Effluent Quality Assessment of Falkenburg Road Advanced Wastewater Treatment Facility, Hillsborough County NPDES # FL0040614 Sampled January 10, 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 III Water Quality Criteria for Marine Waters and effluent permit limits. The facility reported several 7-day chronic toxicity bioassay failures in 2021 for the water flea, *Ceriodaphnia dubia (C. dubia)*. For this sampling event, the effluent sample was not toxic to *C. dubia* or the fish, *Cyprinella leedsi*, in the 96-hour acute bioassays. Additionally, 21 organic constituents were detected in the effluent composite sample.

Facility Overview

The Falkenburg Road 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 continuously discharged into Palm River/Hillsborough River Bypass Canal, a Class III Marine Water [waterbody identification (WBID) 1536E] which flows to Hillsborough Bay then to Tampa Bay (Figure 1).

Receiving waters for this facility fall under the Estuary-Specific Numeric Interpretations of the Narrative Nutrient Criteria for Hillsborough Bay within the Tampa Bay estuary. For this region, the NNC, expressed as annual totals, are 1.28 tons/million cubic meters of water total phosphorus and 1.62 tons/million cubic meters of water total nitrogen (Subaragraph 62-302.532(1)(b)2., F.A.C.). The criterion for chlorophyll *a*, expressed as an annual mean, is 15.0 µg/L. 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

Effluent samples were taken as grab and composite samples from monitoring site location EFA-01 for outfall D-001 on January 10, 2022. All analytes that were scheduled to be analyzed in an effluent composite sample were collected as grab samples. With the exception of microbiology analyses, all analytes scheduled as effluent grab samples were collected as effluent composite samples.

Samples were collected by Lance Kautz, Amandla Hill, and Emily Larson (Southwest District Office). Analyses were performed by Benchmark EnvironAnalytical 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 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.

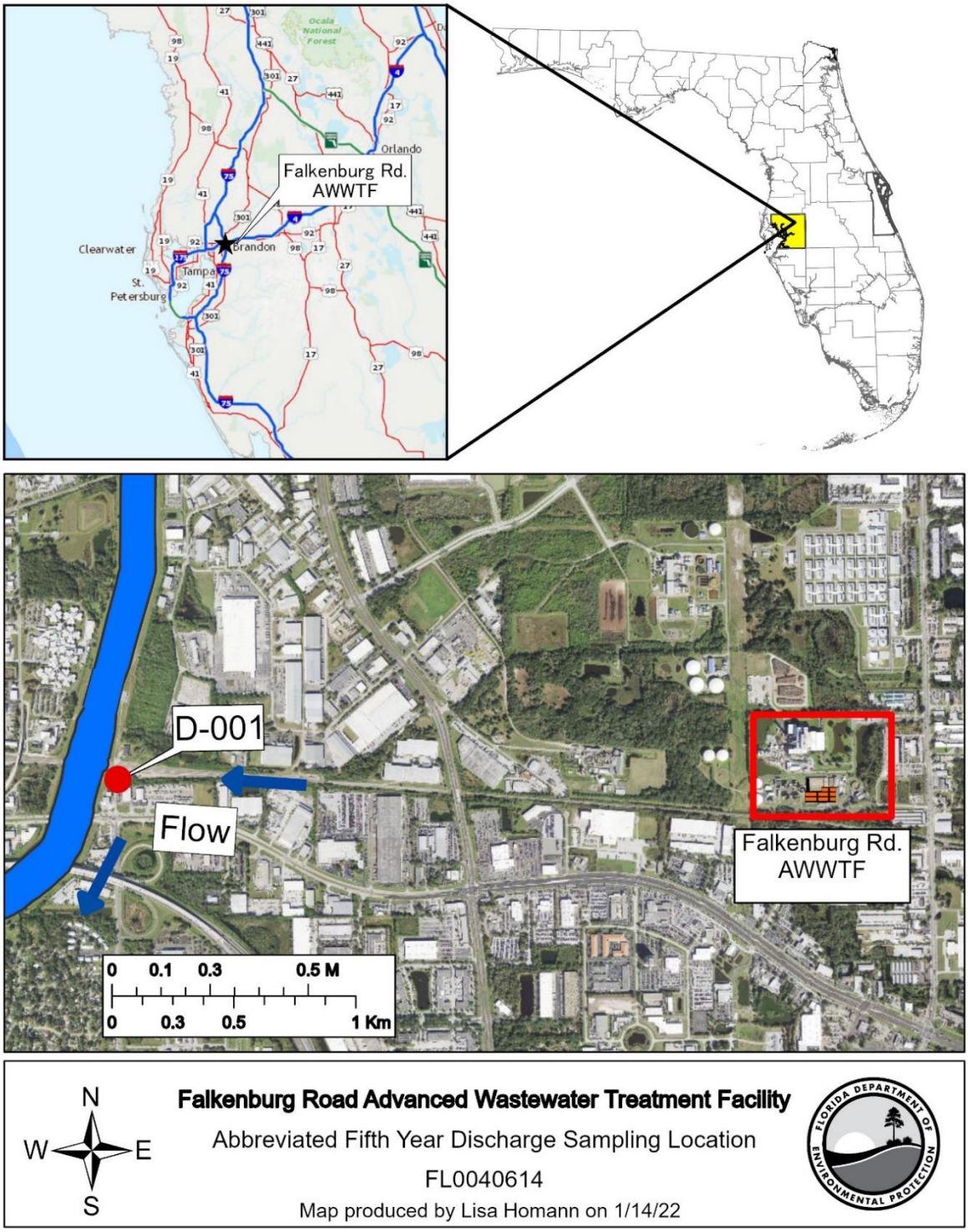


Figure 1. Map of Facility and Discharge Location

Results

Physical and Chemical Parameters (See Table 1 and Appendices C and 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 sample complied with Class III Water Quality Criteria for Marine Waters 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 enterococci levels complied with Class III Water Quality Criteria for Marine Waters. Effluent enterococci and fecal coliform levels complied with effluent permit limits.

Toxicity Whole Effluent Test (See Table 2)

- Tests were performed January 11 through January 15, 2022.

- The sample was aerated for 30 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 11.3 mg/L to 8.8 mg/L.

- 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, *Cyprinella leedsi*, was 100% effluent with 0% mortality in 100% sample. The effluent sample was not toxic to either test species during the 96-hour acute definitive bioassays 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 III Water Quality Criteria for Marine Waters. There are no effluent permit limits for metals.

Algal Growth Potential (See Table 4 and Appendix B)

- The freshwater unicellular green alga, *Pseudokirchneriella subcapitata* was used to determine the AGP values in the effluent composite samples. The analytical chemistry suggests that the effluent is nitrogen-limited (Miller et al. 1978).

- The effluent composite sample AGP result of 15.4 mg dry wt/L is within the AGP range (6.10 to 20.0 mg dry wt/L) suggested to be representative of high productivity for freshwater (Miller et al. 1978).

