Effluent Quality Assessment of City of Clearwater East AWWTF Pinellas County NPDES # FL0021865 Sampled March 21, 2022

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

All analytes measured in the effluent grab and composite samples complied with Class II Water Quality Criteria and effluent permit limits. The algal growth potential (AGP) and nutrient results for the effluent grab sample do not suggest a potential for nutrient enrichment. Thirteen organic constituents were detected in the effluent grab sample.

Facility Overview

The City of Clearwater East AWWTF is an Advanced 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. Short Form Consent Order OGC 20-0100 was executed on May 29, 2020 for sanitary sewer overflows and an unauthorized discharge. Long Form Consent Order OGC 21-0522 was executed on July 16, 2021 for overflows that discharged into surface waters. The effluent is continuously discharged into Old Tampa Bay, a Class II Marine Water [waterbody identification (WBID) 1558H] (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for Old Tampa Bay within the Tampa Bay estuary. For this region, the NNC, expressed as annual load, are 0.23 tons/million cubic meters total phosphorus and 1.08 tons/million cubic meters total nitrogen. The NNC for chlorophyll *a*, expressed as annual mean, is 9.3 µg/L chlorophyll *a* (Subparagraph 62-302.532(1)(b)(1), F.A.C.). For Class II predominantly marine waters, the daily average dissolved oxygen (DO) saturation shall not be below 42 percent in more than 10 percent of the values (Subsection 62-302.533(2), F.A.C.). This FYI event only provides single sample results. It should be noted that waterbody impairment assessments are based on longer-term data, and individual exceedances of a criterion do not indicate use impairment. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria

Methods

Effluent grab and 24-hour flow proportioned composite samples were collected from monitoring site location EFD-01 for outfall D-001 on March 21, 2021.

Samples were collected by Margaret Dorge and Emily Larson (Southwest District Office). Analyses were performed by Benchmark EnviroAnalytical, Inc. in Palmetto, 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 II Water Quality Criteria 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.

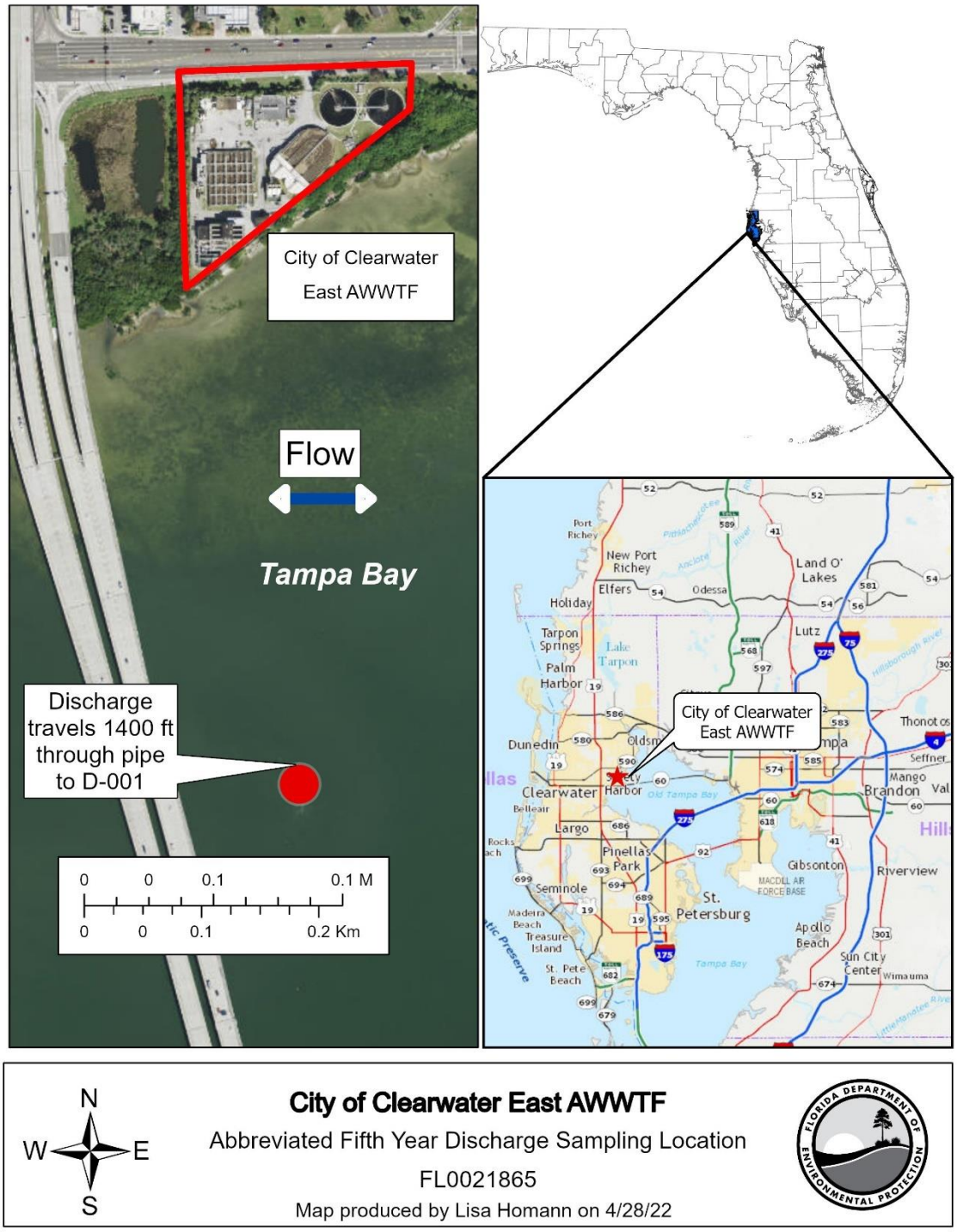


Figure 1. Map of Facility and Discharge Location

Results

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

- All effluent water quality parameters complied with Class II Water Quality Criteria 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 II Water Quality Criteria and effluent permit limits.

- Total organic carbon was detected in the blank between the MDL and PQL.

Microbiology (See Table 2 and Appendix B)

- Effluent fecal coliform and enterococci levels complied with Class II Water Quality Criteria and effluent permit limits.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed March 22 through March 26, 2022.

- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50).

- In a 96-hour acute definitive test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Paragraph 62-302.500(1)(a), F.A.C.). Mortality between 20 and 50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Paragraph 62-4.244(3)(a), F.A.C.).

- For the 96-hour acute definitive test, the calculated LC50 for the water flea, *Ceriodaphnia dubia*, was >100% effluent with 0% mortality in 100% sample. The calculated LC50 for the fish, *Pimephales promelas*, was >100% effluent with 0% mortality in 100% sample. The effluent sample was not toxic to either test species and therefore complied with effluent permit limits.

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

Metals (See Table 3 and Appendix D)

- Effluent metals complied with Class II Water Quality Criteria. There are no effluent permit limits for metals.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata* and marine species, *Dunaliella tertiolecta*, were used to determine the AGP values in the effluent grab samples. The analytical chemistry suggests that the effluent is nitrogen-limited (Miller et al. 1978).

