

Effluent Quality Assessment of

City of Tampa-Howard F. Curren AWTP

Hillsborough

NPDES # FL0020940

Sampled February 23, 2015

July 2015

Biology Section

Bureau of Laboratories

Division of Environmental Assessment and Restoration

2014 FDEP Bureau of Laboratories Quality Manual

NELAC Certification No. E31780

CONTENTS

Facility Overview

Methods

Results

Conclusion

Literature Cited

Tables

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

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

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

Table 4. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus.

Appendices

Appendix A. Facility Summary

Appendix B. Explanation of measurements

Appendix C. Chemical Analyses of Effluent

EPA End Sheet

City of Tampa-Howard F. Curren AWTP, 2700 Maritime Blvd., Tampa, Hillsborough County, Florida, 33605. NPDES #FL0020940.

Facility Overview

City of Tampa-Howard F. Curren AWTP is a domestic wastewater treatment facility. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information.

Methods

Effluent grab samples for toxicity testing and effluent composite samples for biological and chemical analyses for this facility were collected on February 23, 2015. All samples were collected from the EFD-01 NPDES sampling point for Outfall D-001 by Erica Cooper, Jaclyn Jordan, Lance Kautz and Peter Wenner (FDEP Southwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling (see Appendix B).

The 96-hour acute definitive toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09 (see Appendix B).

Results

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

- The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.053 mg N/L. Based on the pH, salinity, and temperature of the effluent collected for the grab sample, the calculated unionized ammonia concentration was < 0.02 mg/L.
- The effluent's total residual chlorine (0.04 mg/L) exceeded both Class III Marine Water Criteria and permitted limits.
- Arsenic, bromodichloromethane, bromoform, chloroform, dibromochloromethane, copper, nickel and selenium were detected in the effluent at levels that comply with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and /or permit limits. Aluminum, total chromium, iron and zinc were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).
- Bis(2-ethylhexyl)Phthalate was detected between the laboratory MDL and PQL in the field blank.

Algal Growth Potential (See Table 4 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 105 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (1987) determined that AGP values above 5.0 mg dry weight/L, which represents a "problem" threshold for fresh receiving waters, imply nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen limited (Miller et al. 1978).
- The effluent Algal Growth Potential (AGP) was 65.4 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Schultz determined that AGP values above 10.0 mg dry weight/L, which represents a "problem" threshold for marine receiving waters, imply nutrient enrichment (personal communication, Marshall Faircloth, et. al. FDEP, with Ron Raschke USEPA Region 4 1987). An aliquot of the AGP sample was salinity adjusted from an apparent salinity of approximately 0.81 parts per thousand (ppth) to a salinity of approximately 7.08 ppth by the addition of artificial sea salts to meet the salinity requirements of the test species.

Toxicity Test Results (See Appendix C)

- Tests were performed February 24 - 28, 2015.

  Ceriodaphnia dubia 96-hour acute definitive bioassay – LC_{50} > 100%, 0%* mortality in 100% sample at 96 hours

  Pimephales promelas 96-hour acute bioassay – LC_{50} > 100%, 0%* mortality in 100% sample at 96 hours

*NOTE: 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 (Rule 62-302.500 (1) (a) 4, F.A.C.). Mortality between 20-50% 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 (Rule 62-4.244(3) (a), F.A.C.).

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

Conclusion

The effluent sample collected from the EFD-01 NPDES sampling point for this facility on February 23, 2015, was not acutely toxic to either test species during the 96-hour acute definitive bioassays. The freshwater AGP result is more than an order of magnitude less than the predicted AGP values based on the effluent nutrient concentrations, suggesting that algal growth inhibition may be an issue. Both effluent AGP results were greater than the "problem" thresholds for fresh and marine receiving waters suggesting that nutrient enrichment may be an issue. Effluent water quality samples collected on February 23, 2015, did exceed applicable water quality standards and violated permit conditions for total residual chlorine.

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

Literature Cited

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

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

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

USEPA. 2002. Methods for measuring the acute toxicity of effluents to freshwater and marine organisms. 5th edition. EPA-821-R-02-012.

