Effluent Quality Assessment of USN Naval Station Mayport Wastewater Treatment Facility Duval County NPDES # FL0000922 Sampled July 21, 25, 27, and 29, 2022

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

During the chronic definitive bioassay, the effluent time-proportioned composite sample IC25 for the mysid, *Americamysis bahia*, did not comply with effluent flow-proportioned permit limits. Effluent copper and nickel levels complied with effluent permit limits but exceeded Class III Water Quality Criteria for Marine Waters (Subsections 62-302.530(23 and 44, respectively), F.A.C.). The nutrient and AGP results suggest a potential for nutrient enrichment of the receiving waters. Nineteen organic constituents were detected in the effluent grab sample. Oils and greases were detected in the field blank between the (method detection level) MDL and practical quantitation level (PQL).

Facility Overview

The USN Naval Station Mayport wastewater treatment facility is a domestic wastewater treatment facility. A Facility Summary, including a description of the facility, summary of permit limits, and any relevant Administrative Order (AO), Consent Order (CO), and Discharge Monitoring Report (DMR) information is provided in Appendix A. The effluent is intermittently discharged into St. Johns River, a Class III Marine Water [waterbody identification (WBID) 2213A] (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for St. Johns River within the Lower St. Johns region. For this region, the NNC are 722,834 kg/yr total phosphorus, 1,376,855 kg/yr total nitrogen, and 5.4 µg/L chlorophyll *a* (Paragraph 62-302.532(1)(bb), F.A.C.). For Class III predominantly marine waters, the daily average dissolved oxygen (DO) saturation shall not be below 42 percent in more than 10 percent of the values (Subsection 62-302.533(2), F.A.C.). This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

An equipment blank was collected on July 21, 2022. Effluent grab samples were collected from monitoring site location EFD-01, for outfall D-001 on July 25 and July 27, 2022. Effluent samples taken as 24-hour time proportioned composite samples were collected from monitoring site location EFD-01, for outfall D-001 on July 25, 2022. Effluent renewal composite samples were collected on July 27 and July 29, 2022. The permit specifies flow proportioned composite samples and time proportioned composite samples were collected due to sampling equipment limitations.

Samples were collected by Taylor Parks, Shannon Taylor, Antonio Cruz, Abhi Maturi, Conor Lucey and Jaena Bernard (Northeast District Office). Analyses were performed by Diversified Environmental Laboratories, Inc. in Jacksonville, Eurofins Test America Laboratories in Tampa, and DEP Laboratory in Tallahassee.

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

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

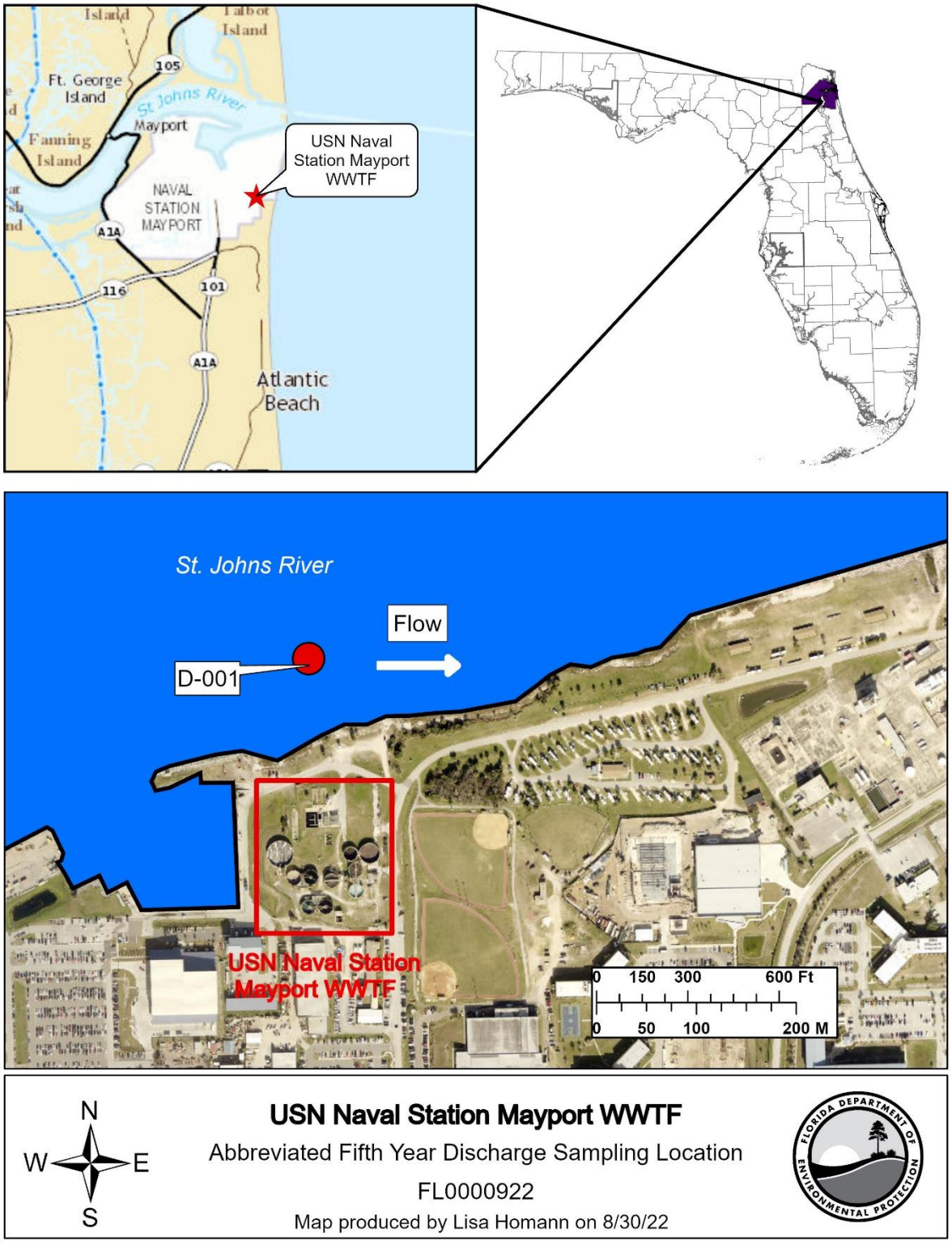


Figure 1. Map of Facility and Discharge Location

Results

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

- All effluent water quality parameters complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits.

Analytical Water Chemistry (See Table 2 and Appendix D)

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

Microbiology (See Table 2 and Appendix B)

- Effluent enterococci levels complied with Class III Water Quality Criteria for Marine Waters and effluent permit limits. Fecal coliform levels complied with effluent permit limits.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed July 26 through August 2, 2022.

- Chronic bioassay results are reported as the 25% Inhibition Concentration (IC25). 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 62-302.200(5), Subsection 62-302.530(20) and/or facility permit limits.

- During the chronic definitive bioassay, the effluent time-proportioned composite sample IC25 for the mysid, *Americamysis bahia,* was calculated as 71.6% effluent. This did not comply with flow-proportioned effluent permit limits.

- During the chronic definitive bioassay, the effluent time-proportioned composite sample IC25 for the fish, *Menidia beryllina,* was calculated as being greater than 100% effluent, and therefore complied with flow-proportioned effluent permit limits.

- Aliquots of the bioassay sample were salinity-adjusted according to method requirements from an apparent salinity of approximately 3.6 parts per thousand (ppth) to a salinity of approximately 20.1 ppth for the *Americamysis bahia* test and to a salinity of approximately 5.1 ppth for the *Menidia beryllina test*. Control mortality, for both the test controls and salt-adjusted control, were within method acceptance criteria.

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

Metals (See Table 3 and Appendix D)

- Effluent copper and nickel levels complied with effluent permit limits but exceeded Class III Water Quality Criteria for Marine Waters (Subsections 62-302.530(23 and 44, respectively), F.A.C.).

- All other effluent metals complied with effluent permit limits and Class III Water Quality Criteria for Maine Waters.

Algal Growth Potential (See Table 4 and Appendix B)

- The marine species, *Dunaliella tertiolecta*, was used to determine the AGP values in the effluent grab sample. The analytical chemistry suggests that the effluent is nitrogen-limited (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 3.1 parts per thousand (ppth) to a salinity of approximately 7.1 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta*.

- The salinity adjusted AGP is 34.8 mg dry wt/L. Raschke and Shultz (1987) determined that AGP values above 10.0 mg dry weight/L, which represents a "problem" threshold for marine receiving waters, imply nutrient enrichment.

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, azoxystrobin, bromacil, chlorfenapyr, dithiopyr, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, flutolanil, hexazinone, loratadine, myclobutanil, oxadiazon, propiconazole, sulfentrazone, tebuconazole and dibromochloromethane was detected in the effluent grab sample.

- Bromodichloromethane levels complied with the annual average effluent permit limit.

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.

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

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

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

Table 1. Measured field parameters

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

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent EFD-01 7/25	Effluent EFD-01 7/27
Temperature	C	-	-	28.9	28.8
pH	SU	6.5 - 8.5	6.5 - 8.5	6.9	6.9
Specific Conductance	µmhos/cm	-	-	-	5759
Salinity	ppth	-	-	3.5	3.1 c
Dissolved Oxygen	% saturation	≥ 42.0	-	-	100.2
Dissolved Oxygen	mg/L	-	≥ 5.0 s	7.7	7.6

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

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

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent composite	Effluent grab 7/25	Effluent grab 7/27
Ortho-phosphate	mg P/L	-	Report	-	2.1	-
Total Phosphorus	mg P/L	-	Report	2.5	2.2	-
Total Ammonia	mg N/L	-	-	0.01	0.084	-
Un-ionized Ammonia (measured salinity)	mg N/L	-	-	< 0.02 c	-	-
Nitrate and Nitrite	mg N/L	-	Report	17	17	-
Total Kjeldahl Nitrogen	mg N/L	-	Report	1.1 J	1.0	-
Organic Nitrogen	mg N/L	-	Report	1.1 c	0.9 c	-
Total Nitrogen	mg N/L	-	Report	18 c	18 c	-
Total Organic Carbon	mg C/L	-	-	7.7 A	11	-
Chlorophyll *a* - Corrected	µg/L	-	-	-	-	3.0
Phaeophytin	µg/L	-	-	-	-	0.90 U
Chlorophyll *a*	µg/L	≤ 5.4 g	-	-	-	-
CBOD, 5 day, N - inhibited	mg/L	-	≤ 60.0 sp	2.0 U	-	-
Hardness	mg CaCO3/L	-	-	-	841 c	-
Total Suspended Solids	mg/L	-	≤ 60.0 sp	4 I	-	-
Total Dissolved Solids	mg/L	-	Report	-	-	-
Turbidity	NTU	≤ 29 t	-	-	1.2 A	-
Color (true)	PCU	-	-	-	15 A	-
Alkalinity	mg CaCO3/L	-	-	-	126 A	-
Chloride	mg Cl/L	-	-	-	1,900 A	-
Cyanide	mg/L	≤ 1.0	-	-	-	-
Fluoride	mg F/L	≤ 5.0	-	-	0.74	-
Sulfate	mg SO4/L	-	-	-	350 A	-
Oils and Greases[1]	mg/L	-	≤ 5.0 s	-	3.1 I	-
Fecal Coliforms	cfu/100 mL	-	≤ 800 s	-	-	2 U
Enterococci	#/100mL	≤130	≤ 130	-	-	10.0 U
Bioassay - Mysid *(Americamysis bahia)*	% effluent	-	≥ 100 sp	71.6 e	-	-
Bioassay - Fish *(Menidia beryllina)*	% effluent	-	≥ 100 sp	> 100	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
A - Value reported is the mean of two or more determinations
c - Value is calculated
e- Value exceeds the Class III Water Quality Criteria or permit limits
g - Value expressed as an annual geometric mean
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

J - Estimated value
p- 16-hr flow proportioned composite
s - Single sample
t - Shall not exceed 29 NTUs above background
U - Material analyzed for but not detected; value reported is the method detection limit
1- Analyte detected in the blank

Table 3. Analytical metals data

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent composite	Effluent grab 7/25
Aluminum	µg/L	≤ 1,500	-	-	17 I
Arsenic	µg/L	≤ 50	-	-	0.65
Cadmium	µg/L	≤ 8.8	-	-	0.196
Calcium	mg/L	-	-	-	101
Chromium, Total [2]	µg/L	≤ 50	-	-	0.40 U
Copper	µg/L	≤ 3.7	≤ 74 sp[3]	51.9	52.6
Iron	µg/L	≤ 300	≤ 300,000 sp	49 I	48 I
Lead	µg/L	≤ 8.5	≤ 8.5 sp	0.20 U	0.20 U
Magnesium	mg/L	-	-	-	143
Mercury	µg/L	≤ 0.025	≤ 0.025 sp	-	0.001
Nickel	µg/L	≤ 8.3	≤ 26 sp[3]	19.6	19.4
Potassium	mg/L	-	-	-	47.5
Selenium	µg/L	≤ 71	-	-	0.20 U
Silver	µg/L	≤ 2.3	-	-	0.013 I
Sodium	mg/L	-	-	-	1,030
Zinc	µg/L	≤ 86	-	-	51

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
p- 16-hr flow proportioned composite
s - Single sample
U - Material analyzed for but not detected; value reported is the method detection limit

2- Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI
3- Within the mixing zone area

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	*Dunaliella tertiolecta*	34.8 A *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	8.1	8.2

* - sample salinity adjusted to 7.1 ppth

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

4 - predictions not applicable to marine matrix

Table 5. Detected Organic Constituents

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

Analyte	Units	Class III Criteria	Effluent Permit Limits	Effluent grab 7/25
Atrazine	ng/L	-	-	0.97
Azoxystrobin	ng/L	-	-	7.4
Bromacil	ng/L	-	-	3.0
Chlorfenapyr	ng/L	-	-	0.78
Dithiopyr	ng/L	-	-	0.17 I
Fipronil	ng/L	-	-	14
Fipronil Desulfinyl	ng/L	-	-	0.28 I
Fipronil Sulfide	ng/L	-	-	2.8
Fipronil Sulfone	ng/L	-	-	6.3
Fludioxonil	ng/L	-	-	0.92
Flutolanil	ng/L	-	-	0.34 I
Hexazinone	ng/L	-	-	1.9 I
Loratadine	ng/L	-	-	8.2
Myclobutanil	ng/L	-	-	0.56 I
Oxadiazon	ng/L	-	-	2.8
Propiconazole	ng/L	-	-	1.2 I
Sulfentrazone	ng/L	-	-	51
Tebuconazole	ng/L	-	-	25
Dibromochloromethane	µg/L	-	≤ 3.0 a	0.46 I

a- Annual average

I-The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event

Prepared By: Antonio Cruz	**Contact Number:** 904-256-1544
Facility Name (as it appears on permit): USN Naval Station Mayport WWTF	**Former Names:**
NPDES Permit Number: FL0000922	**Permit Expiration Date:** 12/05/2024
Physical Address: U.S. Naval Station Mayport WWTF, Building 285 Bon-Homme Richard Street, Mayport Florida 32228	
District: Northeast	**County:** Duval

Function of Facility:
This facility treats domestic wastewater from the USN Naval Station Mayport's collection system to the standards of the National Pollutant Discharge Elimination System (NPDES) program. The effluent is discharged to the St. Johns River.