- The effluent grab AGP result of 1.98 dry wt/L is within the AGP range (0.81-6.00 mg dry wt/L) suggested to be representative of moderately high productivity for freshwater (Miller et al. 1978).

- An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.5 parts per thousand (ppth) to a salinity of approximately 7 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species *Dunaliella tertiolecta*.

- Differences greater than an order of magnitude between actual and predicted AGP values are considered sufficient evidence to warrant follow up testing with the algal growth inhibition bioassay. True algal growth inhibition can only be determined by performing an actual algal growth inhibition test. Should algal growth inhibition be suspected, the district should request that the algal growth inhibition test be performed as a follow-up to the inspection.

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, azinphos methyl, azoxystrobin, chlorfenapyr, dimethomorph, flutolanil, fluxapyroxad, loratadine, phenytoin, propiconazole, sulfentrazone, tebuconazole and bromodichloromethane were detected in the effluent grab sample.

- Bromodichloromethane levels complied with effluent permit limits.

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.

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 II Water Quality Criteria, and field parameters

Parameter	Units	Class II Criteria	Effluent Permit Limits	Effluent Grab EFD-01
Temperature	C	-	-	24.2
pH	SU	6.5 - 8.5	6.5 - 8.5 s (EFA-01)	7.3
Salinity	ppt	-	-	0.5
Dissolved Oxygen	% saturation	≥ 42	-	113.9
Dissolved Oxygen	mg/L	-	≥ 5.0 s	9.5
Total Residual Chlorine	mg/L	≤ 0.01	≤ 0.01	0.02 U [1]

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist:
s - Single sample
U - Material analyzed for but not detected; value reported is the method detection limit
1- Measurement taken by DEP staff with Hach colorimeter with an MDL of 0.02 mg/L

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

Effluent limits, Class II Water Quality Criteria, and analytical water chemistry, microbiological, and toxicological data

Analyte	Units	Class II Criteria	Effluent Permit Limits	Effluent Composite (EFD-01)	Effluent Grab (EFD-01)
Ortho-phosphate	mg P/L	-	-	-	0.67
Total Phosphorus	mg P/L	-	Report	0.72	0.74
Total Ammonia	mg N/L	-	-	0.037	0.035
Un-ionized Ammonia	mg N/L	-	-	< 0.02 c	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	0.44	0.47
Total Kjeldahl Nitrogen	mg N/L	-	-	0.78	0.73
Organic Nitrogen	mg N/L	-	-	0.74 c	0.7 c
Total Nitrogen	mg N/L	-	≤ 6.0 s p (EFA-01)	1.22 c	1.2 c
Total Organic Carbon [2]	mg C/L	-	-	6.6	6.6
Chlorophyll *a* - Corrected	µg/L	≤ 9.3 a	-	-	0.96 U
CBOD, 5 day, N - inhibited	mg/L	-	≤ 10.0 s p (EFA-01)	2.0 U	-
Phaeophytin	µg/L	-	-	-	1.0 U
Hardness	mg CaCO3/L	-	-	-	178 c
Total Suspended Solids	mg/L	-	≤ 10.0 s p (EFA-01)	4 I	-
Turbidity	NTU	≤ 29 t	-	-	0.35 I
Color (true)	PCU	-	-	-	7.8
Alkalinity	mg CaCO3/L	-	-	-	137
Chloride	mg Cl/L	-	-	-	200
Fluoride	mg F/L	≤ 1.5	-	-	0.59
Sulfate	mg SO4/L	-	-	-	75
Fecal Coliforms	cfu/100 mL	≤ 31	≤ 25 s (EFA-01)	-	1 U
Enterococci	#/100mL	≤130	≤ 276 s (EFA-01)	-	10 U
Bioassay - Water flea *(C. dubia)*	% effluent	-	≥ 100 s	-	> 100
Bioassay - Fish *(P. promelas)*	% effluent	-	≥ 100 s	-	> 100

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist:
a - Annual average
s - Single sample
t - Shall not exceed 29 NTUs above background
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
2 – Total organic carbon detected in blank

Table 3. Analytical metals data

Effluent limits, Class II Water Quality Criteria, and analytical metals data

Analyte	Units	Class II Criteria	Effluent Permit Limits	Effluent Grab (EFD-01)
Aluminum	µg/L	≤ 1,500	-	30
Arsenic	µg/L	≤ 50	-	2.87
Cadmium	µg/L	≤ 8.8	-	0.020 U
Calcium	mg/L	-	-	57.9
Chromium, Total [3]	µg/L	≤ 50	-	0.40 U
Copper	µg/L	≤ 3.7	≤ 3.7 s	2.21
Iron	µg/L	≤ 300	-	30 U
Lead	µg/L	≤ 8.5	-	0.20 U
Magnesium	mg/L	-	-	8.23
Nickel	µg/L	≤ 8.3	-	1.1 I
Potassium	mg/L	-	-	14.6
Selenium	µg/L	≤ 71	-	0.20 U
Silver	µg/L	≤ 2.3	-	0.010 U
Sodium	mg/L	-	-	143
Zinc	µg/L	≤ 86	-	48

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist:
s - Single sample
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
3 - Class II Marine Water Quality Criterion (Paragraph 62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. Algal Growth Potential (AGP)

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

Location	Test Species	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent Grab	*Pseudokirchneriella subcapitata*	1.98 A	19 ± 3.8	290 ± 58	46 ± 9.1	320 ± 64	0.8	1.6
Effluent Grab	*Dunaliella tertiolecta*	3.00 U *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	0.8	1.6

* - sample salinity adjusted to 7 ppth
A - Value reported is the mean of two or more determinations
U - Material analyzed for but not detected; value reported is the method detection limit
4 – predictions not applicable to marine matrix

Table 5. Detected Organic Constituents

Effluent limits, Class II Water Quality Criteria, and analytical organic and pesticide data

Analyte	Units	Class II Criteria	Effluent Permit Limits	Effluent Grab (EFD-01)
Atrazine	ng/L	-	-	50
Azinphos Methyl	ng/L	-	-	9.9
Azoxystrobin	ng/L	-	-	9.1
Chlorfenapyr	ng/L	-	-	3.3
Dimethomorph	ng/L	-	-	4.1
Flutolanil	ng/L	-	-	0.41 I
Fluxapyroxad	ng/L	-	-	0.81
Loratadine	ng/L	-	-	8.2
Phenytoin	ng/L	-	-	29
Propiconazole	ng/L	-	-	2.6
Sulfentrazone	ng/L	-	-	2.7
Tebuconazole	ng/L	-	-	15
Bromodichloromethane	µg/L	-	≤ 43 a	38

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist:
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
a - Annual average
s - Single sample

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event	
Prepared By: Margaret Dorge	**Contact Number:** (813) 470-5703
Facility Name (as it appears on permit): City of Clearwater East AWWTF	**Former Names:** N/A
NPDES Permit Number: FL0021865	**Permit Expiration Date:** June 21, 2022
Physical Address: 3141 Gulf to Bay Blvd Clearwater, FL 33759-4506	
District: Southwest	**County:** Pinellas
Function of Facility: Wastewater Treatment Facility	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD):** 5.0
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): From 03/01/2021 to 02/28/2022: D-001: 2.5 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):

Surface Water Sample Locations (D-001)

Monitoring Site Number	Description of Monitoring Site
FLW-02	Flow to D-001=FLW-04 – FLW-03
FLW-03	Flow to R-001: Flow meter prior to discharge to the MRS.
FLW-04	Sum of flow meters at Chlorine Contact Chamber
EFA-01	After disinfection
EFB-01	After filtration and prior to disinfection
EFD-01	After dechlorination and prior to final discharge
CAL-01	Calculated Total Nitrogen Loading for the discharges from the City of Clearwater Northeast WRF and City of Clearwater East WRF.