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

Howard F. Curren AWTP	Units	Class III Criteria	Effluent Permit Limits	EFD-01 Grab
Temperature	C	-	-	23.8
pH	SU	6.5 - 8.5	6.5-8.5 s	6.9
Specific Conductance	umhos/cm	-	-	1767 d
Dissolved Oxygen	% saturation	≥ 42 [1]	-	89.05 c
Dissolved Oxygen	mg/L	≥ 5.0	≥ 5.0 s	7.5
Flow (1/31/2014-12/31/2014)	MGD	-	Report	55.68
Total Residual Chlorine	mg/L	≤ 0.01	≤ 0.01 s	0.04 ed

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
d - Measurement taken in the FDEP laboratory
e - Value exceeds the Class III Water Quality Criteria or permit limits
s - Single sample
1 - The daily average percent DO saturation shall not be below 42 percent saturation in more than 10 percent of values

Table 2. Effluent limits, Class III Marine Criteria and analytical water chemistry data, microbiology and toxicity data

Howard F. Curren AWTP	Units	Class III Criteria	Effluent Permit Limits	EFD-01 Grab	EFD-01 Comp
Analytical organic and pesticide data					
Atrazine	ug/L	-	-	0.11 J	-
Bromodichloromethane	ug/L	≤ 22.0 a	≤33.0 a	23	-
Bromoform	ug/L	≤ 360 a	-	1.0	-
Chloroform	ug/L	≤ 470.8 a	-	46	-
Dibromochloromethane	ug/L	≤ 34.0 a	≤39.0 a	12	-
Analytical water chemistry data					
Ortho-phosphate	mg P/L	-	-	2.3	-
Total Phosphorus	mg P/L	-	-	2.4	3.9
Total Ammonia	mg N/L	-	-	0.057	0.053
Un-ionized Ammonia (calculated salinity)	mg N/L	-	-	< 0.02 c	-
Nitrate and Nitrite	mg N/L	-	-	1.6	0.70
Total Kjeldahl Nitrogen	mg N/L	-	-	1.3	1.1
Organic Nitrogen	mg N/L	-	-	1.2 c	1.0 c
Total Nitrogen	mg N/L	-	-	2.9 c	1.8 c
Total Organic Carbon	mg C/L	-	-	9.0 A	-
Chlorophyll *a* - Corrected	ug/L	-	-	0.61 U	-
Phaeophytin	ug/L	-	-	0.44 U	-
CBOD, 5 day, N - inhibited	mg/L	-	-	-	2.0
Hardness	mg/L	-	-	-	244 c
Total Suspended Solids	mg/L	-	-	-	2 I
Turbidity	NTU	< 29 t	-	0.60	-
Color (true)	PCU	-	-	16	-
Alkalinity	mg CaCO3/L	-	-	133 A	-
Chloride	mg Cl/L	-	-	150 A	-
Cyanide	mg CN/L	≤ 1.0	-	-	-
Fluoride	mg F/L	≤ 5.0	-	0.42	-
Sulfate	mg SO4/L	-	-	490 A	-
Microbiology					
Fecal Coliforms[2]	cfu/100 mL	≤ 400 s #	-	1 U	-
Enterococci	MPN/100 mL	-	-	4.6 AQ	-
Toxicity (Acute Definitive, LC50)					
Bioassay - Water flea *(Ceriodaphnia dubia)*	%	≥ 100	≥ 100	100 L	-
Bioassay - Fish *(Pimephales promelas)*	%	≥ 100	≥ 100	100 L	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
a - Annual average
c - Value is calculated
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
J – Estimated value
L - Actual value is known to be greater than value given
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Fecal coliform analysis performed by Advanced Environmental Laboratories, Inc., Tampa, FL
- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)

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

Howard F. Curren AWTP	Units	Class III Criteria	Effluent Permit Limits	EFD-01 Grab	EFD-01 Comp
Aluminum	ug/L	≤ 1500	-	-	14 I
Arsenic	ug/L	≤ 36	-	-	1.24
Cadmium	ug/L	≤ 8.8	-	-	0.050 U
Calcium	mg/L	-	-	-	76.7
Chromium, Total [3]	ug/L	≤ 50	-	-	0.56 I
Copper	ug/L	≤ 3.7	≤ 3.7	-	1.83
Hardness	mg/L	-	-	-	244 c
Iron	ug/L	≤ 300	-	-	60 I
Lead	ug/L	≤ 8.5	-	-	0.20 U
Magnesium	mg/L	-	-	-	12.7
Nickel	ug/L	≤ 8.3	≤ 8.3	-	2.57
Potassium	mg/L	-	-	-	12.5
Selenium	ug/L	≤ 71	-	-	3.31
Silver	ug/L	≤ 2.3	-	-	0.025 U
Sodium	mg/L	-	-	-	281
Zinc	ug/L	≤ 86	-	-	14 I