Facility Type: Domestic Wastewater Major NPDES	**Permitted Capacity (MGD):** 2.0 MGD

Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months):

Annual Average
D-001 - June 2021 – May 2022 - 0.628 MGD

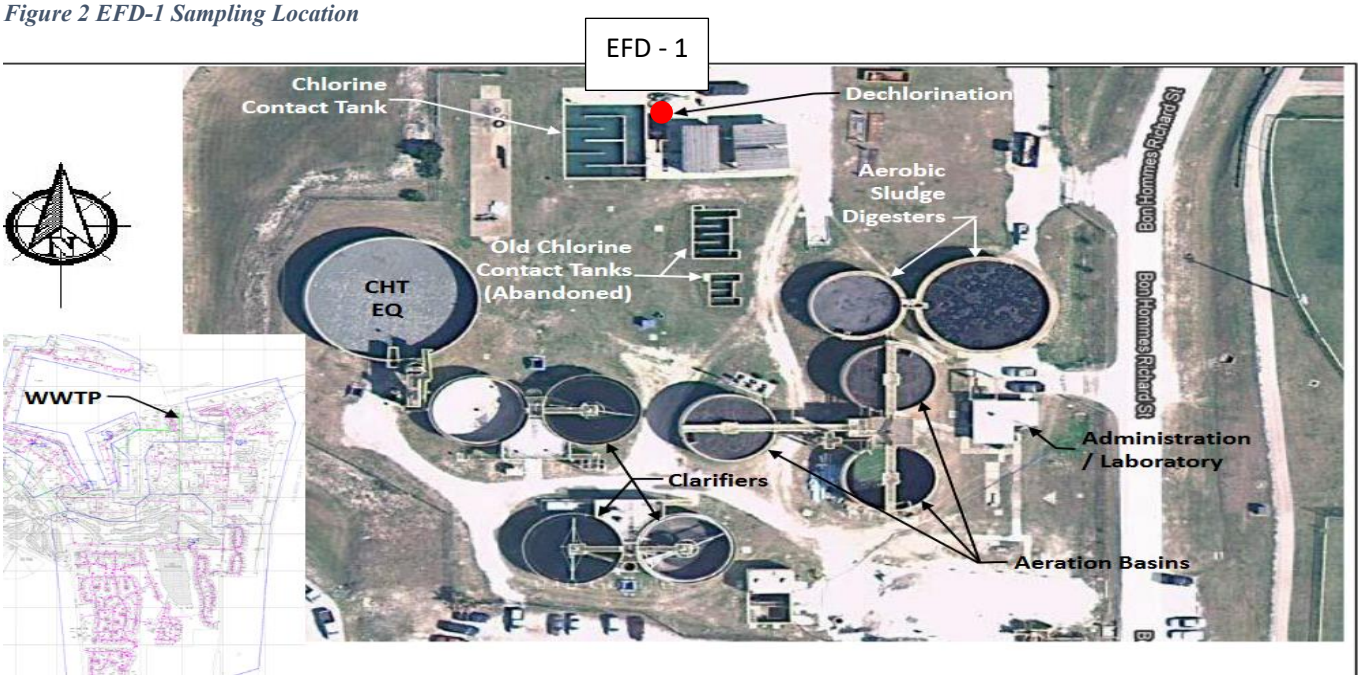
Monthly Averages
D-001 - 05/31/2022 - 0.569 MGD
D-001 - 04/30/2022 - 0.539 MGD
D-001 - 03/31/2022 - 0.520 MGD
D-001 - 02/28/2022 - 0.512 MGD
D-001 - 01/31/2022 - 0.571 MGD
D-001 - 12/31/2021 - 0.547 MGD
D-001 - 11/30/2021 - 0.661 MGD
D-001 - 10/31/2021 - 0.626 MGD
D-001 - 09/30/2021 - 0.667 MGD
D-001 - 08/31/2021 - 0.687 MGD
D-001 - 07/31/2021 - 0.573 MGD
D-001 - 06/30/2021 - 0.582 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):
EFA – 1 Effluent, immediately after disinfection prior to dechlorination
EFB – 1 Effluent, immediately prior to discharge into the disinfection contact chamber
EFD – 1 Final effluent, after final treatment and prior to discharge to St. Johns River (immediately following dechlorination if chlorination was used)

Figure 2 EFD-1 Sampling Location



CAL – 1 Calculated percent three-month average daily flow
CAL – 2 Calculated percent removal of CBOD5 or TSS
CAL – 3 Calculated length of longest excursion or percent of time exceeding pH
CAL – 4 Calculated total mass load of total nitrogen or TP
SWD – 1 Approximately at latitude: 30°23' 48.27" N and longitude: 81°24' 6.37" W
SWD – 2 Approximately at latitude: 30°23' 59.902"N and longitude: 81°23' 53.881" W
SWD – 3 Approximately at latitude: 30°24' 4.56" N and longitude: 81°24' 23.08" W

Figure 3 Surface Water sampling locations for FL00009222



Description of Permitted Outfall(s):

D-001: A 22-inch diameter high-density polyethylene (HDPE) pipe that connects to an approximately 130-foot long, 18-inch diameter HDPE diffuser. The diffuser includes six, 6-in diameter HDPE risers each with two, 6-in diffuser ports. The diffuser is located approximately 160-ft offshore and 20-ft below the water surface within the NS Mayport Turning Basin. The point of discharge (POD) is located approximately at latitude 30°23' 42.78" N, longitude 81°24' 13" W.

Figure 4 Location of permitted discharge location



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

A. Existing Wastewater Treatment Facility:
To operate an existing 2.0 million gallon per day (MGD) annual average daily flow (AADF) permitted capacity complete mix conventional activated sludge wastewater treatment facility (WWTF) consisting of two separate headworks, one serves the base and the second serves ships in port. Both headworks perform influent screening and grit removal, with the flows from the ship headworks going to a 615,000-gallon on-line flow equalization tank, three equal volume aeration tanks (722,000 gallons total), three equal size secondary clarifiers (total of 4770 square feet of surface area) and a single 87,000-gallon chlorine contact chamber. Effluent disinfection is achieved either by a sodium hypochlorite chlorination system using sodium hypochlorite followed by dechlorination using sodium bisulfite, or by a peracetic acid (PAA) disinfection system. Biosolids treatment is performed in two aerobic digesters (tanks are in series) with a total volume of 521,000 gallons to meet Class B stabilization requirements and applied on DEP-permitted land application sites.

Figure 5 Aerial View of Existing Wastewater Treatment Facility



B. Construction New Wastewater Treatment Facility:

A new advanced wastewater treatment facility (AWTF) will be constructed to replace the existing complete mix conventional activated sludge facility. The new advanced wastewater treatment facility will consist of the treatment units:

a. Shore Wastewater Headworks:
   The shore wastewater headworks will include:
   i. Two mechanical cleaned bar screens, each of which will have a capacity of 3.0 MGD, a screen opening of 6.0 mm (0.23 inch), a screen width of 2.5 feet;
   ii. Two parallel channels; each of which will be 2.5 ft width x 5 ft depth x 2.36 ft upstream water level and 1.5 ft downstream water level;
   iii. One dewatering screw press with a screening volume of 2 ft3 per day, a screening disposal container volume of 4 yd3, powered by 3 hp;
   iv. One vortex grit separator which will have a capacity of 2.5 MGD, 7 ft in diameter, 9.5 ft depth, 7 ft maximum outlet water depth, and be powered by 0.75 hp;
   v. One grit washer and conveyor.

b. Shore Wastewater Lift Station:
   Shore wastewater lift station will have a design capacity of 1,390 gpm @ 62 ft TDH, four (3 duty + 1 standby) variable speed centrifugal pumps (20 hp power and 1,800 revolutions per minute).

c. Ships Wastewater Headworks:
   The ships wastewater headworks will include:
   i. Two mechanical cleaned bar screens, each of which will have a capacity of 3.0 MGD, a screen opening of 6.0 mm (0.23 inch), a screen width of 2.5 feet;
   ii. Two parallel channels; each of which will be 2.5 ft width x 5 ft depth x 2.36 ft upstream water level and 1.5 ft downstream water level;
   iii. Two dewatering screw press with a screening volume of 2 ft 3 per day, a screening disposal container volume of 4 yd3, powered by 3 hp;
   iv. One vortex grit separator which will have a capacity of 2.5 MGD, 7 ft in diameter, 9.5 ft depth, 7 ft maximum outlet water depth, and be powered by 0.75 hp;

v. One grit washer and conveyor.
vi. Two ships wastewater foam generation channels, each of which will be 26.5 ft long x 3ft wide x 9 ft deep; the channels lie between the grit removal chambers and the lift station.

d. Ships Wastewater Lift Station:
Ships wastewater lift station will have a design capacity of 3,900 gpm @ 35 ft TDH, four (3 duty + 1 standby) constant speed centrifugal pumps (25 hp power and 1,800 revolutions per minute).

e. Ships Wastewater Salt Balancing System:
The ships wastewater salt balancing system includes:
i. A salinity sensor and automated flow splitter which is design to direct flow to different tanks based on salinity concentration;
ii. Four salt 377,000-gallon balancing and diversion tanks; each of which will have dimensions of 50 ft in length x 36 ft in width x 28 ft water depth. One of the four tank will serve division for offside disposal; the three other tanks will use to store high or low salinity wastewater.
iii. Four mechanical mixers, each of which will have a mixer impeller diameter of 98.4 inches, mixer horsepower of 5 hp, a mixing capacity of 14,132 ft 3/min;
iv. A salt balancing flow splitter and controller system which includes salinity probes, salinity meters, salinity controllers, automated plug valves, and automatic valve controller;
v. Four salt balancing return and disposal pumps, each of which will have a design capacity of 250 gpm at 26 ft TDH, 5 hp and 1,175 rpm.

f. Flow Equalization System:
The flow equalization system includes:
i. Two 942,500-gallon flow equalization tanks, each of which will be 90 ft in length x 50ft in width x 28 ft side water depth;
ii. Four Mechanical mixers (two for each EQ tank), each mechanical mixer will have an impeller diameter of 98.4 inches, 5 hp, capacity of 14,132 ft 3/min;
iii. One EQ tanks delivery pumps system which includes three 25-hp variable frequency drive centrifugal pumps with a design capacity of 475 gpm at 35 ft TDH.

g. Odor Control System:
The salt balancing tanks and equalization tanks will be filled with flat, FRP covers, and the interior gases withdraws and conveyed to an order control system which includes:
i. One wet chemical scrubber which is 5 ft in diameter, 23.75 ft height;
ii. One 4,600-gallon sodium hypochlorite storage and appurtenances
iii. One odor control blower (powered by 15 hp, having a flow capacity of 7,200 scfm).

h. Biological Nutrient Removal Treatment System:
The BNR treatment system will include four treatment stages: (1) Primary Anoxic; (2) Primary Aerobic; (3) Secondary Anoxic; and (4) Secondary Aerobic:
i. Primary Anoxic: The primary anoxic zone consists of:
1. Three 75,082-gallon anoxic tanks (33.75 ft (length) x 18.75 ft (width) x 20.64ft (side water depth)); hydraulic retention time of each anoxic tank is 2.0 hours;
2. Each anoxic tank is equipped with a mechanical mixer (21 ft shaft length, 98.4 inches impeller diameter, 1 hp motor, 16 rmp) which has a mixing capacity of 8379 cft per minute.
ii. Primary Aerobic: The primary aerobic zone consists of:
1. Four 150,000-gallon aeration tanks (85 ft (length) x 13.75 ft (width) x 20.0 ft (side water depth)); hydraulic retention time of each aerobic tank is 12.0 hours;
2. Each of the primary aeration tank is equipped with 270 fine bubble diffusers (ADF270 (9") model, manufactured by SSI) which are divided into two zones: Zone 1 consist of 150 fine bubble diffusers, and Zone 2 consist of 120 fine bubble diffusers. The total number of fine bubble diffusers in the four aeration tanks are 1080.
3. Three (two duty, one standby) aeration blowers which provide a design are flow of 2,900 scfm. The blower is powered by 100-hp motor, screw positive displacement

type, model D52S, manufactured by Aerzen.
4. Three internal recycle pumps which have design capacity of 2,175 gpm, powered by 40 hp motor;
5. Three return sludge pumps which have design capacity of 300 gpm, powered by 5 hp motor.