Organic Constituents (See Table 5 and Appendix D)

- Atrazine, atrazine desethyl, azoxystrobin, caffeine, chlorfenapyr, cyprodinil, dimethomorph, fipronil, fipronil desulfinyl, fipronil sulfide, fipronil sulfone, fludioxonil, flutolanil, fluxapyroxad, loratadine, phenytoin, prodiamine, propiconazole, simazine, sulfentrazone and tebuconazole were detected in the effluent composite sample.

- There are no effluent permit limits for organic constituents.

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 III Water Quality Criteria for Marine Waters, and field parameters

Parameter	Units	Class III Criteria	Effluent Permit Limits	Effluent Grab EFA-01
Sample Depth	m	-	-	1
Temperature	C	-	-	25.4
pH	SU	6.5 - 8.5	6.5 - 8.5	7.3
Specific Conductance	umhos/cm	-	-	1,237
Salinity	ppth	-	-	0.6 c
Dissolved Oxygen	% saturation	≥ 42	-	99.3
Dissolved Oxygen	mg/L	-	≥ 5.0 (EFD-01)	8.1

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

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 EFA-01	Effluent Grab EFA-01
Ortho-phosphate	mg P/L	-	-	0.3	-
Total Phosphorus	mg P/L	-	Report	-	0.4
Total Ammonia	mg N/L	-	-	-	0.5
Un-ionized Ammonia (calc salinity)	mg N/L	-	-	-	≤ 0.02 c
Nitrate and Nitrite	mg N/L	-	-	-	1.5
Total Kjeldahl Nitrogen	mg N/L	-	-	-	1.4
Organic Nitrogen	mg N/L	-	-	-	0.9 c
Total Nitrogen	mg N/L	-	≤ 6.0 s p	-	2.9 c
Total Organic Carbon [1]	mg C/L	-	-	-	6.1
Chlorophyll *a* - Corrected	µg/L	≤ 15.0 a	-	0.8 U	-
Phaeophytin	µg/L	-	-	0.9 U	-
CBOD, 5-day, N - inhibited	mg/L	-	≤ 10.0 s p	-	2.0 U
Hardness	mg CaCO3/L	-	-	296 c	-
Total Suspended Solids	mg/L	-	≤ 10 s p	-	2 U
Turbidity	NTU	≤ 29 t	-	0.6	-
Color (true)	PCU	-	-	19	-
Alkalinity	mg CaCO3/L	-	-	187	-
Chloride	mg Cl/L	-	-	120	-
Fluoride	mg F/L	≤ 5.0	-	0.6	-
Sulfate	mg SO4/L	-	-	180	-
Fecal Coliforms	cfu/100 mL	-	≤ 25 s	-	1 U
Enterococci	MPN/100mL	≤ 130	≤ 130	-	10 U
Bioassay- Water flea *(C. dubia)*	% effluent	-	≥ 100 p	-	> 100
Bioassay- Fish *(P. promelas)*	% effluent	-	≥ 100 p	-	> 100

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a - Annual average
c - Value is calculated
p - 24-hour 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 EFA-01
Aluminum	µg/L	≤ 1,500	-	43
Arsenic	µg/L	≤ 50	-	0.16 I
Cadmium	µg/L	≤ 8.8	-	0.020 U
Calcium	mg/L	-	-	82.6
Chromium, Total [2]	µg/L	≤ 50	-	0.40 U
Copper	µg/L	≤ 3.7	-	0.56 I
Iron	µg/L	≤ 300	-	40 I
Lead	µg/L	≤ 8.5	-	0.20 U
Magnesium	µg/L	-	-	21.7
Nickel	µg/L	≤ 8.3	-	2.0
Potassium	mg/L	-	-	18.9
Selenium	µg/L	≤ 71	-	0.20 U
Silver	µg/L	≤ 2.3	-	0.010 U
Sodium	mg/L	-	-	104
Zinc	µg/L	≤ 86	-	27

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.
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Class III 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 Composite EFA-01	*Pseudokirchneriella subcapitata*	15.4 A	78 ± 16	140 ± 28	110 ± 22	180 ± 37	6.2	6.7

A - Value reported is the mean of two or more determination.

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 Composite EFA-01
Atrazine	ng/L	-	-	31
Atrazine Desethyl	ng/L	-	-	7.6
Azoxystrobin	ng/L	-	-	4.6 J
Caffeine	ng/L	-	-	27 I
Chlorfenapyr	ng/L	-	-	3.1
Cyprodinil	ng/L	-	-	1.2
Dimethomorph	ng/L	-	-	0.2 I
Fipronil	ng/L	-	-	27
Fipronil Desulfinyl	ng/L	-	-	4.4
Fipronil Sulfide	ng/L	-	-	3.8
Fipronil Sulfone	ng/L	-	-	2.4
Fludioxonil	ng/L	-	-	5.3
Flutolanil	ng/L	-	-	0.9
Fluxapyroxad	ng/L	-	-	2.4
Loratadine	ng/L	-	-	4.2 J
Phenytoin	ng/L	-	-	12 I
Prodiamine	ng/L	-	-	0.2 I
Propiconazole	ng/L	-	-	3.1
Simazine	ng/L	-	-	3.2
Sulfentrazone	ng/L	-	-	2.1
Tebuconazole	ng/L	-	-	50

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value.

Appendix A. Facility Summary

PART I: Information gathered prior to sampling event	
Prepared By: Emily Larson	**Contact Number:** (813) 470-5955
Facility Name (as it appears on permit): Falkenburg Road Advanced Wastewater Treatment Facility	**Former Names:** N/A
NPDES Permit Number: FL0040614	**Permit Expiration Date:** In permit renewal
Physical Address: 102 N Falkenburg Road Tampa, FL 33619	
District: Southwest	**County:** Hillsborough
Function of Facility: WWTF	
Facility Type: Domestic Wastewater	**Permitted Capacity (MGD):** 12.0 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): D-001: 6.0 MGD D-003: 10.0 MGD D-006: 4.0 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): R-001: 12.0 MGD	
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, D-003, D-006

