.02	0.08
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Dimethyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	2-Chlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,4-Dichlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Isophorone	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Chrysene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,4-Dimethylphenol	9.4 U	µg/L	9.4	38
08/14/17	FIELD BLANK	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	µg/L	38	150
08/14/17	FIELD BLANK	Priority Organic Pollutants	4-Nitrophenol	14 U	µg/L	14	57
08/14/17	FIELD BLANK	Priority Organic Pollutants	Acenaphthene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Fluorene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Hexachlorobenzene	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	Pentachlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94 U	µg/L	0.94	3.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
08/14/17	FIELD BLANK	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzidine	94 U	µg/L	94	380
08/14/17	FIELD BLANK	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Naphthalene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Phenanthrene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	µg/L	14	57
08/14/17	FIELD BLANK	Priority Organic Pollutants	2-Chloronaphthalene	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	Hexachlorobutadiene	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	Hexachloroethane	2.8 U	µg/L	2.8	11
08/14/17	FIELD BLANK	Priority Organic Pollutants	Phenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	2-Nitrophenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	Di-n-octyl phthalate	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	µg/L	0.19	0.75
08/14/17	FIELD BLANK	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	Nitrobenzene	1.9 U	µg/L	1.9	7.5
08/14/17	FIELD BLANK	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94 U	µg/L	0.94	3.8
08/14/17	FIELD BLANK	Priority Organic Pollutants	Acenaphthylene	0.19 U	µg/L	0.19	0.75

EPA End Sheet

The Bioassay of Macclenny WWTF effluent sampled on August 14, 16, and 18, 2017. NPDES #FL0040495.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 0 4 9 5 11	12 1 7 0 8 1 4	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Macclenny WWTF effluent sampled on August 14, 16, and 18, 2017. NPDES #FL0040495.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 0 4 9 5 11	12 1 7 0 8 1 4	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Macclenny WWTF effluent sampled on August 14, 16, and 18, 2017. NPDES #FL0040495.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 4 0 4 9 5 11	12 1 7 0 8 1 4	18 **S**	19 **S**	20 1

Remarks

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