iii. Secondary Anoxic: Secondary anoxic zone consists of:
1. Two 60,770-gallon secondary anoxic tanks (25.25 ft (length) x 16.75 ft (width) x 19.15 ft (side water depth)); hydraulic retention time of each anoxic tank is 3.24 hours;
2. Each anoxic tank is equipped with a mechanical mixer (20 ft shaft length, 98.4 inches impeller diameter, 1 hp motor, 16 rpm) which has a mixing capacity of 8379 cft per minute.

iv. Secondary Aerobic/Reaeration: Secondary aerobic zone consists of:
1. Two 40,455-gallon aeration tanks (25.25 ft (length) x 11.3 ft (width) x 19.0 ft (side water depth)); hydraulic retention time of each anoxic tank is 1.1 hours;
2. Each the primary aeration tank is equipped with 50 fine bubble diffusers (ADF270 (9") model, manufactured by SSI). The total number of fine bubble diffusers in the two pre-aeration tanks are 100.

v. Carbon Source Solution:
1. Micro-C (100 mg/L) will be pump to the anoxic tanks to provide a carbon source for the denitrification process.
2. One 2000-gallone double walled bulk storage tank and feed pumps for the carbon solution.

i. Secondary Clarification System: the secondary clarifier system will comprise:
i. Three 45-ft diameter secondary clarifiers, each of which has an external diameter of 45 ft, an internal diameter of 36 ft, centerwell diameter of 13.5 ft, centerwell skirt length of 6.6 ft, sidewater depth of 17.5 ft, surface overflow rate of 290 gpd per square feet.
ii. Three return activated sludge (RAS) pump stations, each will have a capacity of 450 gpm @ 20 ft TDH, 10 hp;
iii. One waste activated sludge (WAS) control valve, having a capacity of 50 gpm, 0.5 hp;

j. Metals Precipitation System: The metals precipitation system consists of:
i. Two metals precipitation skids with a design capacity of 0.9 MGD AADF; each metal precipitation skid will be 17.37 ft (length) x 28.3 ft (width) x 10.92 ft (side water depth))
ii. Treatment chemical storage tanks for Ferric @ 40%, Caustic @25%, Sulfuric acid @ 93%, anionic and cationic polymers.

k. Effluent Filtration System: The effluent filter system consists of:
i. Four continuous self-backwash sand filters, each of which is 11.33 ft in diameter, 100sq.ft surface area, 6.67 ft media depth, 5.0 gpd/ft2 surface loading rate and has a filter capacity of 500.0 gpm;
ii. Three 25-hp filter feed pumps which have design capacity of 1,085 gpm.

l. Effluent Neutralization System: The effluent neutralization system includes:
i. Two neutralization tanks (9.5 ft (length) x 8.3 ft (width) x 14.5 ft (height) with 12.5 ft (side water depth))
ii. One neutralization chemical (sulfuric acid, caustic) metering system consisting of pH probes, feed pumps.

m. Peracetic Acid (PAA) Disinfection System: The PAA disinfection consists of:
i. One concrete disinfection tank (21,700 gallons, 12.5 ft (side water depth))
ii. One 3,000-gallon bulk storage tank; two PAA metering pumps, one mixer.

n. Aerated Sludges Storage System: The aerated sludge/biosolids storage system consists of:
i. One above grade circular tank (24 ft (diameter), 20 ft (height), 18 ft (side water depth));
ii. Sixteen 24-inch coarse bubble diffusers;
iii. One 25-hp WAS pump.

PART I: Continued

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

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Flow (thru the WWTF)	MGD	Max	2.0	Annual Average	Continuous	Recording Flow Meter with Totalizer	EFD – 1	See I.A.4
		Max	Report	Monthly Average				
		Max	Report	3-Mon Average Daily Flow				
Percent Capacity, (TMADF/Permitted Capacity) x 100	percent	Max	Report	Monthly Average	Monthly	Calculated	CAL – 1	
BOD, Carbonaceous 5- day, 20C	mg/L	Max	20.0	Annual Average	Weekly	16-hr FPC	EFD – 1	
		Max	25.0	Monthly Average				
		Max	45.0	Weekly Average				
		Max	60.0	Single Sample				
CBOD, % Removal, 5-day	percent	Min	85	Monthly Average	Monthly	Calculated	CAL – 2	See I.A.6

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Solids, Total Suspended	mg/L	Max	20.0	Annual Average	Weekly	16-hr FPC	EFD – 1	
		Max	30.0	Monthly Average				
		Max	45.0	Weekly Average				
		Max	60.0	Single Sample				
Solids, Total Suspended, % Removal	percent	Min	85	Monthly Average	Monthly	Calculated	CAL – 2	See I.A.6
pH	s.u.	Min	6.5	Single Sample	Continuous	Meter	EFD – 1	See I.A.3
		Max	8.5	Single Sample				
Length of Longest pH Excursion	min	Max	60	Single Sample	Monthly	Calculated	CAL – 3	See I.A.15
% of Time Exceeding pH Limits	percent	Max	1.0	Single Sample	Monthly	Calculated	CAL – 3	See I.A.15
Coliform, Fecal	#/100mL	Max	200	Monthly Geometric Mean	Weekly	Grab	EFD – 1	See I.A.8
		Max	200	Annual Average				
		Max	800	Single Sample				

			Effluent Limitations		**Monitoring Requirements**			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Enterococci	#/100mL	Max	35	Monthly Geometric Mean	5/Month	Grab	EFD – 1	See I.A.9
	#/100mL	Max	130	90th Percentile				
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily	Grab	EFD – 1	See I.A.14
Peracetic Acid (PAA) Dosage	mg/L	Min	2.0	Single Sample	Continuous	Meter	EFB-1	See I.A.12
Peracetic Acid (PAA) Residual Or for Backup	mg/L	Max	1.0	Single Sample	Daily, 24hours	Grab	EFD-1	See I.A.12
Chlorine, Total Residual (For Disinfection)	mg/L	Min	0.5	Single Sample	Continuous *(When Chlorine is being used)*	Meter	EFA – 1	See I.A. 11
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Daily; 24 hours *(When Chlorine is being used)*	Grab	EFD – 1	See I.A.7
Petrol Hydrocarbons, Total Recoverable	µg/L	Max	Report	Single Sample	Weekly	Grab	EFD – 1	
	µg/L	Max	Report	Monthly Average				
Oil and Grease	mg/L	Max	5.0	Single Sample	Weekly	Grab	EFD – 1	See I.A.7

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Surfactants (MBAS)	mg/L	Max	0.5	Single Sample	Weekly	16-hr FPC	EFD– 1	See I.A.7
Nitrogen, Total (as N)	mg/L	Max	Report	Annual Average	Weekly	16-hr FPC	EFD – 1	
		Max	Report	Monthly Average				
		Max	Report	Single Sample				
Nitrogen, Total, (as N)	Lb/yr	Max	Report	Annual Total	Monthly	Calculated	CAL-4	See I.A.16
	Lb/Month	Max	Report	Monthly Total				
Phosphorus, Total (as P)	mg/L	Max	Report	Annual Average	Weekly	16-hr FPC	EFD – 1	
		Max	Report	Monthly Average				
		Max	Report	Single Sample				
Phosphorus, Total (as P)	Lb/yr	Max	Report	Annual Total	Monthly	Calculated	CAL-4	See I.A.16
	Lb/Month	Max	Report	Monthly Total				

			Effluent Limitations		**Monitoring Requirements**			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Copper, Total Recoverable *(within the mixing zone area)*	µg/L	Max	74	Single Sample	Monthly	16-hr FPC	EFD – 1	See I.A.17
Nickel, Total Recoverable *(within the mixing zone area)*	µg/L	Max	26	Single Sample	Monthly	16-hr FPC	EFD – 1	See I.A.18
Iron, Total Recoverable	mg/L	Max	300.0	Single Sample	Monthly	16-hr FPC	EFD – 1	See I.A.7
Lead, Total Recoverable	µg/L	Max	8.5	Single Sample	Monthly	16-hr FPC	EFD – 1	See I.A.7
Mercury, Total Recoverable	µg/L	Max	0.025	Single Sample	Monthly	Grab	EFD – 1	See I.A.13
Bromoform	µg/L	Max	360.0	Annual Average	Quarterly *(only when using chlorine as disinfection agent)*	Grab	EFD – 1	See I.A.7
		Max	Report	Single Sample				
Chlorodibromomethane	µg/L	Max	34.0	Annual Average	Quarterly *(only when using chlorine as disinfection agent)*	Grab	EFD – 1	See I.A.7
		Max	Report	Single Sample				

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Nitrogen, Organic, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	16-hr FPC	EFD – 1	
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFD – 1	See I.A.20
Temperature (C), Water	Deg C	Max	Report	Single Sample	Quarterly	Meter	EFD – 1	See I.A.20
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	16-hr FPC	EFD – 1	See I.A.20
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Quarterly	16-hr FPC	EFD – 1	See I.A.20
Phosphate, Ortho (as P)	mg/L	Max	Report	Single Sample	Quarterly	Filtered Grab	EFD – 1	See I.A.20
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Americamysis bahia*)	percent	Min	100	Single Sample	Semi-Annually *(twice per year)*	24-hr FPC	EFD – 1	See I.A.19
Chronic Whole Effluent Toxicity, 7-Day IC25 (*Menidia beryllina*)	percent	Min	100	Single Sample	Semi-Annually *(twice per year)*	24-hr FPC	EFD – 1	See I.A.19
Temperature (ºC), Water	Deg C	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Meter	SWD – 1 SWD – 2 SWD – 3	See I.A.20

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Oxygen, Dissolved (DO)	mg/L	Min	Report	Single Sample	Semi-Annually *(twice per year)*	Meter	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Oxygen, Percent Saturation	Percent	Min	Report	Single Sample	Semi-Annually *(twice per year)*	Meter (or Calculated)	SWD – 1 SWD – 2 SWD – 3	See I.A.20
BOD, Carbonaceous 5-day, 20ºC	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Solids, Total Suspended	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
pH	S.U.	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Meter	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Specific Conductance	Umhos/cm	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Meter	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Nitrate plus Nitrite, Total (as N)	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Total Nitrogen, as N	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Total Phosphorus, as P	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20

			Effluent Limitations		Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site**	**Notes**
Copper, Total Recoverable	µg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Nickel, Total Recoverable	µg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20
Chlorophyll a	mg/L	Max	Report	Single Sample	Semi-Annually *(twice per year)*	Grab	SWD – 1 SWD – 2 SWD – 3	See I.A.20

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
St. Johns River	Class III marine water – WBID 2213A

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

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

a. Effluent Limitation

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

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

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted semi-annually (twice per year), the first starting within 6 months of the most recent tests and lasting for the duration of this permit.

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-014, 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 7-day survival and growth chronic toxicity tests with a mysid shrimp, Americamysis (Mysidopsis) bahia, Method 1007.0, and an inland silverside, Menidia beryllina, Method 1006.0, 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 Marine and Estuarine Organisms, 3rd Edition, EPA-821-R-02-014. 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 used shall be artificial sea salts as described in EPA- 821-R-02-014, Section 7.2. The test salinity shall be determined as follows:

(a) For the Americamysis bahia bioassays, the effluent shall be adjusted to a salinity of 20 parts per thousand (ppt) with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 20 ppt. If the salinity of the effluent is greater than 20 ppt, then no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.

(b) For the Menidia beryllina bioassays, if the effluent salinity is less than 5 ppt, the salinity shall be adjusted to 5 ppt with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 5 ppt. If the salinity of the effluent is greater than 5 ppt, then

no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.

(c) If the salinity of the effluent requires adjustment, then a salinity adjustment control should be prepared and included with each bioassay. The salinity adjustment control is intended to identify toxicity resulting from adjusting the effluent salinity with artificial sea salts. To prepare the salinity adjustment control, dilute the control/dilution water to the salinity of the effluent and adjust the salinity of the salinity adjustment control at the same time and to the same salinity that the salinity of the effluent is adjusted using the same artificial sea salts.

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 exceeds 20% for either species in any test, or any other test acceptability criteria are not met, then 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-02-014, Section 14.12 (Americamysis bahia) and Section 13.12 (Menidia beryllina). The repeat test shall begin within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either species prior to the end of any test and the control mortality is less than 20% at that time, then 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-02-014, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests routine and additional shall be reported on the Monthly Discharge Monitoring Report (DMR) as the calculated IC25 for each test species.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821- R-02-014, Section 10, Report Preparation and Test Review, and e-mailed or mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-014, Section 10, and e-mailed or mailed within 30 days after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be e-mailed or mailed within 30 days to Jacksonville only:

Florida Department of Environmental Protection
Northeast District – Wastewater Section

8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

g. Test Failures

(1) A test fails when the test results do not meet the limits in 19.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in 19.a.(1) above, then the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 19.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.

(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-014.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.

(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.

(b) The Department shall review and approve the plan before initiation.

(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.

(d) Progress reports shall be submitted quarterly to the Department at the address above.