Monitoring Site Number	Description of Monitoring Site
FLW-01	Flow to discharge outfall D-001. Measured by weir/ sonic meter.
FLW-02	Flow to Reuse System R-001, (= FLW-03 - FLW-01 - FLW-17- FLW-19 - FLW-21 - FLW-23).
FLW-03	Plant flow measured by mag meter at headworks.
FLW-05	Flow meter to outfall, Port Redwing Canal, D-003.
FLW-07	Flow Meter to UIC Well U-001, SHARP 01
FLW-08	Flow meter to outfall, Kracker Avenue Estuary project, D-006
FLW-10	Flow Meter at UIC Well U-002, SHARP 02
FLW-15	Flow from the Falkenburg South Reclaim Pipe
FLW-17	Falkenburg Flow to Outfall Port Redwing Canal, D-003 If (FLW-10 > FLW-15,0, (FLW-05 x FLW-25)
FLW-19	Falkenburg Flow to UIC well U-001, If (FLW-10 FLW-15,0, (FLW-07 x FLW-25)
FLW-21	Falkenburg Flow to UIC well U-002, If (FLW-10 < FLW-15, FLW-10, FLW-15)
FLW-23	Falkenburg Flow to Outfall, Kracker Avenue Estuary Project, D-006 If (FLW-10 > FLW-15,0, (FLW-08 x FLW-25)
FLW-25	Percent contribution to FLW-05, FLW-07 & FLW-08 from Falkenburg, If (FLW-15 > FLW-05 + FLW-07 + FLW-08 + FLW-10, 100, (FLW-15 - FLW-21) / (FLW-05 + FLW-07 + FLW-08)
EFA-01	Effluent sample point after UV disinfection.
EFB-01	Turbidity monitoring / TSS sample point after filtration and prior to disinfection.
FLW-04	Flow rate through the UV system.
PPI-01	UV system monitoring location.

Description of Permitted Outfall(s):

Surface Water Discharge D-001: An existing 6.0 MGD annual average daily flow (AADF) discharge to Palm River/Hillsborough River Bypass Canal which flows to Hillsborough Bay thence to Tampa Bay (Class III Marine waters, WBID# 1536E). The outfall is approximately 8 feet below water surface and 25 feet from shore. The discharge D-001 is located approximately at latitude 27°57' 15.78" N, longitude 82°22' 10.20" W.

Surface Water Discharge D-003: An existing 10.0 MGD AADF discharge to Port Redwing Canal to Hillsborough Bay, Class III Marine waters, (WBID# 1691) which is approximately 20 feet in length and discharges at a depth of approximately 5 feet. The point of discharge is located approximately at latitude 27°48' 28" N, longitude 82°23' 51" W.

Surface Water Discharge D-006: A new 4.0 MGD AADF discharge providing reclaimed water to the Kracker Avenue Environmental Restoration project. The restoration project will assimilate the reclaimed water into the manmade wetland portion of the project, functioning as a head water flow through the site, eventually comingling with tidal waters of The Kitchen (WBID # 1676), and then to the Hillsborough Bay (WBID # 1558 D), Class III Marine Waters. The point of discharge is located approximately at latitude 27°48' 57" N, longitude 82°23' 03" W.

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

FACILITY DESCRIPTION:

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and applicable rules of the Florida Administrative Code (F.A.C.) and constitutes authorization to discharge to waters of the state under the National Pollutant Discharge Elimination System. This permit does not constitute authorization to discharge wastewater other than as expressly stated in this permit. The above-named permittee is hereby authorized to operate the facilities in accordance with the documents attached hereto and specifically described as follows:

WASTEWATER TREATMENT:

An existing 12.0 mgd annual average daily flow (AADF) Type I oxidation ditch advanced domestic wastewater treatment facility consisting of the following units: a leachate receiving station; headworks with two mechanical screens and one manual screen, grit removal, an odor control system, four fermentation basins of 312,880 gallons capacity each, with a combined capacity of 1.252 million gallons; four oxidation ditch aeration basins of 1.7 million gallons each, with a combined capacity of 6.80 million gallons; five final clarifier basins of 750,000 gallons each and a surface area of 7,854 ft2 each, providing a total capacity of 3.75 million gallons and a combined surface area of 39,270 ft2, seven dual-media deep-bed denitrification filters with a combined surface area of 3,500 ft2, a 160,000 gallon mudwell, 76,926 gallon clearwell and effluent basins with a combined capacity of 83,400 gallons, disinfection is achieved using the UV system.

Biosolids handling facilities include: two un-thickened biosolids holding tanks, one 50,000 gallons and one 800,000 gallons; four sludge screw presses (three exiting and one new) with polymer addition; and a 50,000-gallon filtrate collection tank.

Biosolids from the Falkenburg Road AWWTF, Valrico AWWTF, South County Regional AWWTF and Northwest Regional WRF can be transferred to the Southeast County Biosolids Composting Facility (SCBCMF) for processing. The SCBCMF is a new 7700 dry ton/day Type I Class AA Biosolids Processing Facility, consisting of: one active composting asphalt paved area of approximately 139,750 ft2, curing/dry area with a surface area of 60,000 ft2; and a storage area with a 10,000 ft2 surface area. The SCBCMF is located at 15960 County Road 672, Lithia, Florida.

PART I: Continued

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

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow to D-001	MGD	Max Max	6.0 Report	Annual Average Monthly Average	Continuous	Meter	FLW-01	See I.A.4
BOD, Carbonaceous 5 day, 20C	mg/L	Max Max Max Max	5.0 6.25 7.5 10.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFA-01	See I.A.6
Solids, Total Suspended	mg/L	Max Max Max Max	5.0 6.25 7.5 10	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFA-01	See I.A.6
Nitrogen, Total	mg/L	Max Max Max Max	3.0 3.75 4.5 6.0	Annual Average Monthly Average Weekly Average Single Sample	5 Days/Week	24-hr FPC	EFA-01	

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max. /Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Phosphorus, Total (as P)	mg/L	Max Max	Report Report	Monthly 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	
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 Average	Monthly	Calculated	EFA-01	See I.A.7
Coliform, Fecal	#/100mL	Max	25	Single Sample	5 Days/Week	Grab	EFA-01	
Oxygen, Dissolved (DO)	mg/L	Min	5.0	Single Sample	Daily; 24 hours	Grab	EFD-01	
Enterococci	#/100mL	Max Max	35 130	Monthly Geometric Mean 90th Percentile	5/Month	Grab	EFA-01	See I.A.8 and I.A.9
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFA-01	See I.A.10
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	percent	Min	100	Single Sample	Semi-Annually; twice per year	24-hr FPC	EFA-01	See I.A.10
Nitrogen, Total (as N) Falkenburg	ton/mth	Max	Report	Monthly Total	Monthly	Calculated	EFA-01	See I.A.12
Nitrogen, Total (as N) Falkenburg	ton/yr	Max Max	Report Report	Annual Total 5 Year Average	Monthly	Calculated	EFA-01	See I.A.12
Nitrogen, Total (as N) South County/ Falkenburg/ Valrico	ton/mth	Max	Report	Monthly Total	Monthly	Calculated	CAL-01	See I.A.12
Nitrogen, Total (as N) South County/ Falkenburg/ Valrico	ton/yr	Max Max	45.80 30.40	Annual Total 5 Year Average	Monthly	Calculated	CAL-01	See I.A.12
Flow	gal/min	Max	Report	Daily Maximum	Continuous	Meter	FLW-04	See I.A.4
Ultraviolet Light Dosage	mW-s/sqcm	Min	100	Single Sample	Continuous	Meter	PPI-01	See I.A.23
Turbidity	NTU	Max	Report	Single Sample	Continuous	Meter	EFB-01	See I.A.15