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

c - Value is calculated

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

U - Material analyzed for but not detected; value reported is the method detection limit

3 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), ortho-phosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation and ratios of nitrogen to phosphorus

Howard F. Curren AWTP								
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**
EFD-01 Grab	*Pseudokirchneriella subcapitata*	105	63 ± 12.6	989 ± 197.8	110.2 ± 22	1032 ± 206.4	0.7	1.2
EFD-01 Grab	*Dunaliella tertiolecta*	65.4 *	not applicable [4]	not applicable [4]	not applicable [4]	not applicable [4]	0.7	1.2

Fresh - freshwater species Pseudokirchneriella subcapitata
Marine - saltwater species Dunaliella tertiolecta
* - sample salinity adjusted to 7.08 ppth
4 - predictions not applicable to marine matrix

Appendix A

Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Jaclyn Jordan	**Contact Number:** (813) 470-5789
Facility Name (as it appears on permit): City of Tampa-Howard F. Curren AWTP	**Former Names:**
NPDES Permit Number: FL0020940	**Permit Expiration Date:** November 23, 2015
Physical Address: 2700 Maritime Blvd, Tampa, FL 33605	
District: Southwest	**County:** Hillsborough
Function of Facility: Domestic wastewater treatment facility	
Facility Type: Domestic wastewater	**Permitted Capacity (MGD):** 96.0
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): ☒ ☐ ☐ ☐ ☐ D-001: 55.68 MGD January 31, 2014-December 31, 2014	
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):

Monitoring Site Number	Description of Monitoring Site
FLW-01	Flow to City of Tampa Public Access Reuse System - R-001
FLW-02	Flow to City of Tampa Refuse to Energy Facility (McKay Bay Facility) R-002
EFA-01	After disinfection and prior to discharge to R-001, R-002, and R-003.
EFB-01	Turbidity and TSS monitoring point after filtration and prior to disinfection.
EFD-01	After dechlorination and prior to discharge to Hillsborough Bay.

Description of Permitted Outfall(s):

Surface Water Discharge D-001: An existing 96.0 MGD annual average daily flow permitted discharge to Hillsborough Bay (Class III marine waters, WBID # 1558E) which is approximately 141 feet in length and discharges at a depth of approximately 29.1 feet. The point of discharge is located approximately at latitude 27 54' 41" N, longitude 82 26' 27" W.

Surface Water Discharge D-002: An existing intermittent discharge to Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A) which is approximately 0 feet in length and discharges at a depth of approximately 4.5 feet. Outfall D-002 shall only discharge as result of flows to the treatment plant in excess of approximately 100 MGD coupled with extreme high tide conditions. The point of discharge is located approximately at latitude 27 55' 12" N, longitude 82 26' 31" W.

Surface Water Discharge D-003: An existing intermittent discharge to Ybor City Drain and hence to Hillsborough Bay (Class III marine waters, WBID # 1584A) which is approximately 0 feet in length and discharges at a depth of approximately 6.8 feet. Outfall D-003 shall only discharge as result of flows to the treatment plant in excess of approximately 100 MGD coupled with extreme high tide conditions. The point of discharge is located approximately at latitude 27 55' 12" N, longitude 82 26' 31" W.

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

An existing 96.0 mgd annual average daily flow (AADF) permitted capacity Type I two-stage, high rate (pure oxygen and fine bubble aeration) activated sludge biological nitrification/denitrification domestic wastewater treatment plant. The facility has the capability to operate in a number of modes as described in the submitted basis of design. The facility includes the following units: Pre-aeration with odor control consisting of three tanks of 0.670 MG total volume, mechanical screening and grit removal consisting of eight tanks of 0.727 MG total volume, eight primary sedimentation tanks of 50,464 square feet total surface area and 4.94 MG total volume, six pure oxygen reactors of 7.62 MG total volume, twelve carbonaceous sedimentation tanks of 167,960 square feet total surface area and 18.08 MG total volume, four nitrification reactors of 8.48 MG total volume, eight final sedimentation tanks of 134,368 square feet total surface area and 12.00 MG total volume, thirty-two coarse sand, denitrification filters of 33,600 square feet total surface area, three chlorine contact chambers of 2.38 MG total volume with post aeration, and dechlorination facilities, two gravity sludge thickeners of 0.350 MG total volume, seven anaerobic digesters of 9.87 MG total volume, sludge storage tanks, eight belt filter presses, sludge heat drying facility and fifty-seven sludge drying beds and other associated facilities. This plant is operated to discharge AWT, high-level disinfected and dechlorinated effluent to Hillsborough Bay. Residuals generated by this facility are heat dried to meet Class AA standards for distribution and marketing and are dewatered for land application as a Class B residual.