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 19.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 19.b. (1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-014, then 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 19.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, then the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 19.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. [62-4.241, 62- 620.620(3)]

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

Administrative Order (AO-280NE)

Executed: 12/06/2019

III. ORDER

a. The Permittee, US Naval Station Mayport, shall be allowed to discharge from outfall D-001 and shall comply with the requirements of this Order, the Permit, and any subsequent revisions to the Permit.

b. During the interim period in which the Permittee is working to bring the Facility into compliance as required by this Order, the following monitoring requirements for copper and nickel shall apply at outfall D-001:

a. During the period beginning upon the issuance date of the permit (12/06/2019) and lasting as indicated in the compliance schedule III.2(c) (09/30/2021), the permittee is authorized to discharge effluent from Outfall D-001 to the St. Johns River (Class III marine water – WBID 2213A). Such interim discharge shall be limited and monitored by the permittee as specified below:

		Effluent Limitations			**Monitoring Requirements**		
Parameter	**Units**	**Max/Min**	**Limit**	**Statistical Basis**	**Frequency of Analysis**	**Sample Type**	**Monitoring Site Number**
Salinity, Water	mg/L	Max	Report	Single Sample	Bi- monthly	Grab	EFD – 1
Temperature, Water	C Deg.	Max	Report	Single Sample	Bi- monthly	Meter	EFD – 1
Copper, Total Recoverable	mg/L	Max	Report	Single Sample	Bi- monthly	Grab	SWD – 1 SWD – 2 SWD – 3
Nickel, Total Recoverable	mg/L	Max	Report	Single Sample	Bi- monthly	Grab	SWD – 1 SWD – 2 SWD – 3
Salinity, Water	mg/L	Max	Report	Single Sample	Bi- monthly	Grab	SWD – 1 SWD – 2 SWD – 3
Temperature, Water	C Deg.	Max	Report	Single Sample	Bi- monthly	Meter	SWD – 1 SWD – 2 SWD – 3

b. Effluent samples shall be taken at the monitoring site locations listed above and as described below:

Monitoring Location Site Number	**Description of Monitoring Location**
EFD-1	Final effluent, immediately after final treatment, but prior to discharge to St. Johns River.
SWD – 1	Approximately at latitude: 30º23' 48.27" and longitude: 81º24' 6.37" W
SWD – 2	Approximately at latitude: 30º 23' 59.902" and longitude: 81º23' 53.881" W
SWD – 3	Approximately at latitude: 30º24' 4.56" and longitude: 81º24' 23.08" W

c. Compliance schedule for achieving compliance with the permit requirements for copper and nickel:

ACTION ITEM	**DUE DATE**
Submit a new plan of action (POA) to evaluate the mixing zones for copper and nickel.	March 02, 2020
Implement the plan of action.	May 01, 2020
Submit first report summarizing progress of evaluation of mixing zones for copper and nickel.	October 01, 2020
Submit second report summarizing progress of evaluation of mixing zones for copper and nickel and a permit revision application for any modifications of the existing mixing zone.	April 01, 2021
Complete the evaluation and comply with limitations and requirements in the permit.	September 30, 2021

c. The Permittee shall submit either a report of progress or, in the case of specific actions being required by an identified date, a written notice of compliance or non-compliance within 14

calendar days following a date identified in the above schedule of compliance, unless otherwise specified in this Order. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

d. US Naval Station Mayport shall maintain and operate its facilities in compliance with all other conditions of DEP Permit No. FL0000922.

e. This order may be modified as set forth in chapter 62-4 and 62- 620 of the Florida Administrative Code.

f. The Permittee shall collect, analyze, and report monthly effluent for copper and nickel. The permittee shall make copies of the attached Interim DMR form(s) and shall submit the completed DMR form(s) to the Department by the twenty-eighth (28th) of the month following the month of operation at the address specified below:

Florida Department of Environmental Protection
Wastewater Compliance Evaluation Section
Mail Station 3551 Bob Martinez Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Other Reports or information required by this order shall be sent to:

Tom Kallemeyn
Permitting Program Administrator Northeast District Office
8800 Baymeadows Way West, Suite 100
Jacksonville, Florida 32256

g. This order does not operate as a permit under section 403.088 of the Florida Statutes. This order shall be incorporated by reference into DEP Permit No. FL0000922 which shall require compliance by the permittee with the requirements of this order.

h. Failure to comply with the requirements of this order shall constitute a violation of this order and DEP Permit No. FL0000922 and may subject the permittee to penalties as provided in section 403.161 of the Florida Statutes.

i. This order is final when filed with the clerk of the Department, and US Naval Station Mayport then shall implement this order.

Facility Mixing Zone Details (if applicable):

Mixing Zone Area for Copper:

A mixing zone for the effluent total recoverable concentration of copper discharged through the existing outfall D-001 to the St. Johns River has been established. The mixing zone has a polygon shape which was delineated based on a longitudinal distance of 18 m in spatial distance from the diffuser (upstream and downstream) and a total width of 10 m. The total mixing zone area shall be 756 m2 {(39.6 m (length of diffuser) + 2x18 m (each direction from diffuser)) x 10 m (total width) = 756 m2}, centered over the diffuser and perpendicular to the shore. Within the mixing zone, a minimum dilution ratio of 1:25.1 is achieved at critical/worse case hydrologic scenarios. The maximum concentration limit at the end-of-pipe for copper (total recoverable) is 74 µg/ (92th percentile effluent concentration) at the permitted capacity of 2.0 MGD AADF. The discharge shall meet the water quality criterion of 3.7 µg/L for copper at the edge of mixing area. The coordinates of the vertices of the copper mixing zone are as follows:

Coordinate Label	Latitude	Longitude
A	30º 23’ 41.77”	81º 24’ 15.00”
B	30º 23’ 42.53”	81º 24’ 12.32”
C	30º 23’ 42.22”	81º 24’ 12.19”
D	30º 23’ 41.46”	81º 24’ 14.89”

Figure 6 Mixing Zone Area for Copper



Mixing Zone Area for Nickel:

A mixing zone for effluent total recoverable nickel concentrations discharged through the existing outfall D-001 to St. Johns River has been established. The mixing zone has a polygon shape which was delineated based on a longitudinal distance of 5.0 m in spatial distance from the diffuser (upstream and downstream) and a total width of 10 m. The total mixing zone area shall be 496 m2 {(39.6 m (total length of diffuser) + 2x5 m (each direction from diffuser) x 10 m = 500 m2}, centered over the diffuser and perpendicular to the shore. Within the mixing zone, a minimum dilution ratio of 1:3.3 is achieved at critical/worse case hydrologic scenarios. The maximum concentration limit at the end-of-pipe for nickel (total recoverable) is 26 µg/ (92th percentile effluent concentration) at the permitted capacity of 2.0 MGD AADF. The discharge shall meet the water quality criterion of 8.3 µg/L for nickel at the edge of mixing area. The coordinates of the vertices of the nickel mixing zone are as follows:

Coordinate Label	Latitude	Longitude
A	30º 23’ 41.90”	81º 24’ 14.54”
B	30º 23’ 42.40”	81º 24’ 12.78”
C	30º 23’ 42.09”	81º 24’ 12.65”

D	30º 23’ 41.59”	81º 24’ 14.43”

Figure 7 Mixing Zone Area for Nickel



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

Date	Parameter (Units) – Statistical Base	Limit	Result
03/31/2022	IC25 Statre 7day Chr Mendia (percent) - minimum	100	31
02/28/2022	IC25 Statre 7day Chr Mendia (percent) - minimum	100	32
07/31/2021	Enterococci	35	36
07/31/2021	Enterococci	130	200

Describe previous FYI and WQBEL study:

FYI

The last Third-Year inspection was conducted on December 10, 2013, for the effluent discharge through Outfall D-001. The report can be found at the following: https://depedms.dep.state.fl.us:443/Oculus/servlet/shell?command=getEntity&[guid=38.282817.1]&[profile=Discovery_Compliance]

The result of the inspection is summarized below:

(1) Water Chemistry Results:

- The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.059 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.02 mg/L.

- Aluminum, lead, iron, silver, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria. Effluent copper (31.9 µg/l) and nickel (21.9 µg/l) exceeded their respective Class III marine criteria of ≤ 3.70 µg/l and ≤ 8.3 µg/l.

(2) Toxicity Results:

- The bioassay samples were acutely toxic to the **Americamysis bahia** test organisms but were not acutely toxic to the **Menidia beryllina** test organisms, according to permit conditions.
    - **Americamysis bahia** 96-hour acute screening bioassay 1 – LC50 < 100%, 0% mortality in 100% sample at 96 hours
    - **Menidia beryllina** 96-hour acute screening bioassay 1 – LC50 > 100%, 0% mortality in 100% sample at 96 hours

(3) Algal Growth Potential:

- The effluent AGP result was greater than the "problem" threshold for marine receiving waters; the presumptive evidence suggests that nutrient-enrichment would also have been demonstrated with the saltwater species.

Water Quality Based Effluent Limitation (WQBEL)

Water quality based effluent limitations (WQBELs) are effluent limitations, which may be more stringent than a technology based effluent limitation, that have been determined necessary by the Department to ensure that water quality standards in a receiving body of water will not be violated. WQBELs are developed in accordance with Chapter 62-650, F.A.C., and are based on the characteristics of the discharge, the receiving water characteristics, and the criteria and standards in Chapters 62-4, 62-302, and the 62-600 series, F.A.C.; they were developed based on Total Maximum Daily Load (TMDL) allocations adopted in Chapter 62-304, F.A.C., and allocations developed as part of a Basin Management Action Plan (BMAP) or/and a Reasonable Assurance Plan (RAP). WQBELs are included in the permit for the following pollutants of concern.

A. Bacteriological Qualities:
    a. Enterococci
        i. The enterococci effluent limitations previously included in the permit have been replaced with enterococci effluent limitations consistent with the bacteriological water quality standards (WQS) for enterococci in Rule 62-302.530, F.A.C.
    b. Fecal Coliform

i. Because there is no established relationship between fecal coliform and enterococci bacteria, limitations based on both the disinfection requirements for fecal coliform from Rule 62-600.440, F.A.C., and based on the bacteriological WQS for enterococci for discharges to Class III predominately marine waters under Rule 62-302.530, F.A.C., have been included in the permit

B. Dissolved Oxygen(DO):
   a. Ambient river monitoring has confirmed that the DO level of the River has been in compliance with the Site-Specific Alternative Criteria (SSAC) for DO.
   b. There is no evidence to show that the effluent would impact the DO level of the waterbody. Therefore, the limit for DO is proposed to remain unchanged

C. Iron:
   a. Reasonable potential analysis shows that the discharge still has potential to exceed the WQS for iron; in addition, the segment of the receiving waterbody is within the National Preserve; therefore,
   b. The permittee is required to continue monitoring for iron.

D. Mercury:
   a. The permittee is required to continue to monitor for mercury.

E. Lead:
   a. Lead is listed as an impaired parameter of the segment of the river (WBID 2213B).
   b. The effluent has been complying with the WQS for lead. However, the reasonable potential analysis shows that the discharge still has potential exceed the WQS for lead; in addition, the segment of the receiving waterbody is within the National Preserve; therefore, the permittee is required to continue monitoring for lead.

F. Copper:
   a. The discharge is required to comply with WQS of 3.7µg/L for copper, except within an approved mixing zone area.
   b. The discharge shall meet the water quality criterion of 3.7 µg/L for copper at the edge of mixing area.
   c. The existing mixing zone area was established based on the target dilution of 25.1 which for approximately 93.1% of time that concentration of copper would be below the WQS of 3.7 µg/L.
   d. However, based on the current (up to date) data, at a dilution factor (S) of 25.1, only approximately 33.84% of time that concentration of copper will be below the WQS of 3.7 µg/L within the mixing zone area. Results of the new calculations show that the existing MZ area needs to be re-evaluated.
   e. While the segment of this St. Johns River basin (WBID 2213A) has yet to be formally assessed under the Impaired Waters Rule (Chapter 62-303, F.A.C.), the permittee should allow time necessary to complete research, planning, study which demonstrate that the discharge will meet the Department's rules.
   f. Pursuant with Sections 403.088(2) and 403.067(7), Florida Statutes, an administrative order (AO 208 NE) proposed to be issued conjunction with the permit. The administrative order will include schedule for achieving compliance with all permit conditions if the specified criteria are met.

G. Nickel:
   a. The discharge is required to comply with the water quality standards (WQS) of 8.3 µg/L for nickel, except within an approved mixing zone area.
   b. The discharge shall meet the water quality criterion of 8.3 µg/L for nickel at the edge of mixing area.
   c. The existing mixing zone area was established based on the target dilution ratio of 1:3.3 which for approximately 92.0 % of time that concentration of nickel would be below the WQS of 8.3 µg/L.
   d. However, based on the current (up to date) data, at a dilution factor (S) of 3.3, only approximately 37.54 % of time that concentration of nickel would be below the WQS of 8.3 µg/L within the mixing zone area. Results of the new calculations show that the existing MZ area for nickel needs to be re-evaluated.
   e. While the segment of this St. Johns River basin (WBID 2213A) has yet to be formally assessed under the Impaired Waters Rule (Chapter 62-303, F.A.C.), the permittee should allow time necessary to

complete research, planning, study which demonstrate that the discharge will meet the Department's rules.

f. Pursuant with Sections 403.088(2) and 403.067(7), Florida Statutes, an administrative order (AO 208 NE) proposed to be issued conjunction with the permit. The administrative order will include schedule for achieving compliance with all permit conditions if the specified criteria are met.