Receiving Waters:	**Classification (indicate whether fresh or marine):**
D-001: Palm River/Hillsborough River Bypass Canal which flows to Hillsborough Bay thence Tampa Bay D-003: Port Redwing Canal to Hillsborough Bay D-006: Kracker Avenue Environmental Restoration Project (manmade wetland) to The Kitchen (tidal waters) then to Hillsborough Bay	D-001: Class III Marine waters, WBID# 1536E D-003: Class III Marine waters, WBID# 1691 D-006: The Kitchen (WBID # 1676), and then to the Hillsborough Bay Class III Marine Waters (WBID # 1558 D)

1. 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 six months, the first starting within 60 days of the effective date of this permit 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 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, Suite 101,
Temple Terrace, Florida 33637-0926
Email: swd_dw@FloridaDEP.gov

g. Test Failures

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

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in I.A.1.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.1.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.1.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.1.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.1.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.1.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.):
N/A

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:

D-001	11/30/2021	EFA-01	P	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		44.4	100.0	percent	ME - Minimum
D-001	8/31/2021	EFA-01	P	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		2.7	100.0	percent	ME - Minimum
D-001	3/31/2021	EFA-01	Q	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		4.2	100.0	percent	ME - Minimum

D-001	3/31/2021	EFA-01	R	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		66.4	100.0	percent	ME - Minimum
D-001	2/28/2021	EFA-01	P	P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		5.3	100.0	percent	ME - Minimum

Describe previous FYI and WQBEL study:
N/A

Describe previous or current Enforcement Actions (including WLs):

N/A

Describe any violations or problems noted in previous inspection:

9.1 Deficiency: A review of the Discharge Monitoring Reports revealed the following exceedances during the review period.

Acute toxicity failures for *Ceriodaphnia dubia* in February 2019, March 2019, and August 2019.
Single day pH readings below the minimum 6.5 s.u. on September 16, 2018 and September 17, 2018.

Rule/Permit Reference: Rule 62-600.410(1), F.A.C., states, in part, all domestic wastewater facilities shall be operated and maintained in accordance with the applicable provisions of this chapter and related regulations so as to attain, at a minimum, the reclaimed water or effluent quality required by the wastewater facility permit.
Permit Condition I.A.1. states that pH shall not be below the minimum of 6.5 s.u. or be above the maximum of 8.5 s.u..
Corrective Action: The facility initiated a Toxicity Corrective Action Plan on April 15, 2019 which was approved by the Department on May 16, 2019. The first quarter update was received September 16, 2019. The facility also included an explanation of the pH exceedances with the September 2018 DMRs. No further action is required for these exceedances.

Discuss whether DMR trends within previous five years are improving or declining:
The facility effluent trends seem steady with Toxicity failures most years.

D-001	11/30/2021	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		44.4	100.0	percent	ME - Minimum
D-001	8/31/2021	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		2.7	100.0	percent	ME - Minimum

D-001	3/31/2021	EFA-01	Q		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		4.2	100.0	percent	ME - Minimum
D-001	3/31/2021	EFA-01	R		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		66.4	100.0	percent	ME - Minimum
D-001	2/28/2021	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		5.3	100.0	percent	ME - Minimum
D-001	6/30/2020	EFB-01	B		P 00530	Solids, Total Suspended		11.6	5.0	mg/L	MB - Maximum
D-001	6/30/2020	EFA-01	A		P 74055	Coliform, Fecal		29	25.0	#/100mL	MB - Maximum
R-001	6/30/2020	EFB-01	B		P 00530	Solids, Total Suspended		11.6	5.0	mg/L	MB - Maximum
R-001	6/30/2020	EFA-01	A		P 74055	Coliform, Fecal		29	25.0	#/100mL	MB - Maximum
D-001	1/31/2020	EFA-01	A		P 74055	Coliform, Fecal		105	25.0	#/100mL	MB - Maximum
D-001	1/31/2020	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		5.4	100.0	percent	ME - Minimum
R-001	1/31/2020	EFA-01	A		P 74055	Coliform, Fecal		105	25.0	#/100mL	MB - Maximum
D-001	8/31/2019	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		3.4	100.0	percent	ME - Minimum
D-001	3/31/2019	EFA-01	Q		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		38.6	100.0	percent	ME - Minimum
D-001	2/28/2019	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		4.5	100.0	percent	ME - Minimum
D-001	9/30/2018	EFA-01	A		P 00400	pH		6.41	6.5	s.u.	ME - Minimum
D-001	8/31/2018	EFA-01	A		P 00400	pH		6.38	6.5	s.u.	ME - Minimum
D-001	7/31/2018	EFA-01	R		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		2.14	100.0	percent	ME - Minimum
D-001	6/30/2018	EFA-01	P		P TRP3B	IC25 Statre 7day Chr Ceriodaphnia		40.3	100.0	percent	ME - Minimum
D-001	12/31/2017	EFA-01	A		P 74055	Coliform, Fecal		55	25.0	#/100mL	MB - Maximum
R-001	12/31/2017	EFA-01	A		P 74055	Coliform, Fecal		55	25.0	#/100mL	MB - Maximum
D-001	1/31/2016	EFA-01	A		P 74055	Coliform, Fecal	>	20000	25.0	#/100mL	MB - Maximum
R-001	1/31/2016	EFA-01	A		P 74055	Coliform, Fecal		190	25.0	#/100mL	MB - Maximum

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 (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-2021-12-27-06

FYI3 FL0040614 Falkenburg Road AWTP Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Elaine Ignacio

Field Report Prepared By: Lance Kautz

Collected By: L. Kautz, E. Larson, A. Hill

Sampling Agency: FDEP - SWD

Location: Falkenburg EFA-01	☒ Comp ☐ Grab	Collection (comp begin or grab) Date 1/9/2022 Time 7:00a	Eastern / Central	Composite end Date 1/10/2022 Time 7:00a	Bottle Group(s) (See pg 2): A						
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: Bottle times correspond when split happened								
Location: Falkenburg EFA-01	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 1/10/2022 Time 9:37a	Eastern / Central	Composite end Date Time	Bottle Group(s): B						
Field ID: "	Matrix (type, e.g., Salt, Fresh, etc): Fresh		Diss. Oxygen: 8.12	☒ mg/L ☐ % sat	Total Res. Chlorine (mg/L): N/A						
WIN/STORET #	Temp (C): 25.4	pH: 7.25	Sample Depth: 1	☐ ft ☒ m	Sp. Conductance (umho/cm): 1237						
Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Salinity (ppt): .61	Comments: FC+ ENT to Benchmark; BOD to test america								
Location: Field Blank	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 1/10/2022 Time 9:37a	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: Field Blank ~~Change~~	☐ Comp ☒ Grab	Collection (comp begin or grab) Date 1/10/2022 Time 9:37a	Eastern / Central	Composite end Date Time	Bottle Group(s): D						
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: Changed to Field Blank								