Description of Permitted Outfall(s):

Surface Water Discharge D-001: An existing 5.0 MGD annual average daily flow (AADF) discharge to Old Tampa Bay, Class II waters, (WBID# 1558H) at Discharge Location D-001, which is approximately 1400 feet in length and discharges at a depth of approximately 10 feet. The point of discharge is located approximately at latitude 27⁰57' 19" N, longitude 82⁰ 42' 24" W. Outfall D-001 is shared with the Clearwater East WRF, which contributes up to 5.0 MGD and the Northeast facility contributes up to 13.5 MGD for a total permitted discharge capacity of 18.5 MGD.

Mixing Zone: The permittee is granted a mixing zone for Dichlorobromomethane consisting of a distance of two meters in radius from the centerline of the outfall.

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

An existing 5.0 MGD annual average daily flow (AADF) Type I domestic advanced wastewater treatment facility (AWWTF), using the Bardenpho BNR process, consisting of the following components: an on-site influent pumping station with three variable rate and one constant rate submersible pumps; a transit time doppler meter attached to the influent pipeline to measure flow; preliminary treatment consisting of two mechanically-cleaned fine bar screens, two 12-foot diameter hydrodynamic vortex grit removal units with one associated grit classifier; a biological treatment process consisting of a five-stage Bardenpho BNR process (operating as a four-stage Bardenpho BNR process by converting the fermentation reactors to anoxic reactors) that includes the following: four 83,425-gallon fermentation basins (operating as anoxic reactors), eight 83,425-gallon first-stage anoxic reactors, a screw-lift pumping station with three 60-inch Archimedes screws, one 1.55 MG Carrousel oxidation ditch aeration basin, seven 85,614-gallon second-stage anoxic basins, and one 85,600-gallon re-aeration basin; two 100-foot diameter secondary clarifiers (total surface area of 15,700 SF); flow measurement via a 24-inch Parshall flume with an ultrasonic flow meter; Filter feed pump station, consisting of four submersible pumps - three variable speed and one constant speed; six rapid, single-media, gravity-type, automatic backwash polishing filters with a total surface area of 2,160 SF; and an effluent disinfection system using liquid sodium hypochlorite including a 19,678 gallon dosing chamber/clearwell, and a 111,288-gallon, dual channel chlorine contact basin.

Chlorinated effluent from the chlorine contact basin is directed to the Master Reuse System (R-001) (FL0186261), or to a mixing basin and mixed with chlorinated effluent from the City of Clearwater Northeast WRF (FL0128937). The combined chlorinated effluent streams then flow through 113,616 gallon blending/dechlorination basins that is fed a flow-paced solution of sodium bisulfite to eliminate the chlorine residual, then through a 137,840-gallon re-aeration basin using blowers and diffused air to boost dissolved oxygen prior to release to an outfall junction/sampling box and finally through a 1,400-foot long, 48-inch diameter outfall pipe that discharges to Old Tampa Bay (D-001).

Waste sludge from the secondary clarifiers is pumped to two 108,000 gpd (75 gpm each) rotary drum thickeners, equipped with polymer injection. Thickened sludge is pumped to a 55,000-gallon sludge holding tank. Where it is held until it is transferred by truck to the Northeast WRF (FL0128937) for final treatment and dewatering.

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)

D-001:

Effluent Limitations				Monitoring Requirements				
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow to D-001	MGD	Max	5.0	Annual Average	Monthly	Calculated	FLW-02	See I.A.4
Flow to D-001	MGD	Max	Report	Monthly Average	Continuous	Recording Flow Meter with Totalizer	FLW-02	See I.A.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max	5.0	Annual Average	Monthly	Calculated		EFA-01
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC		EFA-01
Solids, Total Suspended	mg/L	Max	5.0	Annual Average	Monthly	Calculated		EFA-01
Solids, Total Suspended	mg/L	Max Max Max	6.25 7.5 10.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC		EFA-01
Nitrogen, Total	mg/L	Max	3.0	Annual Average	Monthly	Calculated		EFA-01
Nitrogen, Total	mg/L	Max Max Max	3.75 4.5 6.0	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC		EFA-01
Phosphorus, Total (as P)	mg/L	Max	Report	Annual Average	Monthly	Calculated		EFA-01
Phosphorus, Total (as P)	mg/L	Max Max Max	Report Report Report	Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC		EFA-01
Solids, Total Suspended	mg/L	Max	5.0	Single Sample	5 Days/Week	Grab	EFB-01	See I.A.5
pH	s.u.	Min Max	6.5 8.5	Single Sample Single Sample	Continuous	Meter	EFA-01	See I.A.3
Coliform, Fecal, % less than detection	percent	Min	75	Monthly Minimum	Monthly	Calculated	EFA-01	See I.A.5

Coliform, Fecal	#/100mL	Max	25	Single Sample	5 Days/Week	Grab		EFA-01
Chlorine, Total Residual (For Disinfection)	mg/L	Min	1.0	Single Sample	Continuous	Meter	EFA-01	See I.A.3 and I.A.6
Chlorine, Total Residual (For Dechlorination)	mg/L	Max	0.01	Single Sample	Daily; 24 hours	Grab		EFD-01
Enterococci	#/100mL	Max	35	Monthly Geometric Mean	Monthly	Calculated		EFA-01
Enterococci	#/100mL	Max	276	Single Sample	5/Month	Grab		EFA-01
Copper, Total Recoverable	ug/L	Max	3.7	Single Sample	Monthly	Grab		EFD-01
Dichlorobromomethane	ug/L	Max	43.0	Annual Average	Monthly	Calculated		EFD-01
Dichlorobromomethane	ug/L	Max	Report	Single Sample	Monthly	Grab		EFD-01
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Grab		EFD-01
Nitrogen, Total (East)	ton/mth	Max	Report	Monthly Total	Monthly	Calculated	EFA-01	See.I.A.9
Nitrogen, Total (East)	ton/yr	Max Max	Report Report	Annual Total 5 Year Average	Monthly	Calculated	EFA-01	See.I.A.9
Nitrogen, Total East & NE	ton/mth	Max	Report	Monthly Total	Monthly	Calculated	CAL-01	See.I.A.9
Nitrogen, Total East & NE	ton/yr	Max Max	40.65 27.1	Annual Total 5 Year Average	Monthly	Calculated	CAL-01	See.I.A.9
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Quarterly	24-hr FPC	EFD-01	See I.A.7
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Quarterly	24-hr FPC	EFD-01	See I.A. 7

PART I: Continued	
Receiving Waters: Old Tampa Bay	**Classification (indicate whether fresh or marine):** Class II Marine waters (WBID No. 1558H)

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) for reproduction or growth shall not be less than 100% effluent. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]

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

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted once every three months, the first starting within 60 days of the effective date of this permit and lasting for the duration of this permit.