H. Nutrients - Numeric Interpretation of the Narrative Nutrient Criteria
   a. Total Nitrogen:
      i. Discharge from USN Mayport Station WWTF is subject to the mass load limitation (waste load allocation (WLA) for total nitrogen(TN) discharge to St. Johns River Basin (WBID 2213A). According to the TMDLs–BMAP, the TN- waste load allocation for the USN NAS Jax WWTF is 16,909.2 Lbs/year (7,686 Kg/yr).
      ii. The Applicant, USN, has entered a Consent Order (OGC FILE NO. 14-0408) with the Department to achieve compliance with the total nitrogen (TN) TMDL loading limitation of 25,705 Lbs/Year , which aggregates total nitrogen (TN) loading from the two Wastewater facilities (FL0000922 and FL0000957).
   b. Total Phosphorus

I. Bromoform (CHBr3) and Chlorodibromomethane (CHClBr2):
   a. Bromoform (CHBr3) and Chlorodibromomethane are trihalomethanes (THMs), which were known as chlorination by-products.
   b. The permittee has been required to monitor for bromoform and chlorodibromomethane since 2009. The analytical data show that beginning in April 2016 (when the peracetic acid (also known as peroxyacetic acid (PAA)) disinfection system was placed into service to replace existing chlorine disinfection system) concentrations of these trihalomethanes were consistently below the method detection limit of 0.2 μg/L.
   c. Based history data, the trihalomethanes (Bromoform and Chlorodibromomethane) should be monitored only when the chlorine disinfection system is placed back into service.

J. Whole Effluent Toxicity Test:
   a. The permittee shall continue to conduct semi-annual chronic definitive testing of 24-hr composite samples with marine species; mysids tested NLT 20 ppt and Menidia NLT 5 ppt. Run 2 additional definitive tests if IC25 < 100% final effluent

K. Ambient Sampling Requirements:
   a. The Permittee is required to conduct regular monitoring of the segment of the Amelia River near the outfall for maintaining data on the impact of the discharge to the water quality of the surface water body which is a part of an on-going Water Quality Based Effluent Limitation (WQBEL) study for the river. If a new WQBEL is developed for the facility which requires the effluent limit to be revised, the permittee shall be informed in writing by a notice of permit revision.

L. Downstream Waterbodies Protections:
   a. The effluent discharging from the Outfall D-001 includes limitations that protects the downstream waterbodies. The discharge should not adversely affect the designated use of the downstream waterbodies.

M. Specific conditions include the following:
   a. The permittee will provide annual reports concerning the integrity of the outfall and will determine and propose an evaluation and analysis method.

Describe previous or current Enforcement Actions (including WLs):
A WL was issued on 05/04/2021 for nickel exceedances, enterococci, and carbonaceous biochemical oxygen demand (CBOD). The WL was closed out on 05/11/2021.

Describe any violations or problems noted in previous inspection:

Compliance Evaluation Inspection & Sanitary Sewer Overflow Inspection conducted on 10/25/2019 with the following violations:

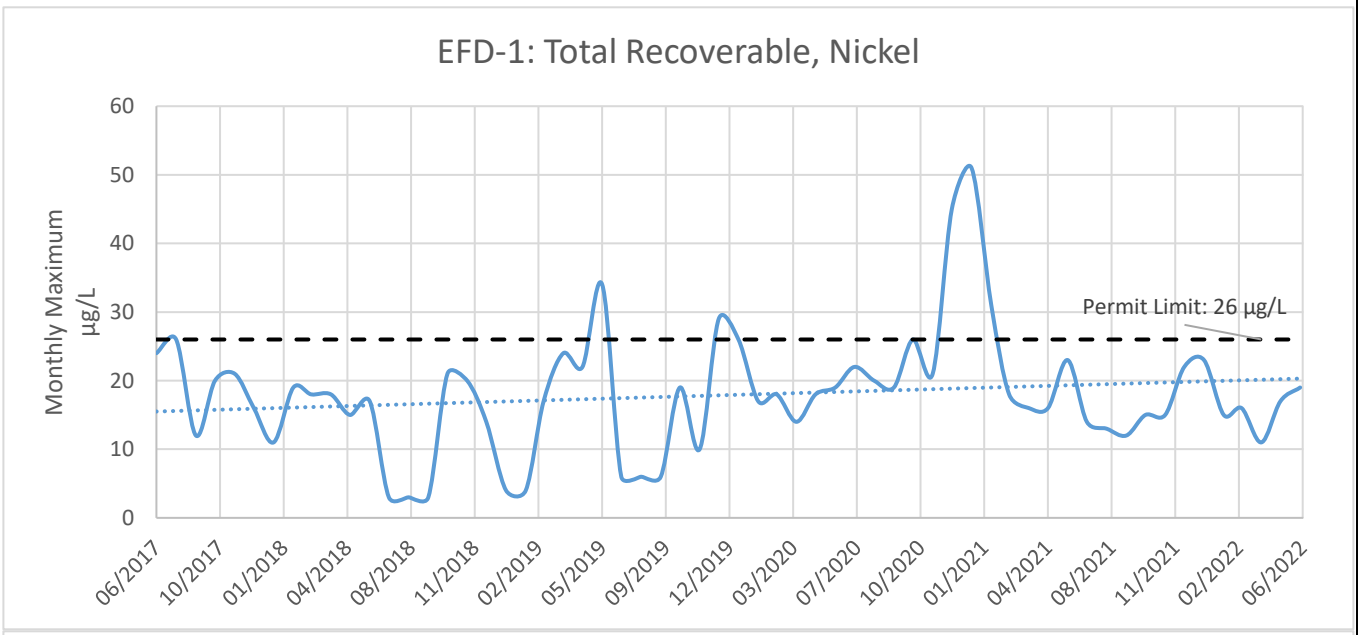
1. Effluent Quality
    a. Review period from 07/01/2019 to 10/15/2019
    b. Exceedance for Nickel, Total Recoverable
        i. 05/2019 – Maximum, 34 µg/L > 26.0 µg/L permit limit
2. Sanitary Sewer Overflow
    a. 02/12/2019
        i. Mayport Basin
        ii. 50 gallons of untreated wastewater
    b. 02/14/2019
        i. Mayport Basin
        ii. 800 gallons of untreated wastewater

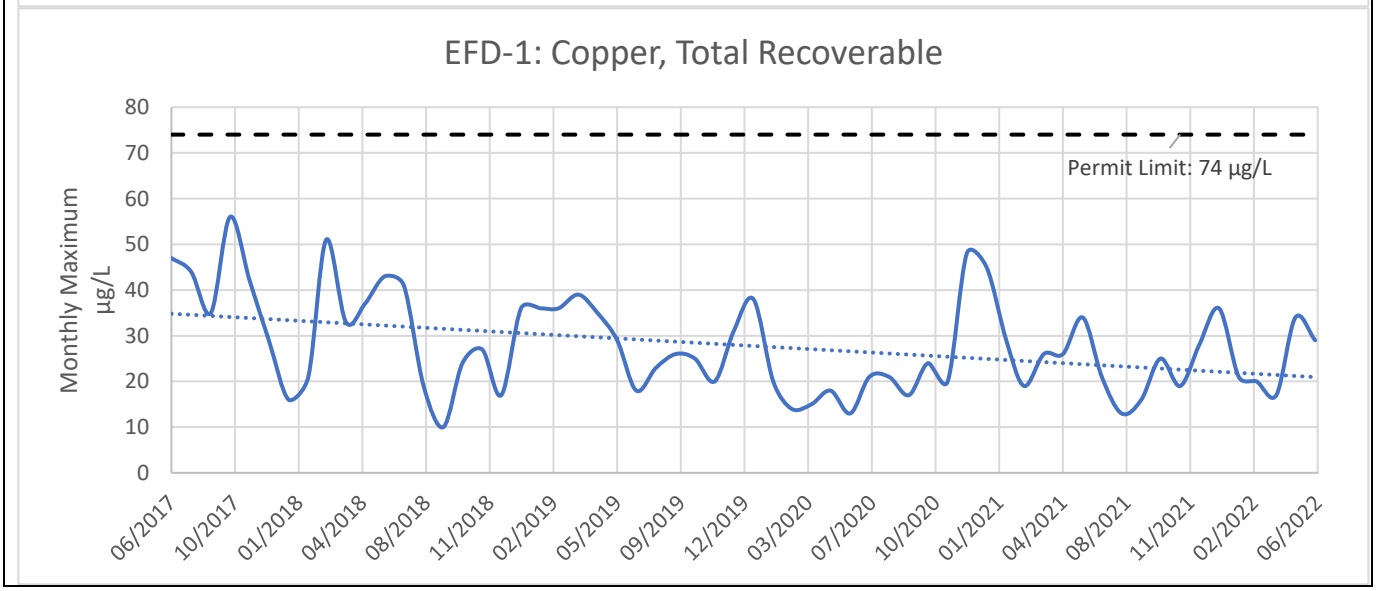
Discuss whether DMR trends within previous five years are improving or declining:

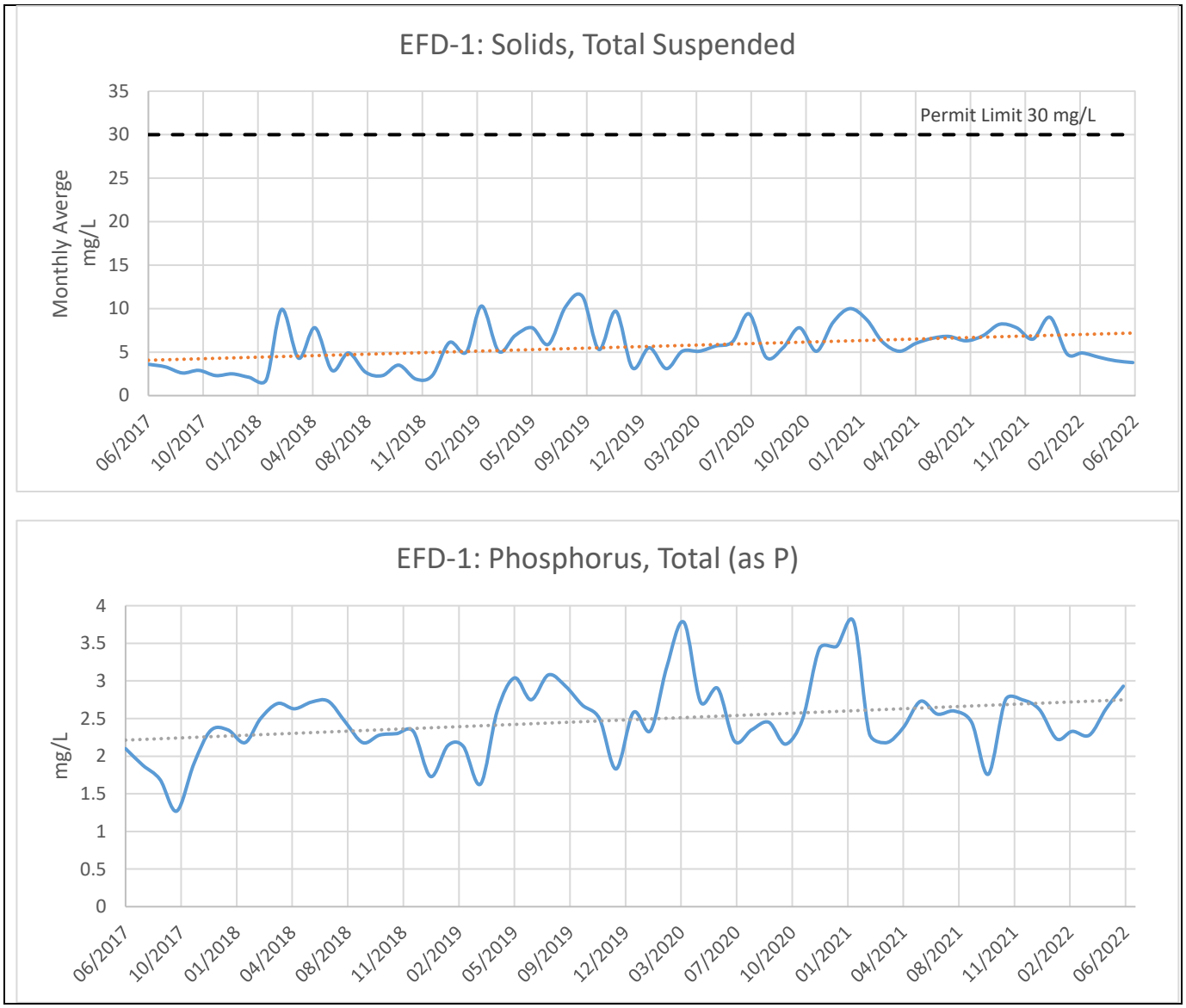
Data from EFD-1 for the past 5 years (06/2017 – 05/2022) would suggest DMR trends to be declining.