Relinquished By:	Date/Time	Shipping Method	Number of Coolers Shipped:	Received By:	Date/Time
Lance Kautz	1/10/2022 5:00p	FEDEX		[illegible]	1-11-22 0950

Request Number: RQ-2021-12-27-06

FY13 FL0040614 Falkenburg Road AWTP Sampling Inspection

Customer: SW-DIST

Project ID: FYI3

Florida Department of Environmental Protection

Central Laboratory Submittal Form

last revised Jan 25, 2018

Requester: Elaine Ignacio

Collected By: L. Kantz, E. Larson, A. Hill

Field Report Prepared By: Lauren Kantz

Sampling Agency: FDEP - SWD

Location: Falkenburg EFA-01			☐ Comp ☑ Grab	Collection (comp begin or grab) Date 1/10/2022 Time 937a	Eastern Central	Composite end Date	Time	Bottle Group(s) (See pg 2): B			
Field ID: "			Matrix (type, e.g., Salt, Fresh, etc): Fresh			Diss. Oxygen: 8.12	☑ mg/L ☐ % sat	Total Res. Chlorine (mg/L): N/A			
WIN/STORET #			Temp (C): 25.4	pH: 7.25		Sample Depth: 1	☐ ft ☑ m	Sp. Conductance (umho/cm): 1237			
Latitude	☐ dd ☐ dms	Longitude	☐ dd ☐ dms	Salinity (ppt): .61	Comments: COC For BOD to Test America						
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
Lauren Kantz	1/10/2022 5:00p	FEDEX			

Benchmark EnviroAnalytical, Inc.
E84167
1711 Twelfth Street East
Palmetto, FL 34221
(941) 723-9986 / (941) 723-6061 fax
Sample Temperature checked upon receipt at BEA with Temperature Gun ID #258

Benchmark EA South E85086
1001 Corporate Avenue, Suite 102
North Port, FL 34289
(941) 625-3137
(941) 423-7336 fax
Sample Temperature checked upon receipt at BEAS with Temperature Gun fD #7

Client Information: FDEP

Address: 13051 N. Telecom Parkway
Tampa FL 33604

Phone # 815-470-5878

Report to: benjamin.paswater@dep.state.fl.us

Invoice to: FDEP Micro Overflow

PO#_____

Project Name: falkenburg AWF EG 2021-12-2306

Laboratory Submission # 2201394

Sample Name	Sample Type[1] / Sample Matrix[2]	Collection		Container			Preservative[4]	Parameters for Analysis	Laboratory Sample #
		Date	Time	Qty	Capacity	Type[3]			
Falkenburg EFA-01 FC		1/10/2022	9:37					Fecal coliform	1
Falkenburg EFA-01 ENT		1/10/2022	9:37					Enterococci	2

1 "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).
2 "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDMNT), or sludge (SLDG).
3 "Container Type" is used to indicate whether the container is plastic (P) or glass (G).
4 Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F).
Under "Preservative," list any preservatives that were added to the sample container.

Instructions:
1. Each bottle has a label identifying sample ID, premeasured preservative contained in the bottle, sample type, client ID, and parameters for analysis.
2. The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.
3. All bottles not containing preservative may be rinsed with appropriate sample prior to collection.
4. The client is responsible for documentation of the sampling event. Please note special sampling events on the sample custody form.

Laboratory Sample Acceptability:
Temperature: 1.8°C

1	Collected / Relinquished By:	Date 1/10/2022	Time 11:10a	Received By: Nathan Hadsell BEA	Date 1-10-22	Time 11 10
2	Relinquished By:	Date	Time	Received By:	Date	Time

Appendix D. Chemical Analysis of Effluent

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	AGP/LN	Algal Growth Potential	15.4 A	mg DryWt/L	0.300	0.900
1/10/2022 7:00	Effluent Composite	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.90 U	µg/L	0.90	2.7
1/10/2022 7:00	Effluent Composite	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.82 U	µg/L	0.82	2.5
1/10/2022 7:00	Effluent Composite	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	0.60 U	µg/L	0.60	1.8
1/10/2022 9:37	Effluent Grab	Overflow	Carbonaceous Biochemical Oxygen Demand	2.0 U	mg/L		
1/10/2022 9:37	Effluent Grab	Overflow	Enterococci-Quanti-Tray	10 U	MPN/100 mL	10	10
1/10/2022 9:37	Effluent Grab	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
1/10/2022 9:37	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100 L	LC50		
1/10/2022 9:37	Effluent Grab	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
1/10/2022 7:00	Effluent Composite	Metals	Lead	0.20 U	µg/L	0.20	0.40
1/10/2022 7:00	Effluent Composite	Metals	Selenium	0.20 U	µg/L	0.20	0.80
1/10/2022 7:00	Effluent Composite	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
1/10/2022 7:00	Effluent Composite	Metals	Sodium	104	mg/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Metals	Silver	0.010 U	µg/L	0.010	0.040
1/10/2022 7:00	Effluent Composite	Metals	Chromium	0.40 U	µg/L	0.40	1.6
1/10/2022 7:00	Effluent Composite	Metals	Magnesium	21.7	mg/L	0.040	0.16
1/10/2022 7:00	Effluent Composite	Metals	Arsenic	0.16 I	µg/L	0.050	0.20
1/10/2022 7:00	Effluent Composite	Metals	Potassium	18.9	mg/L	0.60	2.4
1/10/2022 7:00	Effluent Composite	Metals	Nickel	2.0	µg/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Metals	Iron	40 I	µg/L	30	120
1/10/2022 7:00	Effluent Composite	Metals	Aluminum	43	µg/L	5.0	20
1/10/2022 7:00	Effluent Composite	Metals	Zinc	27	µg/L	5.0	20
1/10/2022 7:00	Effluent Composite	Metals	Calcium	82.6	mg/L	0.075	0.30
1/10/2022 7:00	Effluent Composite	Metals	Copper	0.56 I	µg/L	0.40	0.80
1/10/2022 9:37	Effluent Grab	Nutrients	Kjeldahl Nitrogen	1.4	mg N/L	0.080	0.20
1/10/2022 7:00	Effluent Composite	Nutrients	Sulfate	180	mg SO4/L	2.0	5.0
1/10/2022 9:37	Effluent Grab	Nutrients	Organic Carbon	6.1	mg C/L	0.50	1.0
1/10/2022 7:00	Effluent Composite	Nutrients	Color (true)	19	PCU	2.5	6.0
1/10/2022 7:00	Effluent Composite	Nutrients	O-Phosphate-P	0.33	mg P/L	0.016	0.040
1/10/2022 9:37	Effluent Grab	Nutrients	Ammonia-N	0.54	mg N/L	0.020	0.050
1/10/2022 9:37	Effluent Grab	Nutrients	Total-P	0.43	mg P/L	0.0050	0.050