(2) Upon completion of four consecutive valid routine tests that demonstrate compliance with the effluent limitation in I.A.7.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in I.A.7.a.(1) above.

(3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency.

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three flow proportional 24-hr composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.

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

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

d. Test Requirements

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

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

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

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

e. Quality Assurance Requirements

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

SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.
(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or the "test acceptability criteria" are not met, the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.
(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.
(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows: (a) Routine and Additional Follow-up Test Results: The calculated IC25 for reproduction or growth for each test species shall be entered on the DMR.
(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.
(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA- 821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.
(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.
(5) The same bioassay data shall not be reported as the results of more than one test.
(6) All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection
Southwest District Office
13051 N Telecom Pkwy,
Temple Terrace, Florida 33637-926
swd_dw@dep.state.fl.us

g. Test Failures
(1) A test fails when the test results do not meet the limits in I.A.7.a.(1).
(2) Additional Follow-up Tests:
(a) If a routine test does not meet the chronic toxicity limitation in I.A.7.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with I.A.7.d.
(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
(b) The Department shall review and approve the plan before initiation.
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
(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 I.A.7.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in I.A.7.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in I.A.7.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in I.A.7.a.(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.

(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

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

Short Form Consent Order OGC File No. 20-0100 was executed on May 29, 2020. The Department sought $37,600.00 in civil penalties, $7,592.64 in economic benefit, and $250.00 for costs and expenses which amounts to a total of $53,842.64. The City had a 40,800 gallons sanitary sewer overflows that entered surface water and an unauthorized discharge of 3.0 million gallons of partially treated wastewater to Stevenson creek.

Long Form Consent Order OGC File No. 21-0522 was executed on July 16, 2021. The Department sought out $22,000 in civil penalties, $11,000 for history of non-compliance, $124.93 in economic benefit, and $500.00 for costs and expenses which amounts to a total of $33,624.93. The City had overflows from September 23 – November 14, 2020 that discharged into surface waters. Also, the City of Clearwater Marshall Street WRF had exceedances for dibromochloromethane (DBCM) at monitoring group D-001 and monitoring location EFD-01.

Facility Mixing Zone Details (if applicable):

N/A

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

DMR Review from 03/01/2021-02/28/2022

Monitoring Site	Date	Monitoring	Description	Result	Limit	Units	Statistical Base
D-001	07/31/2021	EFA-01	Coliform, Fecal, % less than detection	65.0	75.0	percent	MO - Monthly Minimum
R-001	07/31/2021	EFA-01	Coliform, Fecal, % less than detection	65.0	75.0	percent	MO - Monthly Minimum
D-001	10/31/2021	EFB-01	Solids, Total Suspended	5.8	5.0	mg/L	MB – Maximum
R-001	10/31/2021	EFB-01	Solids, Total Suspended	5.8	5.0	mg/L	MB – Maximum
D-001	12/31/2021	EFB-01	Solids, Total Suspended	5.4	5.0	mg/L	MB – Maximum
R-001	12/31/2021	EFB-01	Solids, Total Suspended	5.4	5.0	mg/L	MB – Maximum

Describe previous FYI and WQBEL study:
N/A

Describe previous or current Enforcement Actions (including WLs):

1. WL19-54DW52SWD sent on August 5, 20219 for unauthorized discharges and sanitary sewer overflows (SSOs).
2. Short Form Consent Order OGC File No. 20-0100 executed on 05/29/2020 for unauthorized discharged. Enforcement case closed on May 14, 2021.
3. WL20-120DW52SWD sent on August 25, 2020 for unauthorized discharges and sanitary sewer overflows. Warning letter closure sent on September 21, 2020.
4. WL20-163DW52SWD sent on October 15, 2020 for total suspended solid internal laboratory certification revoked. Warning letter closure sent on November 20, 2020.
5. Long Form Consent Order OGC File No. 21-0522 executed on July 16, 2021 for unauthorized discharges, SSOs, and Clearwater Marshall Street WRF [FL0021857] DBCM exceedances. Under the consent order, the City's three wastewater treatment facilities are under stipulated penalties. Monthly warning letters are sent to the City then stipulated penalties are sent for every quarter.
    a. WL21-125DW52SWD sent on August 6, 2021 for unauthorized discharges and sanitary sewer overflows.
    b. WL21-143DW52SWD sent on September 14, 2021 for unauthorized discharges and sanitary sewer overflows.
    c. WL21-153DW52SWD sent on December 2, 2021 for unauthorized discharges and sanitary sewer overflows.
    d. WL21-183DW52SWD sent on December 21, 2021 for unauthorized discharges and sanitary sewer overflows
    e. OGC File No. 21-0522 quarterly stipulated penalty for Quarter 3 2021 sent on January 7, 2021 regarding unauthorized discharges and sanitary sewer overflows. Facility elected to conduct an in-kind project.
    f. WL22-01DW52SWD sent on January 28, 2022 for unauthorized discharges and sanitary sewer overflows.

Describe any violations or problems noted in previous inspection:
10/02/2019 CEI/SSOP: Alarm not functioning at lift stations and the facility experienced several SSOs.

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

D-001 at sampling location EFD-01: IC25 Statre 7day Chr Ceriodaphnia exceedance occurred June 2017 and January 2019. This appears to be abnormal occurrences and isolated events. No additional trending.

D-001 at sampling location EFA-01: BOD, Carbonaceous 5 day, 20c exceedances occurred August 2017, October 2017, January 2018, February 2018, May 2018, July 2018, and August 2018. In the permit scheduled items, the facility was to prepare a study to address these exceedances which was submitted on July 13, 2017.

D-001 at sampling location EFA-01: Fecal Coliform exceedance occurred on July 2021. This appears to be abnormal occurrences and isolated events. No additional trending.

D-001 and R-001 at sampling location EFB-01: Total suspended solids exceedance occurred on October 2021 and December 2021. This appears to be abnormal occurrences and isolated events. No additional trending.

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.