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	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes

			Effluent Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow, To D-001	MGD	Maximum	96.0	Report	-	-	Continuous	Calculation	FLW-05	
Flow, To D-002	MGD	Maximum	Report	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-06	See Cond.I.A.4.
Flow, To D-003	MGD	Maximum	Report	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-07	See Cond.I.A.4.
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	7 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	5.0	6.25	7.5	10.0	7 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	-	-	-	5.0	7 Days/Week	Grab	EFB-01	
Nitrogen, Total (as N)	MG/L	Maximum	3.0	3.75	4.5	6.0	7 Days/Week	24-hour FPC	EFA-01	
Phosphorus, Total (as P)	MG/L	Maximum	Report	Report		Report	Weekly	24-hour FPC	EFA-01	
pH	SU	Range	-	-	-	6.5 to 8.5	Continuous	Meter	EFD-01	See Cond.I.A.3
Coliform, Fecal, % less than detection	PERCENT	Minimum	-	75	-	-	Monthly	Calculation	EFA-01	See Cond. I.A.5.
Coliform, Fecal	#/100ML	Maximum	-	-	-	25	7 Days/Week	Grab	EFA-01	See Cond. I.A.5.
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	1.0	Continuous	Meter	EFA-01	See Cond.I.A.3 & 6.
Total Residual Chlorine (For Dechlorination)	MG/L	Maximum	-	-	-	0.01	7 Days/Week	Grab	EFD-01	

			Effluent Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Oxygen, Dissolved (DO)	MG/L	Minimum	-	-	-	5.0	7 Days/Week	Grab	EFD-01	
Enterococci	#/100ML	Maximum	-	35 (Geo. Mean)	-	276	5/Month	Grab	EFA-01	See Cond.I.A.7.
Nickel, Total Recoverable	UG/L	Maximum	-	-	-	8.3	Quarterly	24-hour FPC	EFD-01	
Copper, Total Recoverable	UG/L	Maximum	-	-	-	3.7	Quarterly	24-hour FPC	EFD-01	
Dichlorobromomethane	UG/L	Maximum	33.0	Report	-	-	Monthly	Grab	EFD-01	
Dibromochloromethane	UG/L	Maximum	39.0	Report	-	-	Monthly	Grab	EFD-01	
Nitrogen, Total (as N)	Tons/Year	Maximum	246.8 (Ann. Total)	Report (Mo Total)	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.8.
Nitrogen, Total (as N)	Tons/Year	Maximum	225.8 (5Yr Avg.)	-	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.8.
Whole Effluent Toxicity (Chronic)	Percent	Minimum	-	-	-	100	Every Three Months	24-hour FPC	EFD-01	See Cond.I.A.10.

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
Hillsborough Bay	Class III Marine

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

Chronic Whole Effluent Toxicity Testing

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) Whole effluent chronic toxicity shall not exceed a 25 percent inhibition concentration (IC25) of less than 100% effluent in any test and Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.

(2) In the chronic toxicity test, the effluent cannot be acutely toxic, in accordance with Rules 62- 4.241(1)(a), 62-302.200(1) and 62-302.500(1)(a)(4) F.A.C.

b. Monitoring Frequency

(1) The "routine" toxicity tests specified shall be conducted *once every three months.*

c. Sampling Requirements

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

(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.

(4) If the duration of the discharge is less than 24-hours, the duration of discharge shall be documented on the chain of custody. Each sample shall be analyzed for total residual chlorine and pH at the time of sample collection. Should the discharge last less than 24 hours, the bioassay shall be run on the volume collected, however, three samples must be collected.

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 ed., EPA-821-R-02-013 or the most current edition. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use.