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	Nutrients	Total Alkalinity	187	mg CaCO3/L	0.65	2.5
1/10/2022 7:00	Effluent Composite	Nutrients	Turbidity	0.60	NTU	0.10	0.13
1/10/2022 7:00	Effluent Composite	Nutrients	Chloride	120	mg Cl/L	2.0	5.0
1/10/2022 7:00	Effluent Composite	Nutrients	Fluoride	0.63	mg F/L	0.035	0.10
1/10/2022 9:37	Effluent Grab	Nutrients	NO2NO3-N	1.5	mg N/L	0.040	0.10
1/10/2022 9:37	Effluent Grab	Nutrients	TSS	2 U	mg/L	2.0	10
1/10/2022 7:00	Effluent Composite	Pesticides	Diazinon	0.13 U	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	EPTC	1.3 U	ng/L	1.3	5.0
1/10/2022 7:00	Effluent Composite	Pesticides	Hexazinone	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Parathion Ethyl	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Pyriproxyfen	0.13 U	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Chlorfenapyr	3.1	ng/L	0.18	0.70
1/10/2022 7:00	Effluent Composite	Pesticides	Propanil	0.13 U	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Fluazifop-P-butyl	0.10 U	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Fluxapyroxad	2.4	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Iprodione	0.60 U	ng/L	0.60	2.4
1/10/2022 7:00	Effluent Composite	Pesticides	Oxadiazon	0.30 U	ng/L	0.30	1.2
1/10/2022 7:00	Effluent Composite	Pesticides	Oxyfluorfen	0.15 U	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Pesticides	Parathion Methyl	0.55 U	ng/L	0.55	2.2
1/10/2022 7:00	Effluent Composite	Pesticides	Prometryn	0.20 U	ng/L	0.20	0.80
1/10/2022 7:00	Effluent Composite	Pesticides	Thiobencarb	0.60 U	ng/L	0.60	2.4
1/10/2022 7:00	Effluent Composite	Pesticides	Acetochlor	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Ethion	0.15 U	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Pesticides	Ethoprop	0.10 U	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Fenbuconazole	0.13 U	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Flutolanil	0.94	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Fonofos	0.20 U	ng/L	0.20	0.80
1/10/2022 7:00	Effluent Composite	Pesticides	Metolachlor	0.35 U	ng/L	0.35	1.4
1/10/2022 7:00	Effluent Composite	Pesticides	Molinate	0.30 U	ng/L	0.30	1.2
1/10/2022 7:00	Effluent Composite	Pesticides	Myclobutanil	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Pronamide	0.15 U	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Pesticides	Tebuconazole	50	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Etridiazole	0.15 U	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Pesticides	Phenytoin	12 I	ng/L	3.5	14

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	Pesticides	Stirophos	0.13 U	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Azinphos Methyl	2.0 U	ng/L	2.0	8.0
1/10/2022 7:00	Effluent Composite	Pesticides	Fipronil Sulfide	3.8	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Pesticides	Metribuzin	2.5 U	ng/L	2.5	10
1/10/2022 7:00	Effluent Composite	Pesticides	Phorate	0.53 U	ng/L	0.53	2.1
1/10/2022 7:00	Effluent Composite	Pesticides	Ametryn	0.60 U	ng/L	0.60	2.4
1/10/2022 7:00	Effluent Composite	Pesticides	Butylate	0.40 U	ng/L	0.40	1.6
1/10/2022 7:00	Effluent Composite	Pesticides	Fipronil Desulfinyl	4.4	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Prometon	0.91 U	ng/L	0.91	3.6
1/10/2022 7:00	Effluent Composite	Pesticides	Dimethomorph	0.18 I	ng/L	0.18	1.1
1/10/2022 7:00	Effluent Composite	Pesticides	Pyridaben	0.45 U	ng/L	0.45	2.3
1/10/2022 7:00	Effluent Composite	Pesticides	Sucralose	98	µg/L	0.20	0.80
1/10/2022 7:00	Effluent Composite	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
1/10/2022 7:00	Effluent Composite	Pesticides	Azoxystrobin	4.6 J	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Bromacil	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Carbophenothion	0.20 U	ng/L	0.20	0.80
1/10/2022 7:00	Effluent Composite	Pesticides	Carfentrazone Ethyl	0.10 U	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Chlorpyrifos Methyl	0.050 U	ng/L	0.050	0.20
1/10/2022 7:00	Effluent Composite	Pesticides	Difenoconazole	0.60 U	ng/L	0.60	2.4
1/10/2022 7:00	Effluent Composite	Pesticides	Dithiopyr	0.18 U	ng/L	0.18	0.70
1/10/2022 7:00	Effluent Composite	Pesticides	Fludioxonil	5.3	ng/L	0.13	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Imazalil	0.75 U	ng/L	0.75	3.0
1/10/2022 7:00	Effluent Composite	Pesticides	Naled	1.5 U	ng/L	1.5	6.0
1/10/2022 7:00	Effluent Composite	Pesticides	Norflurazon	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Pendimethalin	1.0 U	ng/L	1.0	4.0
1/10/2022 7:00	Effluent Composite	Pesticides	Propiconazole	3.1	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Sulfentrazone	2.1	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Propargite	1.5 U	ng/L	1.5	6.0
1/10/2022 7:00	Effluent Composite	Pesticides	Cyanazine	3.3 U	ng/L	3.3	13
1/10/2022 7:00	Effluent Composite	Pesticides	Disulfoton	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Simazine	3.2	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Cyprodinil	1.2	ng/L	0.10	0.50
1/10/2022 7:00	Effluent Composite	Pesticides	Loratadine	4.2 J	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Napropamide	0.40 U	ng/L	0.40	1.6