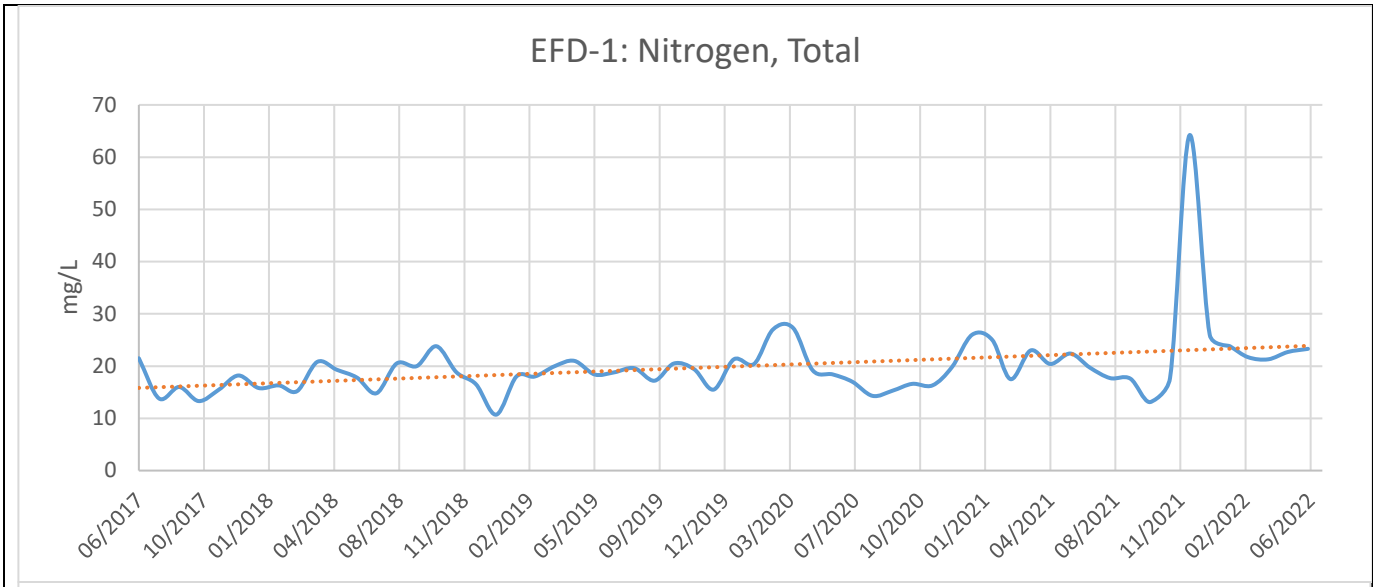
The following parameters all show a steady upward trend in the effluent from the treatment facility: **Total Recoverable, Nickel; Total Recoverable; Solids, Total Suspended; Phosphorus, Total; Nitrogen, Total; Enterococci.**

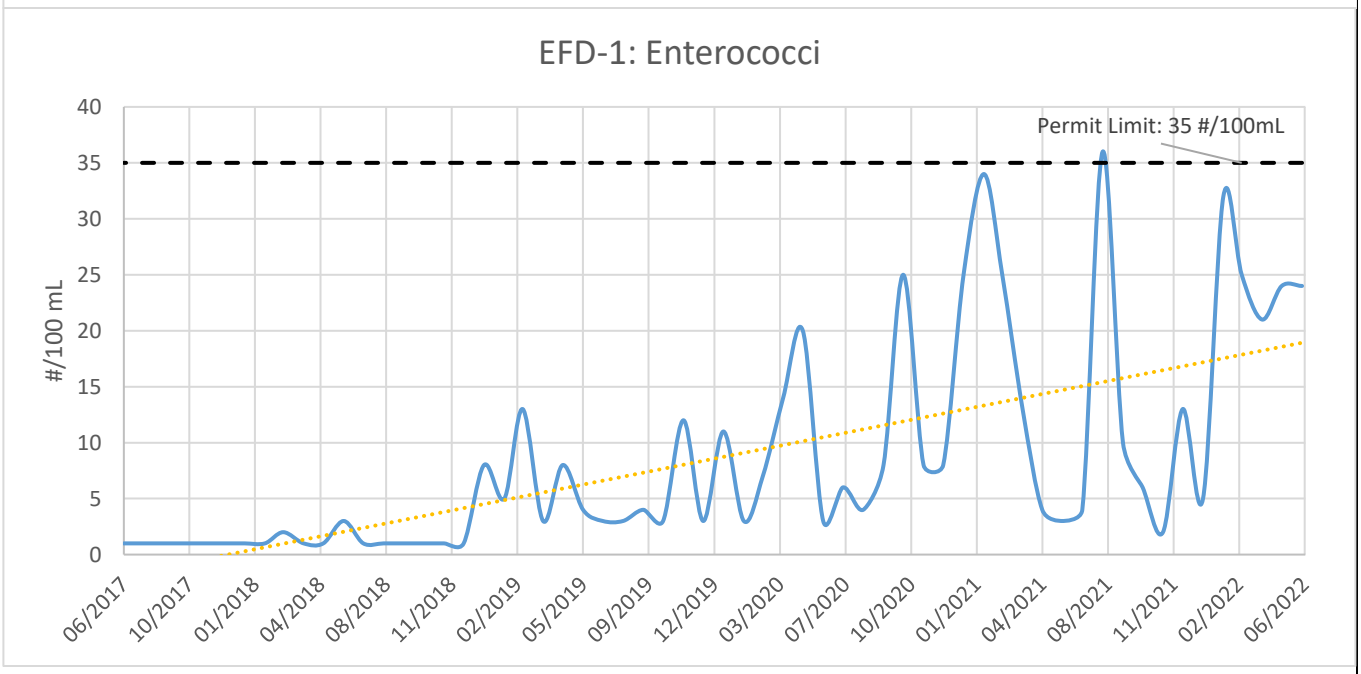
While **Total Recoverable, Copper** shows a downward trend in the effluent from the treatment facility.






EFD-1: Solids, Total Suspended
Monthly Averge mg/L
Permit Limit 30 mg/L
35
30
25
20
15
10
5
0
06/2017
10/2017
01/2018
04/2018
08/2018
11/2018
02/2019
05/2019
09/2019
12/2019
03/2020
07/2020
10/2020
01/2021
04/2021
08/2021
11/2021
02/2022
06/2022
EFD-1: Phosphorus, Total (as P)
mg/L
4
3.5
3
2.5
2
1.5
1
0.5
0
06/2017
10/2017
01/2018
04/2018
08/2018
11/2018
02/2019
05/2019
09/2019
12/2019
03/2020
07/2020
10/2020
01/2021
04/2021
08/2021
11/2021
02/2022
06/2022





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

Appendix B. Explanations of Measurements

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

- **Chemical Analyses of the Effluent**

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

- **Toxicity Bioassays**

  Greater than 50% mortality in an acute toxicity test may constitute an exceedance of Paragraph 62-302.500(1)(a) and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of Subsection 62-302.530(20), Subsection 62-302.530(62) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of Subsection 62-302.530(62) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

- **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.

- **Chlorophyll *a* Content**

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

- **Definition of Qualifiers** (Rule 62-160.700, F.A.C.)

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

Appendix C. Chain of Custody

Request Number: RQ-2022-07-11-52

FYI3 USN Mayport Naval Station WWTF FL0000922 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Taylor Parks & Shannon Taylor

Collected By: Taylor Parks & Shannon Taylor

Sampling Agency: FDEP

Locati	USN Mayport Naval Station WWTF FYI3		☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/21/22 Time 9:02	Eastern Central	Composite end Date 7/21/22 Time 9:06				Bottle Group(s) (See pg 2) D
Field I			Matrix (type, e.g., Salt, Fresh, etc) DI water			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) N/A		
WIN/S	EQUIP BLANK		Temp (C) NA	pH NA		Sample Depth NA	☐ ft ☐ m	Sp. Conductance (umho/cm) NA		
Latitude	☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) NA	Comments NA						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time				Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #			Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time				Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #			Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time				Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)		
WIN/STORET #			Temp (C)	pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt)	Comments						

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
				FM	7/22/22 9:22

Request Number: RQ-2022-07-11-52

FYI3 USN Mayport Naval Station WWTF FL0000922 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 5

last revised Jan 25, 2018

Requester: Benjamin Nomann

Field Report Prepared By: Shanna Taylor

Collected By: Shanna Taylor, J. Bernard, A. Cruz

Sampling Agency: FDEP

Location: USN Mayport Naval Station WWTF FYI3	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 7/23/22	Time 10:00 3:11	☐ Eastern ☐ Central	Composite end Date 7-25	Time 10:00	Bottle Group(s) (See pg 2)	B			
Field ID		Matrix (type, e.g., Salt, Fresh, etc) WW Effluent		Diss. Oxygen 7.56	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L)					
WIN/STOR	EFF COMP	Temp (C) 28.9°C	pH 6.91	Sample Depth NA	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt) 3.54	Comments								
Location: USN Mayport Naval Station WWTF FYI3	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/25/22	Time 10:25 3:11	☐ Eastern ☐ Central	Composite end Date	Time	Bottle Group(s)	A			
Field ID		Matrix (type, e.g., Salt, Fresh, etc) WW EF		Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)					
WIN/STOI	EFF GRAB	Temp (C)	pH	Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)					
Latitude ☐ dms	☐ dd ☐ dms	Salinity (ppt)	Comments								
Location: USN Mayport Naval Station WWTF FYI3	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 7/25/22	Time 9:25 3:11	☐ Eastern ☐ Central	Composite end Date	Time	Bottle Group(s)	C			
Field ID: EFF Field Blanks		Matrix (type, e.g., Salt, Fresh, etc) DI		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 7-25-22	Time 3:11	☐ Eastern ☐ Central	Composite end Date	Time	Bottle Group(s)	E			
Field ID: TRIP-BLK		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
				D. Witczak Devon Witczak	7.26.22/0953

Filled by A. Shenk 07-26-22

By email. AB

Grab sample given as 9:45 on Diversified COC and called Mayport FYI3 instead of EFF Grab

Request Number: RQ-2022-07-11-52

FYI3 USN Mayport Naval Station WWTF FL0000922 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

Requester: Benjamin Nomann

Field Report Prepared By: Taylor Parks

Collected By: Taylor Parks, Abbi Matu[illegible]

Sampling Agency: DEP - NED

USN Mayport Naval Station WWTF FYI3

EFF GRAB

Latitude ☐dd ☐dms | Longitude ☐dd ☐dms

☐ Comp ☐ Grab | Collection (comp begin or grab) Date 7/27/22 Time 09:44 | Eastern Central | Composite end Date Time | Bottle Group(s) (See pg 2): A

Matrix (type, e.g., Salt, Fresh, etc): WW | Diss. Oxygen 100.2 ☐mg/L ☑% sat 7.60 mg/L | Total Res. Chlorine (mg/L) —

Temp (C) 28.8 | pH 6.86 | Sample Depth 0.790 ☐ft ☐m | Sp. Conductance (umho/cm) 5759

☐dd ☐dms Salinity (ppt) 3.10 | Comments On ice @ 09:49

USN Mayport Naval Station WWTF FYI3

EFF COMP

Latitude ☐dd ☐dms | Longitude ☐dd ☐dms

☐ Comp ☐ Grab | Collection (comp begin or grab) Date 7/24/22 Time 1000 | Eastern Central | Composite end Date 7/27/22 Time 1000 | Bottle Group(s): B

Matrix (type, e.g., Salt, Fresh, etc): WW | Diss. Oxygen 7.68 ☐mg/L ☑% sat 101.3 | Total Res. Chlorine (mg/L) —

Temp (C) 28.8 | pH 6.91 | Sample Depth 0.790 ☐ft ☑m | Sp. Conductance (umho/cm) 5739

☐dd ☐dms Salinity (ppt) 3.09 | Comments On ice @ 10:14

Location | Field ID | WIN/STORET #

Latitude ☐dd ☐dms | Longitude ☐dd ☐dms

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

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

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

☐dd ☐dms Salinity (ppt) | Comments

Location | Field ID | WIN/STORET #

Latitude ☐dd ☐dms | Longitude ☐dd ☐dms

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

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

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

☐dd ☐dms Salinity (ppt) | Comments

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
				[illegible] 7-28-22 9:23	7.28.22/

D. Witczak

Dawn Witczak 7/28/22/0939

Request Number: RQ-2022-07-11-52

FYI3 USN Mayport Naval Station WWTF FL0000922 Sampling Inspection

Customer: NE-DIST

Project ID: FYI3

Florida Department of Environmental Protection
Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Benjamin Nomann