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02- 013, Section 7 or the most current edition.

e. Quality Assurance Requirements

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

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet "test acceptability criteria", the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**) or the most current edition. 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 prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) 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. or the most current edition, 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 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 tor the most current edition, 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 or the most current edition, 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: Department of Environmental Protection, Southwest District Office
13051 N. Telecom Parkway, Temple Terrace, FL 33637-0926 Telephone No.: (813) 632-7600
g. Test Failures
(1) A test fails when the test results do not meet the limits in 10.a.(1) & (2).
(2) Additional Follow-up Tests:
(a) If a routine test does not meet the chronic toxicity limitation in 10.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 10.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 statistically analyzed according to the Appendices in EPA-821-R-02-013 or the most current edition.
(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 period of time that the approved plan is ongoing, the permittee shall conduct routine whole effluent toxicity testing at the frequency of once every three months, but shall not be required to perform additional follow-up tests. If a routine test is invalid as established in EPA Methods, EPA-821-R-02-012, EPA-821-R-02-013, or EPA-821-R-02-014, a retest must be started within 21 days for a chronic test or 14 days for an acute test after the last day of the invalid test.
(f) Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up whole effluent toxicity tests shall return to the schedule established in the facility wastewater permit. The permittee may terminate the plan at any time upon written verification by the Department that the facility has passed at least four consecutive valid routine whole effluent toxicity tests. *[62-4.241, 62-620.620(3)]*
11. For good cause and after notice and, if requested, an administrative hearing pursuant to section 120.57, F.S., the Department shall require the permittee to conform to new or additional permit conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions. When a permit is revised, only the conditions subject to revision are reopened. All other requirements and conditions of the existing permit shall remain in effect until the permit expires. *[62-620.325(1)]*

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:

g Group	Date	g Location	PCS e	NODI	Parameter	Description	Result r	Result t	Limit	Units
D-001	12/31/2014	EFA-01	A		P 50060	Chlorine, Total Residual		0.87	1.0	mg/L
D-001	12/31/2014	EFD-01	1		P 50060	Chlorine, Total Residual	<	1	0.01	mg/L
RMP-B	12/31/2014	RMP-B	+		P 61518	Selenium Sludge Solid		110	100.0	MG/KG
MWC-01	12/31/2014	MWC-01			P 70295	Solids, Total Dissolved (TDS)		974	500.0	MG/L
MWC-01	12/31/2014	MWC-01			P 00400	pH		6.9	6.5	SU
MWC-02	12/31/2014	MWC-02			P 70295	Solids, Total Dissolved (TDS)		572	500.0	MG/L
MWC-02	12/31/2014	MWC-02			P 00400	pH		6.95	6.5	SU
MWC-03	12/31/2014	MWC-03			P 00400	pH		6.7	6.5	SU
MWC-04	12/31/2014	MWC-04			P 00620	Nitrogen, Nitrate, Total (as N)		15	10.0	MG/L
MWC-04	12/31/2014	MWC-04			P 00400	pH		7.1	6.5	SU
D-001	10/31/2014	EFD-01	1		P 00400	pH		6.3	6.5	
D-001	10/31/2014	EFA-01	A		P 74055	Coliform, Fecal		34	25.0	
D-001	10/31/2014	EFA-01	A		P 50060	Chlorine, Total Residual		0.19	1.0	
R-001	10/31/2014	EFA-01	A		P 74055	Coliform, Fecal		34	25.0	
D-001	10/31/2014	EFD-01	P		P TRP3B	IC25 Statre 7day Chr		8.3	100.0	
MWC-01	9/30/2014	MWC-01			P 70295	Solids, Total Dissolved (TDS)		869	500.0	
MWC-02	9/30/2014	MWC-02			P 70295	Solids, Total Dissolved (TDS)		707	500.0	
MWC-03	9/30/2014	MWC-03			P 70295	Solids, Total Dissolved (TDS)		885	500.0	
MWC-04	9/30/2014	MWC-04			P 70295	Solids, Total Dissolved (TDS)		594	500.0	
D-001	8/31/2014	EFD-01	1		P 50060	Chlorine, Total Residual		0.1	0.01	
D-001	7/31/2014	EFD-01	P		P TRP3B	IC25 Statre 7day Chr		86	100.0	
R-001	6/30/2014	FLW-01	Y		P 50050	Flow		3.1	2.3	
MWC-01	6/30/2014	MWC-01			P 70295	Solids, Total Dissolved (TDS)		521	500.0	
D-001	5/31/2014	EFD-01	Y		P 34306	Chlorodibromomethane		45.6	39.0	ug/L
R-001	5/31/2014	FLW-01	Y		P 50050	Flow		3.1	2.3	MGD
D-001	4/30/2014	EFD-01	Y		P 34306	Chlorodibromomethane		46.8	39.0	ug/L
R-001	4/30/2014	FLW-01	Y		P 50050	Flow		3.1	2.3	MGD
D-001	3/31/2014	EFD-01	Y		P 34306	Chlorodibromomethane		47.8	39.0	ug/L
R-001	3/31/2014	FLW-01	Y		P 50050	Flow		3.1	2.3	MGD
MWC-01	3/31/2014	MWC-01	R		P 70295	Solids, Total Dissolved (TDS)		932	500	MG/L
MWC-03	3/31/2014	MWC-03	R		P 00620	Nitrogen, Nitrate, Total (as N)		12.9	10	MG/L
MWC-03	3/31/2014	MWC-03	R		P 70295	Solids, Total Dissolved (TDS)		572	500	MG/L
MWC-04	3/31/2014	MWC-04	R		P 70295	Solids, Total Dissolved (TDS)		1140	500	MG/L
D-001	2/28/2014	EFD-01	Y		P 34306	Chlorodibromomethane		49.1	39.0	ug/L
R-001	2/28/2014	FLW-01	Y		P 50050	Flow		3.1	2.3	MGD
D-001	1/31/2014	EFD-01	Y		P 34306	Chlorodibromomethane		49.3	39.0	ug/L
R-001	1/31/2014	FLW-01	Y		P 50050	Flow		3.2	2.3	MGD
D-001	12/31/2013	EFA-01	A		P 74055	Coliform, Fecal		77	25	#/100mL
D-001	12/31/2013	EFD-01	Y		P 34306	Chlorodibromomethane		49.7	39.0	ug/L
R-001	12/31/2013	FLW-01	Y		P 50050	Flow		3.2	2.3	MGD
R-001	12/31/2013	EFA-01	A		P 74055	Coliform, Fecal		77	25	#/100ML
MWC-01	12/31/2013	MWC-01	R		P 70295	Solids, Total Dissolved (TDS)		878	500	MG/L
MWC-02	12/31/2013	MWC-02	R		P 70295	Solids, Total Dissolved (TDS)		616	500	MG/L
MWC-03	12/31/2013	MWC-03	R		P 70295	Solids, Total Dissolved (TDS)		594	500	MG/L
MWC-04	12/31/2013	MWC-04	R		P 00620	Nitrogen, Nitrate, Total (as N)		17.7	10	MG/L