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	Pesticides	Pyraflufen Ethyl	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Chlorpyrifos Ethyl	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Fenamiphos	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Fipronil	27	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Flumioxazin	1.8 U	ng/L	1.8	7.0
1/10/2022 7:00	Effluent Composite	Pesticides	Malathion	0.35 U	ng/L	0.35	1.4
1/10/2022 7:00	Effluent Composite	Pesticides	Metalaxyl	0.75 U	ng/L	0.75	3.0
1/10/2022 7:00	Effluent Composite	Pesticides	Mevinphos	1.1 UJ	ng/L	1.1	4.2
1/10/2022 7:00	Effluent Composite	Pesticides	Prodiamine	0.20 I	ng/L	0.18	0.70
1/10/2022 7:00	Effluent Composite	Pesticides	Terbufos	0.10 U	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Terbuthylazine	0.43 U	ng/L	0.43	1.7
1/10/2022 7:00	Effluent Composite	Pesticides	Coumaphos	0.50 U	ng/L	0.50	2.0
1/10/2022 7:00	Effluent Composite	Pesticides	Triadimefon	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Caffeine	27 I	ng/L	7.5	30
1/10/2022 7:00	Effluent Composite	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
1/10/2022 7:00	Effluent Composite	Pesticides	Alachlor	0.25 U	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Atrazine	31	ng/L	0.25	1.0
1/10/2022 7:00	Effluent Composite	Pesticides	Atrazine Desethyl	7.6	ng/L	1.5	6.0
1/10/2022 7:00	Effluent Composite	Pesticides	Demeton	1.5 U	ng/L	1.5	6.0
1/10/2022 7:00	Effluent Composite	Pesticides	Dimethenamid	0.10 U	ng/L	0.10	0.40
1/10/2022 7:00	Effluent Composite	Pesticides	Fipronil Sulfone	2.4	ng/L	0.15	0.60
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2-Chlorophenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Fluoranthene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	µg/L	1.1	4.4
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Dimethyl phthalate	0.22 U	µg/L	0.22	0.89
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Hexachlorobenzene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Phenanthrene	0.11 U	µg/L	0.11	0.44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Phenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	4-Nitrophenol	11 U	µg/L	11	44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	5.6 U	µg/L	5.6	22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Chrysene	0.028 U	µg/L	0.028	0.11

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Diethyl phthalate	2.2 U	µg/L	2.2	8.9
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Hexachloroethane	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Nitrobenzene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2-Chloronaphthalene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Acenaphthene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Acenaphthylene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzidine	11 U	µg/L	11	44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzo(a)pyrene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzo(k)fluoranthene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Di-n-octyl phthalate	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Isophorone	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,6-Dinitrotoluene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	3,3'-Dichlorobenzidine	11 U	µg/L	11	44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2 U	µg/L	2.2	8.9
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Pyrene	0.11 U	µg/L	0.11	0.44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,4-Dichlorophenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,4-Dinitrophenol	11 U	µg/L	11	44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Fluorene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Naphthalene	0.11 U	µg/L	0.11	0.44
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2-Nitrophenol	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,4-Dinitrotoluene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Anthracene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Hexachlorobutadiene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.3 U	µg/L	3.3	13
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzo(a)anthracene	0.028 U	µg/L	0.028	0.11

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Di-n-butyl phthalate	2.2 U	µg/L	2.2	8.9
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.056 U	µg/L	0.056	0.22
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Pentachlorophenol	0.56 U	µg/L	0.56	2.2
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	Benzo(b)fluoranthene	0.028 U	µg/L	0.028	0.11
1/10/2022 7:00	Effluent Composite	Priority Organic Pollutants	2,4-Dimethylphenol	0.056 U	µg/L	0.056	0.22
1/10/2022 9:37	Effluent Grab	Nutrients	Dissolved Oxygen mg/L	8.12	mg/L		
1/10/2022 9:37	Effluent Grab	Nutrients	Sample Depth	1	m		
1/10/2022 9:37	Effluent Grab	Nutrients	pH	7.25			
1/10/2022 9:37	Effluent Grab	Nutrients	Temperature	25.4	C		
1/10/2022 9:37	Effluent Grab	Nutrients	Specific Conductance	1237	umhos/cm		
1/10/2022 9:37	Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.30
1/10/2022 9:37	Blank	Metals	Magnesium	0.040 U	mg/L	0.040	0.16
1/10/2022 9:37	Blank	Metals	Selenium	0.20 U	µg/L	0.20	0.80
1/10/2022 9:37	Blank	Metals	Cadmium	0.020 U	µg/L	0.020	0.080
1/10/2022 9:37	Blank	Metals	Aluminum	5.0 U	µg/L	5.0	20
1/10/2022 9:37	Blank	Metals	Sodium	0.50 U	mg/L	0.50	2.0
1/10/2022 9:37	Blank	Metals	Nickel	0.50 U	µg/L	0.50	2.0
1/10/2022 9:37	Blank	Metals	Copper	0.40 U	µg/L	0.40	0.80
1/10/2022 9:37	Blank	Metals	Arsenic	0.050 U	µg/L	0.050	0.20
1/10/2022 9:37	Blank	Metals	Chromium	0.40 U	µg/L	0.40	1.6
1/10/2022 9:37	Blank	Metals	Potassium	0.30 U	mg/L	0.30	1.2
1/10/2022 9:37	Blank	Metals	Iron	30 U	µg/L	30	120
1/10/2022 9:37	Blank	Metals	Zinc	5.0 U	µg/L	5.0	20
1/10/2022 9:37	Blank	Metals	Lead	0.20 U	µg/L	0.20	0.40
1/10/2022 9:37	Blank	Metals	Silver	0.010 U	µg/L	0.010	0.040
1/10/2022 9:37	Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.080	0.20
1/10/2022 9:37	Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6.0
1/10/2022 9:37	Blank	Nutrients	Organic Carbon	0.68 I	mg C/L	0.50	1.0
1/10/2022 9:37	Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.10
1/10/2022 9:37	Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.0040	0.010
1/10/2022 9:37	Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.0020	0.0050
1/10/2022 9:37	Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.20	0.50
1/10/2022 9:37	Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
1/10/2022 9:37	Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.0040	0.010

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 9:37	Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.20	0.50
1/10/2022 9:37	Blank	Nutrients	Total-P	0.002 U	mg P/L	0.0020	0.0050
1/10/2022 9:37	Blank	Nutrients	Turbidity	0.10 U	NTU	0.10	0.13
1/10/2022 9:37	Blank	Pesticides	Naproxen	0.0080 U	µg/L	0.0080	0.032
1/10/2022 9:37	Blank	Pesticides	Oxadiazon	0.36 U	ng/L	0.36	1.4
1/10/2022 9:37	Blank	Pesticides	Prodiamine	0.21 U	ng/L	0.21	0.84
1/10/2022 9:37	Blank	Pesticides	Simazine	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Terbufos	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Azoxystrobin	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Chlorpyrifos Methyl	0.060 U	ng/L	0.060	0.24
1/10/2022 9:37	Blank	Pesticides	Dithiopyr	0.21 U	ng/L	0.21	0.84
1/10/2022 9:37	Blank	Pesticides	Fipronil Sulfide	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Fluazifop-P-butyl	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Flumioxazin	2.1 U	ng/L	2.1	8.4
1/10/2022 9:37	Blank	Pesticides	Fonofos	0.24 U	ng/L	0.24	0.96
1/10/2022 9:37	Blank	Pesticides	Propanil	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Thiobencarb	0.72 U	ng/L	0.72	2.9
1/10/2022 9:37	Blank	Pesticides	Caffeine	9.0 U	ng/L	9.0	36
1/10/2022 9:37	Blank	Pesticides	Myclobutanil	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Naled	1.8 U	ng/L	1.8	7.2
1/10/2022 9:37	Blank	Pesticides	Parathion Ethyl	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Phorate	0.63 U	ng/L	0.63	2.5
1/10/2022 9:37	Blank	Pesticides	Prometryn	0.24 U	ng/L	0.24	0.96
1/10/2022 9:37	Blank	Pesticides	Propiconazole	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Demeton	1.8 U	ng/L	1.8	7.2
1/10/2022 9:37	Blank	Pesticides	Fipronil	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Fludioxonil	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Malathion	0.42 U	ng/L	0.42	1.7
1/10/2022 9:37	Blank	Pesticides	Dimethomorph	0.21 U	ng/L	0.21	1.3
1/10/2022 9:37	Blank	Pesticides	Pyriproxyfen	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Atrazine Desethyl	1.8 U	ng/L	1.8	7.2
1/10/2022 9:37	Blank	Pesticides	Carfentrazone Ethyl	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Difenoconazole	0.72 U	ng/L	0.72	2.9
1/10/2022 9:37	Blank	Pesticides	EPTC	1.5 U	ng/L	1.5	6.0