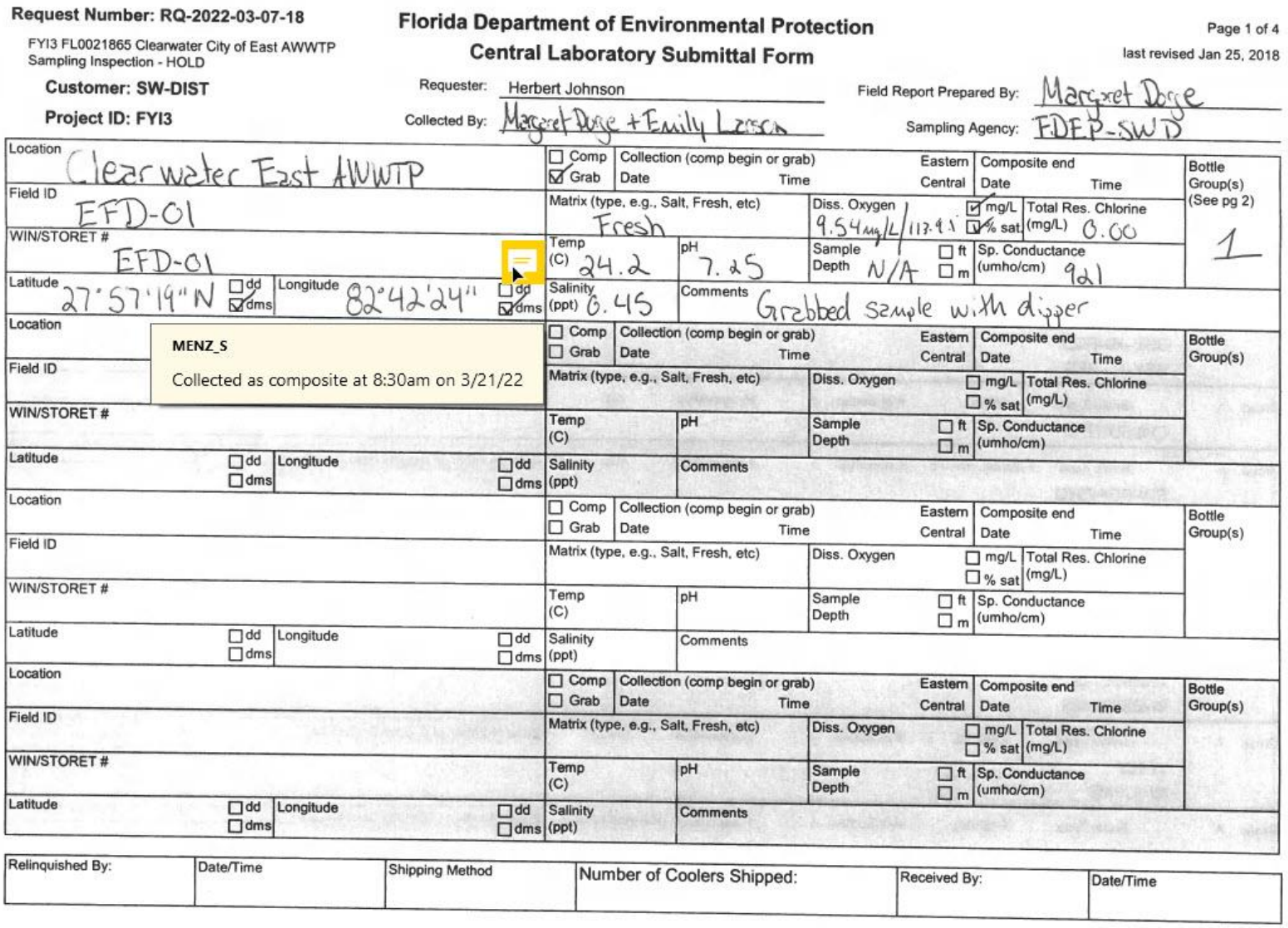
- **Chlorophyll *a* Content**

  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-2022-03-07-18

FYI3 FL0021865 Clearwater City of East AWWTP Sampling Inspection - HOLD

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Herbert Johnson

Collected By: Margaret Doge + Emily Lassa

Field Report Prepared By: Margaret Doge

Sampling Agency: FDEP-SWD

Location: Clearwater East AWWTP	☐ Comp ☑ Grab	Collection (comp begin or grab) Date / Time / Eastern Central:			Composite end Date / Time:				Bottle Group(s) (See pg 2): 1
Field ID: EFD-01	Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen: 9.54 mg/L / 113.9 % sat			Total Res. Chlorine (mg/L): 0.00			
WIN/STORET #: EFD-01	Temp (C): 24.2	pH: 7.25	Sample Depth: N/A ☐ ft ☐ m			Sp. Conductance (umho/cm): 921			
Latitude: 27°57'19"N ☐ dd ☑ dms	Longitude: 82°42'24" ☐ dd ☑ dms		Salinity (ppt): 0.45			Comments: Grabbed sample with dipper			
Location	MENZ_S: Collected as composite at 8:30am on 3/21/22								
Field ID	☐ Comp ☐ Grab	Collection (comp begin or grab) Date / Time / Eastern Central			Composite end Date / Time				Bottle Group(s)
WIN/STORET #	Matrix (type, e.g., Salt, Fresh, etc)		Diss. Oxygen ☐ mg/L ☐ % sat			Total Res. Chlorine (mg/L)			
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Temp (C)	pH	Sample Depth ☐ ft ☐ m		Sp. Conductance (umho/cm)		
			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

Request Number: RQ-2022-03-07-18

FYI3 FL0021865 Clearwater City of East AWWTP Sampling Inspection - HOLD

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

Page 1 of 4

last revised Jan 25, 2018

Requester: Herbert Johnson

Field Report Prepared By: Margaret Dorge

Collected By: Margaret Dorge & Emily Larson

Sampling Agency: FDEP - SWD

Location: Clearwater East AWWTP	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 3/21/22 Time 10:30 AM	Eastern / Central	Composite end Date	Time	Bottle Group(s) (See pg 2)		
Field ID: EFD-01	Matrix (type, e.g., Salt, Fresh, etc): Fresh	Diss. Oxygen 9.54 mg/L 113.9 %	☑ mg/L ☑ % sat	Total Res. Chlorine (mg/L) 0.00		25 MD A		
WIN/STORET #: EFD-01	Temp (C) 24.2	pH 7.25	Sample Depth N/A	☐ ft ☐ m	Sp. Conductance (umho/cm)			
Latitude 27° 57' 19" N ☐ dd ☑ dms	Longitude 82° 42' 24" ☐ dd ☑ dms	Salinity (ppt) 0.45	Comments: Grabbed sample with dipper					
Location: Clearwater East AWWTP	☑ Comp ☐ Grab	Collection (comp begin or grab) Date 3/20/2022 Time 8:30 AM	Eastern / Central	Composite end Date 3/21/22 Time 8:30 AM		Bottle Group(s) MD B B		
Field ID: EFD-01	Matrix (type, e.g., Salt, Fresh, etc): Fresh	Diss. Oxygen 9.54 mg/L 113.9 %	☑ mg/L ☑ % sat	Total Res. Chlorine (mg/L) 0.00				
WIN/STORET #: EFD-01	Temp (C) 24.2	pH 7.25	Sample Depth N/A	☐ ft ☐ m	Sp. Conductance (umho/cm)			
Latitude 27° 57' 19" N ☐ dd ☑ dms	Longitude 82° 42' 24" ☐ dd ☑ dms	Salinity (ppt) 0.45	Comments: Split sample with facility					
Location: Field Blanks	☐ Comp ☑ Grab	Collection (comp begin or grab) Date 3/22 MD 3/21/22 Time 10:55 AM	Eastern / Central	Composite end Date	Time	Bottle Group(s) C		
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
				Devon Pritchard	3.22.22/1020