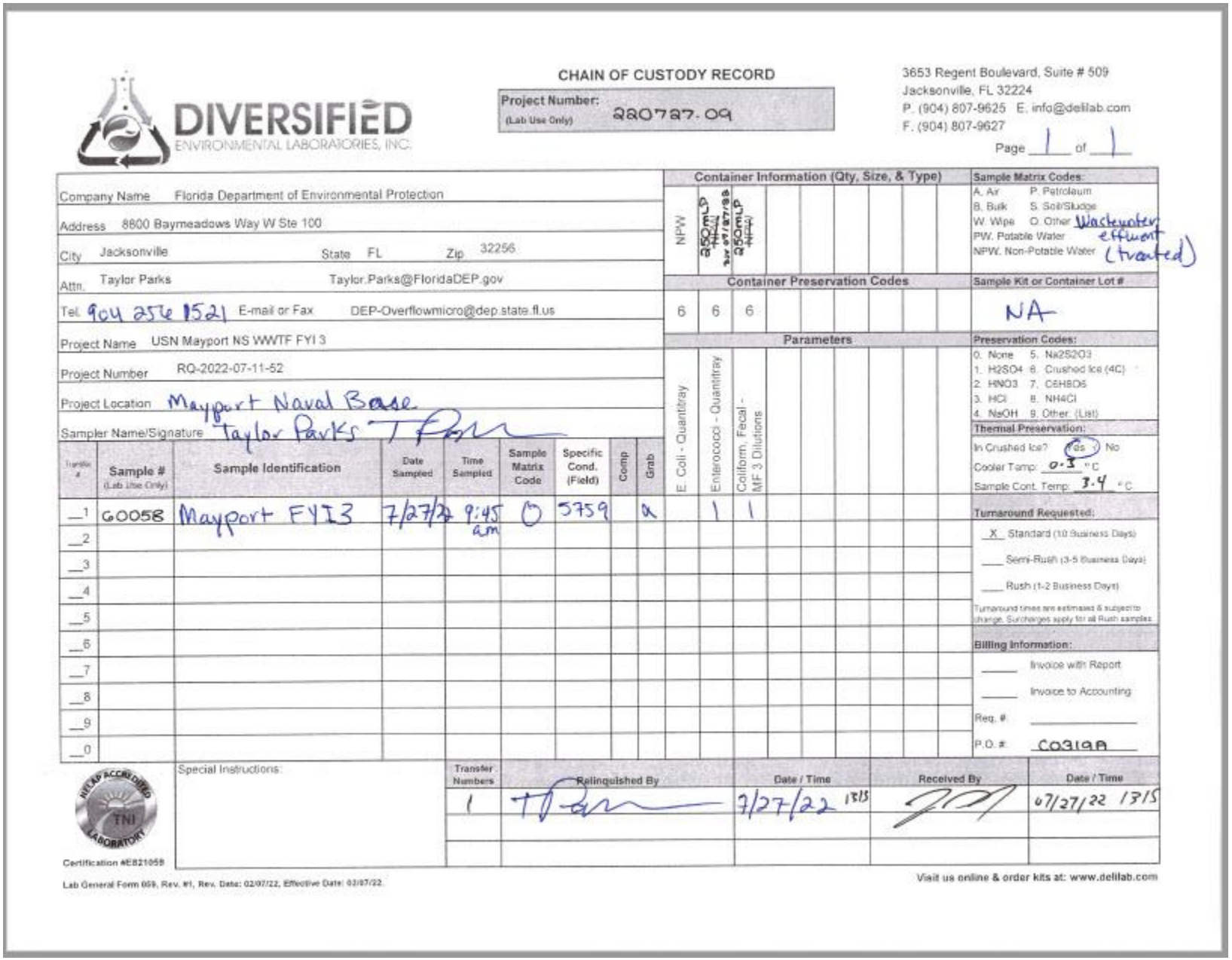
Field Report Prepared By: Taylor Parks

Collected By: Taylor Parks, Conor Lucey

Sampling Agency: DEP

Location: USN Mayport Naval Station WWTF FYI3			☑ Comp ☐ Grab	Collection (comp begin or grab) Date 7/28/22 Time 10:00a	Eastern Central	Composite end Date 7/29/22 Time 10:00a					Bottle Group(s) (See pg 2) B
Field ID: EFF COMPOSITE			Matrix (type, e.g., Salt, Fresh, etc) WW			Diss. Oxygen NA	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L) —			
WIN/ST			Temp (C) —		pH —		Sample Depth —	☐ ft ☐ m	Sp. Conductance (umho/cm) —		
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt) —	Comments chronic tox ~~TD~~ composite sample.						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time					Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)			
WIN/STORET #			Temp (C)		pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time					Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)			
WIN/STORET #			Temp (C)		pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments						
Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Date Time	Eastern Central	Composite end Date Time					Bottle Group(s)
Field ID			Matrix (type, e.g., Salt, Fresh, etc)			Diss. Oxygen	☐ mg/L ☐ % sat	Total Res. Chlorine (mg/L)			
WIN/STORET #			Temp (C)		pH		Sample Depth	☐ ft ☐ m	Sp. Conductance (umho/cm)		
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt)	Comments						

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Taylor Parks	7/29/22	FedEx (drop off)	2	Robert Harvey	7/30/22 @ 0945



DIVERSIFIED ENVIRONMENTAL LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Project Number: (Lab Use Only) 220727.09

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

Page 1 of 1

Company Name: Florida Department of Environmental Protection
Address: 8800 Baymeadows Way W Ste 100
City: Jacksonville State: FL Zip: 32256
Attn: Taylor Parks Taylor.Parks@FloridaDEP.gov
Tel: 904 256 1521 E-mail or Fax: DEP-Overflowmicro@dep.state.fl.us
Project Name: USN Mayport NS WWTF FYI 3
Project Number: RQ-2022-07-11-52
Project Location: Mayport Naval Base
Sampler Name/Signature: Taylor Parks

Transfer #	Sample # (Lab Use Only)	Sample Identification	Date Sampled	Time Sampled	Sample Matrix Code	Specific Cond. (Field)	Comp	Grab	E. Coli - Quantitray	Enterococci - Quantitray	Coliform, Fecal - MF 3 Dilutions	Container Information (Qty, Size, & Type): NPW	250mL P (HNO3 to pH<2 at 07/27/22)	250mL P (HNO3 to pH<2)	Container Preservation Codes	Parameters
1	60058	Mayport FYI3	7/27/22	9:45 am	WW	5759		X		1	1				6	6	6
2																
3																
4																
5																
6																
7																
8																
9																
10																

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

Sample Kit or Container Lot #: NA

Preservation Codes:
0. None 5. $Na_2S_2O_3$
1. H_2SO_4 6. Crushed Ice (4C)
2. HNO_3 7. $C_6H_8O_6$
3. HCl 8. NH_4Cl
4. NaOH 9. Other (List)

Thermal Preservation:
In Crushed Ice? (Yes) No
Cooler Temp: 0.3 °C
Sample Cont. Temp: 3.4 °C

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

Billing Information:
___ Invoice with Report
___ Invoice to Accounting
Req. #
P.O. #: C03198

Special Instructions:

Transfer Numbers	Relinquished By	Date / Time	Received By	Date / Time
1		7/27/22 1315		07/27/22 1315

NELAP ACCREDITED TNI LABORATORY
Certification #E821059

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

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

Appendix D. Chemical Analysis of Effluent

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/27/2022 10:00	Effluent composite	Nutrients	pH	6.91	SU		
7/27/2022 10:00	Effluent composite	Nutrients	Dissolved Oxygen %Sat	101.3	%Sat		
7/27/2022 10:00	Effluent composite	Nutrients	Temperature	28.8	C		
7/27/2022 10:00	Effluent composite	Nutrients	Specific Conductance	5739	umhos/cm		
7/27/2022 10:00	Effluent composite	Nutrients	Sample Depth	0.790	m		
7/25/2022 10:00	Effluent composite	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
7/25/2022 10:00	Effluent composite	Toxicology	Bioassay-Chron-Def-SW-Fish, IC25	100 L	IC25		
7/25/2022 10:00	Effluent composite	Toxicology	Bioassay-Chron-Def-SW-Fish, NOEC	100	NOEC		
7/25/2022 10:00	Effluent composite	Toxicology	Bioassay-Chron-Def-SW-Mysid, NOEC	25	NOEC		
7/25/2022 10:00	Effluent composite	Toxicology	Bioassay-Chron-Def-SW-Mysid, IC25	71.6	IC25		
7/25/2022 10:00	Effluent composite	Metals	Copper	51.9	µg/L	0.40	0.80
7/25/2022 10:00	Effluent composite	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/25/2022 10:00	Effluent composite	Metals	Iron	49 I	µg/L	30	120
7/25/2022 10:00	Effluent composite	Metals	Nickel	19.6	µg/L	0.50	2.0
7/25/2022 10:00	Effluent composite	Nutrients	Total-P	2.5	mg P/L	0.025	0.25
7/25/2022 10:00	Effluent composite	Nutrients	Kjeldahl Nitrogen	1.1 J	mg N/L	0.40	1.0
7/25/2022 10:00	Effluent composite	Nutrients	NO2NO3-N	17	mg N/L	0.20	0.50
7/25/2022 10:00	Effluent composite	Nutrients	TSS	4 I	mg/L	2.0	10
7/25/2022 10:00	Effluent composite	Nutrients	Ammonia-N	0.01	mg N/L	0.0020	0.0050
7/25/2022 10:00	Effluent composite	Nutrients	Organic Carbon	7.7 A	mg C/L	0.50	1.0
7/25/2022 10:00	Effluent composite	Nutrients	pH	6.91	SU		
7/25/2022 10:00	Effluent composite	Nutrients	Salinity	3.54	ppth		
7/25/2022 10:00	Effluent composite	Nutrients	Temperature	28.9	C		
7/25/2022 10:00	Effluent composite	Nutrients	Dissolved Oxygen mg/L	7.56	mg/L		
7/27/2022 9:44	Effluent grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	3.0	µg/L	0.60	1.8
7/27/2022 9:44	Effluent grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3.0	µg/L	0.82	2.5
7/27/2022 9:44	Effluent grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
7/27/2022 9:44	Effluent grab	Overflow	Enterococci-Quanti-Tray	10.0 U	MPN/100 mL	10	10
7/27/2022 9:44	Effluent grab	Overflow	Fecal Coliforms-Membrane Filter	2 U	cfu/100 mL	2	2
7/27/2022 9:44	Effluent grab	Nutrients	Temperature	28.8	C		
7/27/2022 9:44	Effluent grab	Nutrients	pH	6.86			
7/27/2022 9:44	Effluent grab	Nutrients	Specific Conductance	5759	umhos/cm		

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/27/2022 9:44	Effluent grab	Nutrients	Dissolved Oxygen %Sat	100.2	%Sat		
7/27/2022 9:44	Effluent grab	Nutrients	Sample Depth	0.790	m		
7/25/2022 10:25	Effluent grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	34.8 A	mg DryWt/L	3.0	3.0
7/25/2022 10:25	Effluent grab	Microbiology	Enterococci-Quanti-Tray	1.0 UQ	MPN/100 mL	1.0	1.0
7/25/2022 10:25	Effluent grab	Metals	Cadmium	0.196	µg/L	0.020	0.080
7/25/2022 10:25	Effluent grab	Metals	Copper	52.6	µg/L	0.40	0.80
7/25/2022 10:25	Effluent grab	Metals	Silver	0.013 I	µg/L	0.010	0.040
7/25/2022 10:25	Effluent grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/25/2022 10:25	Effluent grab	Metals	Calcium	101	mg/L	0.075	0.30
7/25/2022 10:25	Effluent grab	Metals	Aluminum	17 I	µg/L	5.0	20
7/25/2022 10:25	Effluent grab	Metals	Nickel	19.4	µg/L	0.50	2.0
7/25/2022 10:25	Effluent grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/25/2022 10:25	Effluent grab	Metals	Iron	48 I	µg/L	30	120
7/25/2022 10:25	Effluent grab	Metals	Arsenic	0.65	µg/L	0.050	0.20
7/25/2022 10:25	Effluent grab	Metals	Magnesium	143	mg/L	0.040	0.16
7/25/2022 10:25	Effluent grab	Metals	Sodium	1.03E+03	mg/L	0.50	2.0
7/25/2022 10:25	Effluent grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
7/25/2022 10:25	Effluent grab	Metals	Potassium	47.5	mg/L	0.30	1.2
7/25/2022 10:25	Effluent grab	Metals	Zinc	51	µg/L	5.0	20
7/25/2022 10:25	Effluent grab	Nutrients	Kjeldahl Nitrogen	1.0	mg N/L	0.40	1.0
7/25/2022 10:25	Effluent grab	Nutrients	Chloride	1.9E+03 A	mg Cl/L	8.0	20
7/25/2022 10:25	Effluent grab	Nutrients	Sulfate	350 A	mg SO4/L	8.0	20
7/25/2022 10:25	Effluent grab	Nutrients	Total-P	2.2	mg P/L	0.025	0.25
7/25/2022 10:25	Effluent grab	Nutrients	Turbidity	1.2 A	NTU	0.10	1.0
7/25/2022 10:25	Effluent grab	Nutrients	O-Phosphate-P	2.1	mg P/L	0.080	0.20
7/25/2022 10:25	Effluent grab	Nutrients	Ammonia-N	0.084	mg N/L	0.0020	0.0050
7/25/2022 10:25	Effluent grab	Nutrients	Color (true)	15 A	PCU	2.5	6.0
7/25/2022 10:25	Effluent grab	Nutrients	Fluoride	0.74	mg F/L	0.035	0.10
7/25/2022 10:25	Effluent grab	Nutrients	Total Alkalinity	126 A	mg CaCO3/L	0.65	2.5
7/25/2022 10:25	Effluent grab	Nutrients	Organic Carbon	11	mg C/L	0.50	1.0
7/25/2022 10:25	Effluent grab	Nutrients	NO2NO3-N	17	mg N/L	0.20	0.50
7/25/2022 10:25	Effluent grab	Overflow	HEM	3.1 I	mg/L	3.1	8.9
7/25/2022 10:25	Effluent grab	Overflow	Mercury	1.0	ng/L	0.20	0.50
7/25/2022 10:25	Effluent grab	Pesticides	Atrazine Desethyl	1.4 U	ng/L	1.4	5.7

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 10:25	Effluent grab	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.76
7/25/2022 10:25	Effluent grab	Pesticides	Hexazinone	1.9 I	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Loratadine	8.2	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Metribuzin	2.4 U	ng/L	2.4	9.5
7/25/2022 10:25	Effluent grab	Pesticides	Simazine	0.48 U	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Tebuconazole	25	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Thiobencarb	0.57 U	ng/L	0.57	2.3
7/25/2022 10:25	Effluent grab	Pesticides	Butylate	0.38 U	ng/L	0.38	1.5
7/25/2022 10:25	Effluent grab	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Dimethenamid	0.095 U	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Fipronil	14	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Fipronil Sulfide	2.8	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Fludioxonil	0.92	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Malathion	0.33 U	ng/L	0.33	1.3
7/25/2022 10:25	Effluent grab	Pesticides	Napropamide	0.38 U	ng/L	0.38	1.5
7/25/2022 10:25	Effluent grab	Pesticides	Oxyfluorfen	0.14 U	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Parathion Methyl	0.52 U	ng/L	0.52	2.1
7/25/2022 10:25	Effluent grab	Pesticides	Pendimethalin	0.95 U	ng/L	0.95	3.8
7/25/2022 10:25	Effluent grab	Pesticides	Glufosinate	1.0 U	µg/L	1.0	4.0
7/25/2022 10:25	Effluent grab	Pesticides	Ametryn	0.57 U	ng/L	0.57	2.3
7/25/2022 10:25	Effluent grab	Pesticides	Azoxystrobin	7.4	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Carfentrazone Ethyl	0.095 U	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Chlorfenapyr	0.78	ng/L	0.17	0.67
7/25/2022 10:25	Effluent grab	Pesticides	Fluxapyroxad	0.095 U	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Imazalil	0.71 U	ng/L	0.71	2.9
7/25/2022 10:25	Effluent grab	Pesticides	Iprodione	0.57 U	ng/L	0.57	2.3
7/25/2022 10:25	Effluent grab	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.0
7/25/2022 10:25	Effluent grab	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Sucralose	63	µg/L	0.10	0.40
7/25/2022 10:25	Effluent grab	Pesticides	Acesulfame K	0.10 U	µg/L	0.10	0.40
7/25/2022 10:25	Effluent grab	Pesticides	AMPA	1.0 U	µg/L	1.0	4.0
7/25/2022 10:25	Effluent grab	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.95