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 9:37	Blank	Pesticides	Ethion	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Imazalil	0.90 U	ng/L	0.90	3.6
1/10/2022 9:37	Blank	Pesticides	Metolachlor	0.42 U	ng/L	0.42	1.7
1/10/2022 9:37	Blank	Pesticides	Loratadine	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Ibuprofen	0.020 U	µg/L	0.020	0.080
1/10/2022 9:37	Blank	Pesticides	Tebuconazole	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Acetochlor	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Ametryn	0.72 U	ng/L	0.72	2.9
1/10/2022 9:37	Blank	Pesticides	Carbophenothion	0.24 U	ng/L	0.24	0.96
1/10/2022 9:37	Blank	Pesticides	Diazinon	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Fenamiphos	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Fipronil Sulfone	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Hexazinone	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Phenytoin	4.2 U	ng/L	4.2	17
1/10/2022 9:37	Blank	Pesticides	Propargite	1.8 U	ng/L	1.8	7.2
1/10/2022 9:37	Blank	Pesticides	Metribuzin	3.0 U	ng/L	3.0	12
1/10/2022 9:37	Blank	Pesticides	Mevinphos	1.3 UJ	ng/L	1.3	5.0
1/10/2022 9:37	Blank	Pesticides	Norflurazon	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Alachlor	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Disulfoton	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Fipronil Desulfinyl	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Flutolanil	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Fluxapyroxad	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Pyridaben	0.54 U	ng/L	0.54	2.7
1/10/2022 9:37	Blank	Pesticides	Stirophos	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Cyprodinil	0.12 U	ng/L	0.12	0.60
1/10/2022 9:37	Blank	Pesticides	Molinate	0.36 U	ng/L	0.36	1.4
1/10/2022 9:37	Blank	Pesticides	Pendimethalin	1.2 U	ng/L	1.2	4.8
1/10/2022 9:37	Blank	Pesticides	Prometon	1.1 U	ng/L	1.1	4.3
1/10/2022 9:37	Blank	Pesticides	Pyraflufen Ethyl	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Triadimefon	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Sulfentrazone	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Bromacil	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Pesticides	Butylate	0.48 U	ng/L	0.48	1.9

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 9:37	Blank	Pesticides	Dimethenamid	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Ethoprop	0.12 U	ng/L	0.12	0.48
1/10/2022 9:37	Blank	Pesticides	Fenbuconazole	0.15 U	ng/L	0.15	0.60
1/10/2022 9:37	Blank	Pesticides	Metalaxyl	0.90 U	ng/L	0.90	3.6
1/10/2022 9:37	Blank	Pesticides	Napropamide	0.48 U	ng/L	0.48	1.9
1/10/2022 9:37	Blank	Pesticides	Sucralose	0.010 U	µg/L	0.010	0.040
1/10/2022 9:37	Blank	Pesticides	Oxyfluorfen	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Parathion Methyl	0.66 U	ng/L	0.66	2.6
1/10/2022 9:37	Blank	Pesticides	Pronamide	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Atrazine	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Azinphos Methyl	2.4 U	ng/L	2.4	9.6
1/10/2022 9:37	Blank	Pesticides	Chlorpyrifos Ethyl	0.30 U	ng/L	0.30	1.2
1/10/2022 9:37	Blank	Pesticides	Cyanazine	3.9 U	ng/L	3.9	16
1/10/2022 9:37	Blank	Pesticides	Iprodione	0.72 U	ng/L	0.72	2.9
1/10/2022 9:37	Blank	Pesticides	Terbuthylazine	0.51 U	ng/L	0.51	2.0
1/10/2022 9:37	Blank	Pesticides	Etridiazole	0.18 U	ng/L	0.18	0.72
1/10/2022 9:37	Blank	Pesticides	Chlorfenapyr	0.21 U	ng/L	0.21	0.84
1/10/2022 9:37	Blank	Pesticides	Coumaphos	0.60 U	ng/L	0.60	2.4
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Naphthalene	0.12 U	µg/L	0.12	0.48
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.4 U	µg/L	2.4	9.5
1/10/2022 9:37	Blank	Priority Organic Pollutants	Phenanthrene	0.12 U	µg/L	0.12	0.48
1/10/2022 9:37	Blank	Priority Organic Pollutants	Phenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.2 U	µg/L	1.2	4.8
1/10/2022 9:37	Blank	Priority Organic Pollutants	Fluorene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	2-Nitrophenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Acenaphthylene	0.030 U	µg/L	0.030	0.12

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	Chrysene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	Hexachloroethane	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Nitrobenzene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Pentachlorophenol	0.60 U	µg/L	0.60	2.4
1/10/2022 9:37	Blank	Priority Organic Pollutants	Anthracene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.6 U	µg/L	3.6	14
1/10/2022 9:37	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	2.4 U	µg/L	2.4	9.5
1/10/2022 9:37	Blank	Priority Organic Pollutants	Dimethyl phthalate	0.24 U	µg/L	0.24	0.95
1/10/2022 9:37	Blank	Priority Organic Pollutants	Isophorone	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Pyrene	0.12 U	µg/L	0.12	0.48
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	Diethyl phthalate	2.4 U	µg/L	2.4	9.5
1/10/2022 9:37	Blank	Priority Organic Pollutants	Hexachlorobutadiene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	12 U	µg/L	12	48
1/10/2022 9:37	Blank	Priority Organic Pollutants	4-Nitrophenol	12 U	µg/L	12	48
1/10/2022 9:37	Blank	Priority Organic Pollutants	Benzidine	12 U	µg/L	12	48
1/10/2022 9:37	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	6.0 U	µg/L	6.0	24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Fluoranthene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.030 U	µg/L	0.030	0.12
1/10/2022 9:37	Blank	Priority Organic Pollutants	2-Chlorophenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	Acenaphthene	0.030 U	µg/L	0.030	0.12

Date_Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
1/10/2022 9:37	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.060 U	µg/L	0.060	0.24
1/10/2022 9:37	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	12 U	µg/L	12	48