Date	Parameter and Units	Limit	Result

Describe previous FYI and WQBEL study:
See attached 2009 Report.

Describe previous or current Enforcement Actions (including WLs):
See attached Consent Order OGC# 14-0156 addressing Dibromochloromethane limits not met.

Describe any violations or problems noted in previous inspection: See attached Inspection Report from February 25, 2014- Effluent violations noted in DMR review.
Discuss whether DMR trends within previous five years are improving or declining:
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

Appendix B

Explanation of Measurements

(1) Quality Assurance and Quality Control

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

(2) Chemical Analyses of the Effluent

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

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.500(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 62-302.530(20), 62-302.530(61) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(61) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

(4) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or facility permit limits. Fecal coliform and enterococci 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.

(5) Chlorophyll *a* Content

Chlorophyll *a* content is an estimate algal biomass. High algal biomass implies nutrient stress (Stevenson and Bahls 1999) and may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C., and/or 62-302.530(47)(b), F.A.C..

(6) Algal Growth Potential (AGP)

The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. Raschke and Shultz (1987) found that an AGP above 10.0 mg dry weight/L represents a “problem” threshold for marine receiving waters, implying nutrient enrichment. High AGP values may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(b), F.A.C..

The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP in a low salinity sample under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of $\pm$ 20%. When the ratio of nitrogen to phosphorus (N:P) is less than 10:1, nitrogen limitation of algal production is likely. When the N:P ratio is 20:1 or greater, phosphorus limitation is likely (EPA-822-B-00-002). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(61) F.A.C. Expected AGP is not calculated for marine samples incubated with *Dunaliella*.