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 10:25	Effluent grab	Pesticides	Caffeine	7.1 U	ng/L	7.1	29
7/25/2022 10:25	Effluent grab	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
7/25/2022 10:25	Effluent grab	Pesticides	Fipronil Sulfone	6.3	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Fluazifop-P-butyl	0.095 U	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.67
7/25/2022 10:25	Effluent grab	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.76
7/25/2022 10:25	Effluent grab	Pesticides	Pronamide	0.14 U	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Pyridaben	0.43 U	ng/L	0.43	2.1
7/25/2022 10:25	Effluent grab	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
7/25/2022 10:25	Effluent grab	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
7/25/2022 10:25	Effluent grab	Pesticides	Demeton	1.4 U	ng/L	1.4	5.7
7/25/2022 10:25	Effluent grab	Pesticides	Dithiopyr	0.17 I	ng/L	0.17	0.67
7/25/2022 10:25	Effluent grab	Pesticides	Fipronil Desulfinyl	0.28 I	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.7
7/25/2022 10:25	Effluent grab	Pesticides	Sulfentrazone	51	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Glyphosate	1.0 U	µg/L	1.0	4.0
7/25/2022 10:25	Effluent grab	Pesticides	Atrazine	0.97	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Metolachlor	0.33 U	ng/L	0.33	1.3
7/25/2022 10:25	Effluent grab	Pesticides	Molinate	0.29 U	ng/L	0.29	1.1
7/25/2022 10:25	Effluent grab	Pesticides	Myclobutanil	0.56 I	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Phorate	0.50 U	ng/L	0.50	2.0
7/25/2022 10:25	Effluent grab	Pesticides	Prometon	0.86 U	ng/L	0.86	3.4
7/25/2022 10:25	Effluent grab	Pesticides	Terbufos	0.095 U	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Bromacil	3.0	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.95
7/25/2022 10:25	Effluent grab	Pesticides	Cyprodinil	0.095 U	ng/L	0.095	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Difenoconazole	0.57 U	ng/L	0.57	2.3
7/25/2022 10:25	Effluent grab	Pesticides	Ethion	0.14 U	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Ethoprop	0.095 U	ng/L	0.095	0.38

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 10:25	Effluent grab	Pesticides	Etridiazole	0.14 U	ng/L	0.14	0.57
7/25/2022 10:25	Effluent grab	Pesticides	Flutolanil	0.34 I	ng/L	0.095	0.38
7/25/2022 10:25	Effluent grab	Pesticides	Phenytoin	3.3 U	ng/L	3.3	13
7/25/2022 10:25	Effluent grab	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Propargite	1.4 U	ng/L	1.4	5.7
7/25/2022 10:25	Effluent grab	Pesticides	Propiconazole	1.2 I	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
7/25/2022 10:25	Effluent grab	Pesticides	Endothall	0.25 U	µg/L	0.25	1.0
7/25/2022 10:25	Effluent grab	Pesticides	Azinphos Methyl	1.9 U	ng/L	1.9	7.6
7/25/2022 10:25	Effluent grab	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.76
7/25/2022 10:25	Effluent grab	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
7/25/2022 10:25	Effluent grab	Pesticides	Cyanazine	3.1 U	ng/L	3.1	12
7/25/2022 10:25	Effluent grab	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
7/25/2022 10:25	Effluent grab	Pesticides	Metalaxyl	0.71 U	ng/L	0.71	2.9
7/25/2022 10:25	Effluent grab	Pesticides	Naled	1.4 U	ng/L	1.4	5.7
7/25/2022 10:25	Effluent grab	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
7/25/2022 10:25	Effluent grab	Pesticides	Oxadiazon	2.8	ng/L	0.29	1.1
7/25/2022 10:25	Effluent grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2-Chlorophenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Pentachlorophenol	0.53 U	µg/L	0.53	2.1
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Fluoranthene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Fluorene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.5
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	µg/L	11	43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.054 U	µg/L	0.054	0.22

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Phenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Anthracene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	TRPH	0.47 U	mg/L	0.47	1.9
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Hexachlorobutadiene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Hexachloroethane	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Isophorone	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2-Nitrophenol	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzo(a)anthracene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Dimethyl phthalate	0.22 U	µg/L	0.22	0.87
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Acenaphthene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Acenaphthylene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2-Chloronaphthalene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.3
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2 U	µg/L	3.2	13
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Chrysene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.5
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Hexachlorobenzene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.054 U	µg/L	0.054	0.22
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Dibromochloromethane	0.46 I	µg/L	0.20	0.80
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.3 U	µg/L	5.3	21
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.5

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	43
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzo(a)pyrene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.027 U	µg/L	0.027	0.11
7/25/2022 10:25	Effluent grab	Priority Organic Pollutants	Nitrobenzene	0.054 U	µg/L	0.054	0.22
7/25/2022 9:20	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
7/25/2022 9:20	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/25/2022 9:20	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
7/25/2022 9:20	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
7/25/2022 9:20	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
7/25/2022 9:20	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
7/25/2022 9:20	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
7/25/2022 9:20	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
7/25/2022 9:20	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
7/25/2022 9:20	Blank	Metals	Iron	30 U	µg/L	30	120
7/25/2022 9:20	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
7/25/2022 9:20	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
7/25/2022 9:20	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
7/25/2022 9:20	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
7/25/2022 9:20	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
7/25/2022 9:20	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
7/25/2022 9:20	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
7/25/2022 9:20	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
7/25/2022 9:20	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
7/25/2022 9:20	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
7/25/2022 9:20	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
7/25/2022 9:20	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
7/25/2022 9:20	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	1.0
7/25/2022 9:20	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
7/25/2022 9:20	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
7/25/2022 9:20	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
7/25/2022 9:20	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
7/25/2022 9:20	Blank	Overflow	HEM	4.0 I	mg/L	2.8	8.0
7/25/2022 9:20	Blank	Overflow	Mercury	0.20 U	ng/L	0.20	0.50

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 9:20	Blank	Pesticides	Napropamide	0.39 U	ng/L	0.39	1.5
7/25/2022 9:20	Blank	Pesticides	Norflurazon	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Acesulfame K	0.10 U	µg/L	0.10	0.40
7/25/2022 9:20	Blank	Pesticides	AMPA	0.10 U	µg/L	0.10	0.40
7/25/2022 9:20	Blank	Pesticides	Glufosinate	0.10 U	µg/L	0.10	0.40
7/25/2022 9:20	Blank	Pesticides	Ibuprofen	0.080 U	µg/L	0.080	0.32
7/25/2022 9:20	Blank	Pesticides	Phorate	0.51 U	ng/L	0.51	2.0
7/25/2022 9:20	Blank	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Simazine	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Cyanazine	3.1 U	ng/L	3.1	13
7/25/2022 9:20	Blank	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Flumioxazin	1.7 U	ng/L	1.7	6.8
7/25/2022 9:20	Blank	Pesticides	Hexazinone	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Malathion	0.34 U	ng/L	0.34	1.4
7/25/2022 9:20	Blank	Pesticides	Mevinphos	1.0 U	ng/L	1.0	4.1
7/25/2022 9:20	Blank	Pesticides	Sulfentrazone	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Tebuconazole	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Terbuthylazine	0.41 U	ng/L	0.41	1.6
7/25/2022 9:20	Blank	Pesticides	Alachlor	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Coumaphos	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Dithiopyr	0.17 U	ng/L	0.17	0.68
7/25/2022 9:20	Blank	Pesticides	Fenamiphos	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Fludioxonil	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Metalaxyl	0.73 U	ng/L	0.73	2.9
7/25/2022 9:20	Blank	Pesticides	Glyphosate	0.10 U	µg/L	0.10	0.40
7/25/2022 9:20	Blank	Pesticides	Prometryn	0.19 U	ng/L	0.19	0.77
7/25/2022 9:20	Blank	Pesticides	Stirophos	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Ametryn	0.58 U	ng/L	0.58	2.3
7/25/2022 9:20	Blank	Pesticides	Azinphos Methyl	1.9 U	ng/L	1.9	7.7
7/25/2022 9:20	Blank	Pesticides	Demeton	1.5 U	ng/L	1.5	5.8
7/25/2022 9:20	Blank	Pesticides	Diazinon	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Metolachlor	0.34 U	ng/L	0.34	1.4
7/25/2022 9:20	Blank	Pesticides	Metribuzin	2.4 U	ng/L	2.4	9.7
7/25/2022 9:20	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 9:20	Blank	Pesticides	Propiconazole	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Pyriproxyfen	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Atrazine	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	5.8
7/25/2022 9:20	Blank	Pesticides	Bromacil	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Chlorpyrifos Ethyl	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Disulfoton	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Fenbuconazole	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Fluazifop-P-butyl	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Molinate	0.29 U	ng/L	0.29	1.2
7/25/2022 9:20	Blank	Pesticides	Myclobutanil	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Endothall	0.25 U	µg/L	0.25	1.0
7/25/2022 9:20	Blank	Pesticides	Phenytoin	3.4 U	ng/L	3.4	14
7/25/2022 9:20	Blank	Pesticides	Prodiamine	0.17 U	ng/L	0.17	0.68
7/25/2022 9:20	Blank	Pesticides	Propargite	1.5 U	ng/L	1.5	5.8
7/25/2022 9:20	Blank	Pesticides	Pyraflufen Ethyl	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Thiobencarb	0.58 U	ng/L	0.58	2.3
7/25/2022 9:20	Blank	Pesticides	Butylate	0.39 U	ng/L	0.39	1.5
7/25/2022 9:20	Blank	Pesticides	Chlorfenapyr	0.17 U	ng/L	0.17	0.68
7/25/2022 9:20	Blank	Pesticides	Ethoprop	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Fipronil Desulfinyl	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Fonofos	0.19 U	ng/L	0.19	0.77
7/25/2022 9:20	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
7/25/2022 9:20	Blank	Pesticides	Parathion Methyl	0.53 U	ng/L	0.53	2.1
7/25/2022 9:20	Blank	Pesticides	Pyridaben	0.44 U	ng/L	0.44	2.2
7/25/2022 9:20	Blank	Pesticides	Azoxystrobin	0.48 U	ng/L	0.48	1.9
7/25/2022 9:20	Blank	Pesticides	Carfentrazone Ethyl	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Chlorpyrifos Methyl	0.048 U	ng/L	0.048	0.19
7/25/2022 9:20	Blank	Pesticides	Difenoconazole	0.58 U	ng/L	0.58	2.3
7/25/2022 9:20	Blank	Pesticides	Dimethenamid	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Imazalil	0.73 U	ng/L	0.73	2.9
7/25/2022 9:20	Blank	Pesticides	Parathion Ethyl	0.24 U	ng/L	0.24	0.97

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 9:20	Blank	Pesticides	Oxadiazon	0.29 U	ng/L	0.29	1.2
7/25/2022 9:20	Blank	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Terbufos	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Triadimefon	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Caffeine	7.3 U	ng/L	7.3	29
7/25/2022 9:20	Blank	Pesticides	Carbophenothion	0.19 U	ng/L	0.19	0.77
7/25/2022 9:20	Blank	Pesticides	Cyprodinil	0.097 U	ng/L	0.097	0.48
7/25/2022 9:20	Blank	Pesticides	Dimethomorph	0.17 U	ng/L	0.17	1.0
7/25/2022 9:20	Blank	Pesticides	Ethion	0.15 U	ng/L	0.15	0.58
7/25/2022 9:20	Blank	Pesticides	Fipronil	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	Flutolanil	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Iprodione	0.58 U	ng/L	0.58	2.3
7/25/2022 9:20	Blank	Pesticides	Pendimethalin	0.97 U	ng/L	0.97	3.9
7/25/2022 9:20	Blank	Pesticides	Prometon	0.87 U	ng/L	0.87	3.5
7/25/2022 9:20	Blank	Pesticides	Propanil	0.12 U	ng/L	0.12	0.48
7/25/2022 9:20	Blank	Pesticides	Acetochlor	0.24 U	ng/L	0.24	0.97
7/25/2022 9:20	Blank	Pesticides	EPTC	1.2 U	ng/L	1.2	4.8
7/25/2022 9:20	Blank	Pesticides	Fluxapyroxad	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Loratadine	0.097 U	ng/L	0.097	0.39
7/25/2022 9:20	Blank	Pesticides	Naled	1.5 U	ng/L	1.5	5.8
7/25/2022 9:20	Blank	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
7/25/2022 9:20	Blank	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
7/25/2022 9:20	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
7/25/2022 9:20	Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	µg/L	0.20	0.80
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 9:20	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
7/25/2022 9:20	Blank	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
7/25/2022 9:20	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
7/25/2022 9:20	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
7/25/2022 9:20	Blank	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
7/25/2022 9:20	Blank	Priority Organic Pollutants	TRPH	0.50 U	mg/L	0.50	2.0
7/25/2022 9:20	Blank	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
7/25/2022 9:20	Blank	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
7/25/2022 9:20	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
7/25/2022 9:20	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
7/25/2022 9:20	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
7/25/2022 9:20	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
7/25/2022 9:20	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
7/25/2022 3:11	Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	µg/L	0.20	0.80
7/21/2022 9:06	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
7/21/2022 9:06	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
7/21/2022 9:06	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
7/21/2022 9:06	Blank	Metals	Iron	30 U	µg/L	30	120
7/21/2022 9:06	Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.50	1.0
7/21/2022 9:06	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
7/21/2022 9:06	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
7/21/2022 9:06	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
7/21/2022 9:06	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050