AB 3/22/22 10:05

Appendix D. Chemical Analysis of Effluent

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:30	Effluent Grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	3.00 U	mg DryWt/L	3.00	3.00
3/21/2022 10:30	Effluent Grab	AGP/LN	Algal Growth Potential	1.98 A	mg DryWt/L	0.300	0.900
3/21/2022 10:30	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.96 U	µg/L	0.96	2.9
3/21/2022 10:30	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.0 U	µg/L	1.0	3.2
3/21/2022 10:30	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	1.2 I	µg/L	0.70	2.1
3/21/2022 10:30	Effluent Grab	Overflow	Enterococci-Quanti-Tray	10 U	MPN/100 mL	10	10
3/21/2022 10:30	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
3/21/2022 8:30	Effluent Grab	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L	2.0	2.0
3/21/2022 10:30	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100 L	LC50		
3/21/2022 10:30	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
3/21/2022 10:30	Effluent Grab	Metals	Potassium	14.6	mg/L	0.30	1.2
3/21/2022 10:30	Effluent Grab	Metals	Copper	2.21	µg/L	0.40	0.80
3/21/2022 10:30	Effluent Grab	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
3/21/2022 10:30	Effluent Grab	Metals	Arsenic	2.87	µg/L	0.050	0.20
3/21/2022 10:30	Effluent Grab	Metals	Zinc	48	µg/L	5.0	20
3/21/2022 10:30	Effluent Grab	Metals	Lead	0.20 U	µg/L	0.20	0.40
3/21/2022 10:30	Effluent Grab	Metals	Silver	0.010 U	µg/L	0.010	0.040
3/21/2022 10:30	Effluent Grab	Metals	Selenium	0.20 U	µg/L	0.20	0.80
3/21/2022 10:30	Effluent Grab	Metals	Aluminum	30	µg/L	5.0	20
3/21/2022 10:30	Effluent Grab	Metals	Iron	30 U	µg/L	30	120
3/21/2022 10:30	Effluent Grab	Metals	Chromium	0.40 U	µg/L	0.40	1.6
3/21/2022 10:30	Effluent Grab	Metals	Sodium	143	mg/L	0.50	2.0
3/21/2022 10:30	Effluent Grab	Metals	Magnesium	8.23	mg/L	0.040	0.16
3/21/2022 10:30	Effluent Grab	Metals	Calcium	57.9	mg/L	0.075	0.30
3/21/2022 10:30	Effluent Grab	Metals	Nickel	1.1 I	ug/L	0.50	2.0
3/21/2022 8:30	Effluent Grab	Nutrients	Organic Carbon	6.6	mg C/L	0.50	1.0
3/21/2022 10:30	Effluent Grab	Nutrients	Chloride	200	mg Cl/L	2.0	5.0
3/21/2022 10:30	Effluent Grab	Nutrients	Turbidity	0.35 I	NTU	0.10	1.0
3/21/2022 10:30	Effluent Grab	Nutrients	Organic Carbon	6.6	mg C/L	0.50	1.0
3/21/2022 8:30	Effluent Grab	Nutrients	Ammonia-N	0.037	mg N/L	0.0020	0.0050
3/21/2022 10:30	Effluent Grab	Nutrients	Sulfate	75	mg SO4/L	2.0	5.0
3/21/2022 10:30	Effluent Grab	Nutrients	Color (true)	7.8	PCU	2.5	6.0
3/21/2022 10:30	Effluent Grab	Nutrients	Fluoride	0.59	mg F/L	0.035	0.10

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:30	Effluent Grab	Nutrients	Total-P	0.74	mg P/L	0.0050	0.050
3/21/2022 10:30	Effluent Grab	Nutrients	NO2NO3-N	0.47	mg N/L	0.0040	0.010
3/21/2022 10:30	Effluent Grab	Nutrients	Ammonia-N	0.035	mg N/L	0.0020	0.0050
3/21/2022 10:30	Effluent Grab	Nutrients	O-Phosphate-P	0.67	mg P/L	0.016	0.040
3/21/2022 8:30	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.78	mg N/L	0.080	0.20
3/21/2022 8:30	Effluent Grab	Nutrients	NO2NO3-N	0.44	mg N/L	0.0040	0.010
3/21/2022 10:30	Effluent Grab	Nutrients	Total Alkalinity	137	mg CaCO3/L	0.65	2.5
3/21/2022 8:30	Effluent Grab	Nutrients	TSS	4 I	mg/L	2.0	10
3/21/2022 8:30	Effluent Grab	Nutrients	Total-P	0.72	mg P/L	0.0050	0.050
3/21/2022 10:30	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.73	mg N/L	0.080	0.20
3/21/2022 10:30	Effluent Grab	Pesticides	Sucralose	0.98	µg/L	0.010	0.040
3/21/2022 10:30	Effluent Grab	Pesticides	Phenytoin	29	ng/L	3.6	14
3/21/2022 10:30	Effluent Grab	Pesticides	Alachlor	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Disulfoton	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Flutolanil	0.41 I	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Prodiamine	0.31 U	ng/L	0.31	1.2
3/21/2022 10:30	Effluent Grab	Pesticides	Pyriproxyfen	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
3/21/2022 10:30	Effluent Grab	Pesticides	Propargite	1.5 U	ng/L	1.5	6.2
3/21/2022 10:30	Effluent Grab	Pesticides	Atrazine	50	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Demeton	1.5 U	ng/L	1.5	6.2
3/21/2022 10:30	Effluent Grab	Pesticides	EPTC	1.3 U	ng/L	1.3	5.1
3/21/2022 10:30	Effluent Grab	Pesticides	Ethoprop	0.10 U	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Metalaxyl	0.77 U	ng/L	0.77	3.1
3/21/2022 10:30	Effluent Grab	Pesticides	Oxadiazon	0.31 U	ng/L	0.31	1.2
3/21/2022 10:30	Effluent Grab	Pesticides	Parathion Ethyl	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Pyraflufen Ethyl	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Stirophos	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Azinphos Methyl	9.9	ng/L	2.1	8.2
3/21/2022 10:30	Effluent Grab	Pesticides	Carbophenothion	2.6 U	ng/L	2.6	10
3/21/2022 10:30	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.051 U	ng/L	0.051	0.21
3/21/2022 10:30	Effluent Grab	Pesticides	Fenbuconazole	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Malathion	0.36 U	ng/L	0.36	1.4
3/21/2022 10:30	Effluent Grab	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Dimethomorph	4.1	ng/L	0.18	1.1