(7) Definition of Qualifiers

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

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

Appendix C

Chemical analysis of effluent

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	EFD-01 Grab	AGP/LN	Algal Growth Potential-Salinity Adjusted	65.4	mg DryWt/L	3	3
2/23/2015 10:40	EFD-01 Grab	AGP/LN	Algal Growth Potential	105	mg DryWt/L	0.3	0.9
2/23/2015 10:40	EFD-01 Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.61 U	ug/L	0.61	1.9
2/23/2015 10:40	EFD-01 Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.44 U	ug/L	0.44	1.3
2/23/2015 10:40	EFD-01 Grab	Microbiology	Enterococci-QuantiTray	4.6 AQ	MPN/100 mL	1	1
2/23/2015 10:40	EFD-01 Grab	Overflow	Fecal Coliforms-Membrane Filter	1 U	cfu/100 mL	1	1
2/23/2015 10:40	EFD-01 Grab	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100 L	LC50		
2/23/2015 10:40	EFD-01 Grab	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100 L	LC50		
2/23/2015 10:40	EFD-01 Grab	Nutrients	Fluoride	0.42	mg F/L	0.035	0.1
2/23/2015 10:40	EFD-01 Grab	Nutrients	Alkalinity	133 A	mg CaCO3/L	0.65	2.5
2/23/2015 10:40	EFD-01 Grab	Nutrients	Kjeldahl Nitrogen	1.3	mg N/L	0.08	0.2
2/23/2015 10:40	EFD-01 Grab	Nutrients	Turbidity	0.60	NTU	0.1	0.1
2/23/2015 10:40	EFD-01 Grab	Nutrients	NO2NO3-N	1.6	mg N/L	0.04	0.1
2/23/2015 10:40	EFD-01 Grab	Nutrients	Chloride	150 A	mg Cl/L	2	5
2/23/2015 10:40	EFD-01 Grab	Nutrients	Total-P	2.4	mg P/L	0.025	0.25
2/23/2015 10:40	EFD-01 Grab	Nutrients	Sulfate	490 A	mg SO4/L	2	5
2/23/2015 10:40	EFD-01 Grab	Nutrients	Color (true)	16	PCU	2.5	6
2/23/2015 10:40	EFD-01 Grab	Nutrients	Organic Carbon	9.0 A	mg C/L	1	2
2/23/2015 10:40	EFD-01 Grab	Nutrients	Ammonia-N	0.057	mg N/L	0.002	0.005
2/23/2015 10:40	EFD-01 Grab	Nutrients	O-Phosphate-P	2.3	mg P/L	0.08	0.2
2/23/2015 10:40	EFD-01 Grab	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Acetaminophen	0.0020 U	ug/L	0.002	0.01
2/23/2015 10:40	EFD-01 Grab	Pesticides	Phorate	0.0050 U	ug/L	0.005	0.02
2/23/2015 10:40	EFD-01 Grab	Pesticides	Naled	0.040 U	ug/L	0.04	0.16
2/23/2015 10:40	EFD-01 Grab	Pesticides	Ethoprop	0.0050 U	ug/L	0.005	0.02
2/23/2015 10:40	EFD-01 Grab	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Prometon	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Atrazine Desethyl	0.010 UJ	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Demeton	0.024 U	ug/L	0.024	0.096

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	EFD-01 Grab	Pesticides	Diazinon	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Atrazine	0.11 J	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Atrazine Desisopropyl	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Chlorpyrifos Ethyl	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Metolachlor	0.060 U	ug/L	0.06	0.24
2/23/2015 10:40	EFD-01 Grab	Pesticides	Norflurazon	0.030 U	ug/L	0.03	0.12
2/23/2015 10:40	EFD-01 Grab	Pesticides	Simazine	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Sucralose	32	ug/L	0.2	1
2/23/2015 10:40	EFD-01 Grab	Pesticides	Carbamazepine	0.14	ug/L	0.002	0.01
2/23/2015 10:40	EFD-01 Grab	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Butylate	0.020 U	ug/L	0.02	0.08
2/23/2015 10:40	EFD-01 Grab	Pesticides	Alachlor	0.060 U	ug/L	0.06	0.24
2/23/2015 10:40	EFD-01 Grab	Pesticides	Ametryn	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Hexazinone	0.030 UJ	ug/L	0.03	0.12
2/23/2015 10:40	EFD-01 Grab	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Ethion	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Chlorpyrifos Methyl	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Bromacil	0.040 U	ug/L	0.04	0.16
2/23/2015 10:40	EFD-01 Grab	Pesticides	Fonofos	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Malathion	0.010 U	ug/L	0.01	0.04
2/23/2015 10:40	EFD-01 Grab	Pesticides	Disulfoton	0.0050 U	ug/L	0.005	0.02
2/23/2015 10:40	EFD-01 Grab	Pesticides	Fenamiphos	0.030 UJ	ug/L	0.03	0.12
2/23/2015 10:40	EFD-01 Grab	Pesticides	Metalaxyl	0.040 U	ug/L	0.04	0.16
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2-Chlorophenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	44 U	ug/L	44	180
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.2 U	ug/L	2.2	8.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Chrysene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Di-n-octyl phthalate	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Hexachlorobenzene	1.1 U	ug/L	1.1	4.4