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:30	Effluent Grab	Pesticides	Ametryn	0.62 U	ng/L	0.62	2.5
3/21/2022 10:30	Effluent Grab	Pesticides	Atrazine Desethyl	1.5 U	ng/L	1.5	6.2
3/21/2022 10:30	Effluent Grab	Pesticides	Dithiopyr	0.18 U	ng/L	0.18	0.72
3/21/2022 10:30	Effluent Grab	Pesticides	Fipronil Sulfide	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Fluxapyroxad	0.81	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Fonofos	0.21 U	ng/L	0.21	0.82
3/21/2022 10:30	Effluent Grab	Pesticides	Imazalil	0.77 U	ng/L	0.77	3.1
3/21/2022 10:30	Effluent Grab	Pesticides	Myclobutanil	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Parathion Methyl	0.57 U	ng/L	0.57	2.3
3/21/2022 10:30	Effluent Grab	Pesticides	Propiconazole	2.6	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Sulfentrazone	2.7	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Terbufos	0.10 U	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Ibuprofen	0.020 U	ug/L	0.020	0.080
3/21/2022 10:30	Effluent Grab	Pesticides	Cyprodinil	0.10 U	ng/L	0.10	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Caffeine	7.7 U	ng/L	7.7	31
3/21/2022 10:30	Effluent Grab	Pesticides	Acetochlor	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Ethion	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Mevinphos	1.1 U	ng/L	1.1	4.3
3/21/2022 10:30	Effluent Grab	Pesticides	Pendimethalin	1.0 U	ng/L	1.0	4.1
3/21/2022 10:30	Effluent Grab	Pesticides	Simazine	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Loratadine	8.2	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Propanil	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Thiobencarb	0.62 U	ng/L	0.62	2.5
3/21/2022 10:30	Effluent Grab	Pesticides	Azoxystrobin	9.1	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Cyanazine	3.3 U	ng/L	3.3	13
3/21/2022 10:30	Effluent Grab	Pesticides	Fipronil Sulfone	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Fludioxonil	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Norflurazon	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Phorate	0.54 U	ng/L	0.54	2.2
3/21/2022 10:30	Effluent Grab	Pesticides	Coumaphos	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Napropamide	0.41 U	ng/L	0.41	1.6
3/21/2022 10:30	Effluent Grab	Pesticides	Pyridaben	0.46 U	ng/L	0.46	2.3
3/21/2022 10:30	Effluent Grab	Pesticides	Triadimefon	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Bromacil	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Carfentrazone Ethyl	0.10 U	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Difenoconazole	0.62 U	ng/L	0.62	2.5

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:30	Effluent Grab	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.41
3/21/2022 10:30	Effluent Grab	Pesticides	Molinate	0.31 U	ng/L	0.31	1.2
3/21/2022 10:30	Effluent Grab	Pesticides	Naled	1.5 U	ng/L	1.5	6.2
3/21/2022 10:30	Effluent Grab	Pesticides	Prometryn	0.21 U	ng/L	0.21	0.82
3/21/2022 10:30	Effluent Grab	Pesticides	Tebuconazole	15	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Terbuthylazine	0.44 U	ng/L	0.44	1.7
3/21/2022 10:30	Effluent Grab	Pesticides	Chlorfenapyr	3.3	ng/L	0.18	0.72
3/21/2022 10:30	Effluent Grab	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.62
3/21/2022 10:30	Effluent Grab	Pesticides	Butylate	0.41 U	ng/L	0.41	1.6
3/21/2022 10:30	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Fenamiphos	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Fipronil	0.26 U	ng/L	0.26	1.0
3/21/2022 10:30	Effluent Grab	Pesticides	Fipronil Desulfinyl	0.13 U	ng/L	0.13	0.51
3/21/2022 10:30	Effluent Grab	Pesticides	Flumioxazin	1.8 U	ng/L	1.8	7.2
3/21/2022 10:30	Effluent Grab	Pesticides	Hexazinone	0.51 U	ng/L	0.51	2.1
3/21/2022 10:30	Effluent Grab	Pesticides	Iprodione	0.62 U	ng/L	0.62	2.5
3/21/2022 10:30	Effluent Grab	Pesticides	Metolachlor	0.36 U	ng/L	0.36	1.4
3/21/2022 10:30	Effluent Grab	Pesticides	Metribuzin	2.6 U	ng/L	2.6	10
3/21/2022 10:30	Effluent Grab	Pesticides	Prometon	0.92 U	ng/L	0.92	3.7
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	2.1 U	µg/L	2.1	8.3
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	µg/L	1.0	4.2
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.10 U	µg/L	0.10	0.42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.2 U	µg/L	5.2	21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	2.1 U	µg/L	2.1	8.3
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.21 U	µg/L	0.21	0.83
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	µg/L	3.1	12
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	10 U	µg/L	10	42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	10 U	µg/L	10	42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzidine	10 U	µg/L	10	42

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Fluorene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Bromodichloromethane	38	µg/L	0.20	0.80
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Phenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Pyrene	0.10 U	µg/L	0.10	0.42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	10 U	µg/L	10	42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.52 U	µg/L	0.52	2.1
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Anthracene	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Isophorone	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.10 U	µg/L	0.10	0.42
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Chrysene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	µg/L	2.1	8.3
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.052 U	µg/L	0.052	0.21
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.026 U	µg/L	0.026	0.10
3/21/2022 10:30	Effluent Grab	Nutrients	Dissolved Oxygen %Sat	113.9	%Sat		
3/21/2022 10:30	Effluent Grab	Nutrients	Salinity	0.45	PPTh		

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 8:30	Effluent Grab	Nutrients	Salinity	0.45	PPTh		
3/21/2022 8:30	Effluent Grab	Nutrients	Dissolved Oxygen %Sat	113.9	%Sat		
3/21/2022 8:30	Effluent Grab	Nutrients	pH	7.25			
3/21/2022 10:30	Effluent Grab	Nutrients	Temperature	24.2	C		
3/21/2022 10:30	Effluent Grab	Nutrients	pH	7.25			
3/21/2022 8:30	Effluent Grab	Nutrients	Temperature	24.2	C		
3/21/2022 10:55	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
3/21/2022 10:55	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
3/21/2022 10:55	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
3/21/2022 10:55	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
3/21/2022 10:55	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
3/21/2022 10:55	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
3/21/2022 10:55	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
3/21/2022 10:55	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
3/21/2022 10:55	Blank	Metals	Iron	30 U	µg/L	30	120
3/21/2022 10:55	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
3/21/2022 10:55	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
3/21/2022 10:55	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
3/21/2022 10:55	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
3/21/2022 10:55	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
3/21/2022 10:55	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
3/21/2022 10:55	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
3/21/2022 10:55	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
3/21/2022 10:55	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
3/21/2022 10:55	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010
3/21/2022 10:55	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
3/21/2022 10:55	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
3/21/2022 10:55	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
3/21/2022 10:55	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	1.0
3/21/2022 10:55	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
3/21/2022 10:55	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
3/21/2022 10:55	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
3/21/2022 10:55	Blank	Nutrients	Organic Carbon	0.84 I	mg C/L	0.50	1.0
3/21/2022 10:55	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
3/21/2022 10:55	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
3/21/2022 10:55	Blank	Pesticides	Thiobencarb	0.64 U	ng/L	0.64	2.6
3/21/2022 10:55	Blank	Pesticides	Ametryn	0.64 U	ng/L	0.64	2.6

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:55	Blank	Pesticides	Azoxystrobin	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Chlorpyrifos Methyl	0.053 U	ng/L	0.053	0.21
3/21/2022 10:55	Blank	Pesticides	Dimethenamid	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Disulfoton	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Fludioxonil	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Flutolanil	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Imazalil	0.80 U	ng/L	0.80	3.2
3/21/2022 10:55	Blank	Pesticides	Malathion	0.37 U	ng/L	0.37	1.5
3/21/2022 10:55	Blank	Pesticides	Metribuzin	2.7 U	ng/L	2.7	11
3/21/2022 10:55	Blank	Pesticides	Tebuconazole	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Phenytoin	3.7 U	ng/L	3.7	15
3/21/2022 10:55	Blank	Pesticides	Atrazine	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Butylate	0.43 U	ng/L	0.43	1.7
3/21/2022 10:55	Blank	Pesticides	Demeton	1.6 U	ng/L	1.6	6.4
3/21/2022 10:55	Blank	Pesticides	Difenoconazole	0.64 U	ng/L	0.64	2.6
3/21/2022 10:55	Blank	Pesticides	Fenbuconazole	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Fipronil Sulfone	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Oxadiazon	0.32 U	ng/L	0.32	1.3
3/21/2022 10:55	Blank	Pesticides	Oxyfluorfen	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Sulfentrazone	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Coumaphos	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Propanil	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Bromacil	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Ethion	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Fipronil	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Fluxapyroxad	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Parathion Methyl	0.59 U	ng/L	0.59	2.3
3/21/2022 10:55	Blank	Pesticides	Phorate	0.56 U	ng/L	0.56	2.2
3/21/2022 10:55	Blank	Pesticides	Prometryn	0.21 U	ng/L	0.21	0.85
3/21/2022 10:55	Blank	Pesticides	Propiconazole	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Simazine	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Stirophos	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Atrazine Desethyl	1.6 U	ng/L	1.6	6.4
3/21/2022 10:55	Blank	Pesticides	Carbophenothion	2.7 U	ng/L	2.7	11
3/21/2022 10:55	Blank	Pesticides	Chlorpyrifos Ethyl	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Cyanazine	3.5 U	ng/L	3.5	14
3/21/2022 10:55	Blank	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.53

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:55	Blank	Pesticides	EPTC	1.3 U	ng/L	1.3	5.3
3/21/2022 10:55	Blank	Pesticides	Fluazifop-P-butyl	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Fonofos	0.21 U	ng/L	0.21	0.85
3/21/2022 10:55	Blank	Pesticides	Caffeine	8.0 U	ng/L	8.0	32
3/21/2022 10:55	Blank	Pesticides	Loratadine	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Pyridaben	0.48 U	ng/L	0.48	2.4
3/21/2022 10:55	Blank	Pesticides	Triadimefon	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Acetochlor	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Azinphos Methyl	2.1 U	ng/L	2.1	8.5
3/21/2022 10:55	Blank	Pesticides	Dithiopyr	0.19 U	ng/L	0.19	0.75
3/21/2022 10:55	Blank	Pesticides	Fenamiphos	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Flumioxazin	1.9 U	ng/L	1.9	7.5
3/21/2022 10:55	Blank	Pesticides	Hexazinone	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Metalaxyl	0.80 U	ng/L	0.80	3.2
3/21/2022 10:55	Blank	Pesticides	Myclobutanil	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Naled	1.6 U	ng/L	1.6	6.4
3/21/2022 10:55	Blank	Pesticides	Norflurazon	0.53 U	ng/L	0.53	2.1
3/21/2022 10:55	Blank	Pesticides	Pronamide	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Terbufos	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Pyraflufen Ethyl	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Alachlor	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Carfentrazone Ethyl	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Ethoprop	0.11 U	ng/L	0.11	0.43
3/21/2022 10:55	Blank	Pesticides	Fipronil Sulfide	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Mevinphos	1.1 U	ng/L	1.1	4.5
3/21/2022 10:55	Blank	Pesticides	Molinate	0.32 U	ng/L	0.32	1.3
3/21/2022 10:55	Blank	Pesticides	Parathion Ethyl	0.27 U	ng/L	0.27	1.1
3/21/2022 10:55	Blank	Pesticides	Pyriproxyfen	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Etridiazole	0.16 U	ng/L	0.16	0.64
3/21/2022 10:55	Blank	Pesticides	Napropamide	0.43 U	ng/L	0.43	1.7
3/21/2022 10:55	Blank	Pesticides	Fipronil Desulfinyl	0.13 U	ng/L	0.13	0.53
3/21/2022 10:55	Blank	Pesticides	Metolachlor	0.37 U	ng/L	0.37	1.5
3/21/2022 10:55	Blank	Pesticides	Prometon	0.96 U	ng/L	0.96	3.8
3/21/2022 10:55	Blank	Pesticides	Terbuthylazine	0.45 U	ng/L	0.45	1.8
3/21/2022 10:55	Blank	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
3/21/2022 10:55	Blank	Pesticides	Chlorfenapyr	0.19 U	ng/L	0.19	0.75
3/21/2022 10:55	Blank	Pesticides	Cyprodinil	0.11 U	ng/L	0.11	0.53

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:55	Blank	Pesticides	Dimethomorph	0.19 U	ng/L	0.19	1.1
3/21/2022 10:55	Blank	Pesticides	Propargite	1.6 U	ng/L	1.6	6.4
3/21/2022 10:55	Blank	Pesticides	Iprodione	0.64 U	ng/L	0.64	2.6
3/21/2022 10:55	Blank	Pesticides	Pendimethalin	1.1 U	ng/L	1.1	4.3
3/21/2022 10:55	Blank	Pesticides	Prodiamine	0.32 U	ng/L	0.32	1.3
3/21/2022 10:55	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.4 U	µg/L	3.4	14
3/21/2022 10:55	Blank	Priority Organic Pollutants	Hexachloroethane	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Bromodichloromethane	0.20 U	µg/L	0.20	0.80
3/21/2022 10:55	Blank	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	45
3/21/2022 10:55	Blank	Priority Organic Pollutants	Fluorene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Fluoranthene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.3 U	µg/L	2.3	9.1
3/21/2022 10:55	Blank	Priority Organic Pollutants	Chrysene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.7 U	µg/L	5.7	23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	µg/L	11	45
3/21/2022 10:55	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	45
3/21/2022 10:55	Blank	Priority Organic Pollutants	Acenaphthylene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Isophorone	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.45
3/21/2022 10:55	Blank	Priority Organic Pollutants	Phenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.5
3/21/2022 10:55	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.23 U	µg/L	0.23	0.92
3/21/2022 10:55	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Pentachlorophenol	0.57 U	µg/L	0.57	2.3
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Nitrobenzene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Anthracene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.057 U	µg/L	0.057	0.23

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
3/21/2022 10:55	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.45
3/21/2022 10:55	Blank	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.45
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Acenaphthene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2-Chlorophenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	45
3/21/2022 10:55	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.028 U	µg/L	0.028	0.11
3/21/2022 10:55	Blank	Priority Organic Pollutants	Diethyl phthalate	2.3 U	µg/L	2.3	9.1
3/21/2022 10:55	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.3 U	µg/L	2.3	9.1
3/21/2022 10:55	Blank	Priority Organic Pollutants	2-Nitrophenol	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.057 U	µg/L	0.057	0.23
3/21/2022 10:55	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.057 U	µg/L	0.057	0.23