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Acenaphthene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Acenaphthylene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.3 U	ug/L	3.3	13
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Isophorone	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Methyl-t-butyl ether	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Dibromochloromethane	12	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Fluorene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2 U	ug/L	2.2	8.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.3 U	ug/L	3.3	13
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Phenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	m,p-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	o-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,4-Dichlorophenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2-Chloronaphthalene	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2-Nitrophenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzidine	110 U	ug/L	110	440
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Dimethyl phthalate	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Fluoranthene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Hexachlorobutadiene	3.3 U	ug/L	3.3	13

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bromodichloromethane	23	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.2 U	ug/L	2.2	8.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Hexachloroethane	3.3 U	ug/L	3.3	13
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Pentachlorophenol	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Phenanthrene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	cis-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,4-Dimethylphenol	11 U	ug/L	11	44
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Di-n-butyl phthalate	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.3 U	ug/L	3.3	13
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Bromoform	1.0	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	4-Nitrophenol	16 U	ug/L	16	66
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Anthracene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Butyl benzyl phthalate	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Diethyl phthalate	1.1 U	ug/L	1.1	4.4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.2 U	ug/L	2.2	8.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Nitrobenzene	2.2 U	ug/L	2.2	8.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Pyrene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2-Butanone	5.0 U	ug/L	5	20
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2,4-Dinitrophenol	16 U	ug/L	16	66
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.3 U	ug/L	3.3	13
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.22 U	ug/L	0.22	0.88
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Naphthalene	0.22 UJ	ug/L	0.22	0.88

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Chloroform	46	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	EFD-01 Grab	Nutrients	Dissolved Oxygen	7.48	mg/L		
2/23/2015 10:40	EFD-01 Grab	Nutrients	Temperature	23.84	C		
2/23/2015 10:40	EFD-01 Grab	Nutrients	pH	6.94			
2/23/2015 9:00	EFD-01 Comp	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	2.0	mg/L	0.2	2
2/23/2015 9:00	EFD-01 Comp	Metals	Silver	0.025 U	ug/L	0.025	0.1
2/23/2015 9:00	EFD-01 Comp	Metals	Potassium	12.5	mg/L	0.3	1.2
2/23/2015 9:00	EFD-01 Comp	Metals	Lead	0.20 U	ug/L	0.2	0.8
2/23/2015 9:00	EFD-01 Comp	Metals	Arsenic	1.24	ug/L	0.25	1
2/23/2015 9:00	EFD-01 Comp	Metals	Iron	60 I	ug/L	30	120
2/23/2015 9:00	EFD-01 Comp	Metals	Magnesium	12.7	mg/L	0.04	0.16
2/23/2015 9:00	EFD-01 Comp	Metals	Calcium	76.7	mg/L	0.075	0.3
2/23/2015 9:00	EFD-01 Comp	Metals	Chromium	0.56 I	ug/L	0.3	1.2
2/23/2015 9:00	EFD-01 Comp	Metals	Aluminum	14 I	ug/L	5	20
2/23/2015 9:00	EFD-01 Comp	Metals	Copper	1.83	ug/L	0.5	1
2/23/2015 9:00	EFD-01 Comp	Metals	Selenium	3.31	ug/L	0.2	0.8
2/23/2015 9:00	EFD-01 Comp	Metals	Nickel	2.57	ug/L	0.25	1
2/23/2015 9:00	EFD-01 Comp	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
2/23/2015 9:00	EFD-01 Comp	Metals	Zinc	14 I	ug/L	5	20
2/23/2015 9:00	EFD-01 Comp	Metals	Sodium	281	mg/L	2.5	10
2/23/2015 9:00	EFD-01 Comp	Nutrients	Total-P	3.9	mg P/L	0.025	0.25
2/23/2015 9:00	EFD-01 Comp	Nutrients	NO2NO3-N	0.70	mg N/L	0.008	0.02
2/23/2015 9:00	EFD-01 Comp	Nutrients	Ammonia-N	0.053	mg N/L	0.002	0.005
2/23/2015 9:00	EFD-01 Comp	Nutrients	TSS	2 I	mg/L	2	10
2/23/2015 9:00	EFD-01 Comp	Nutrients	Kjeldahl Nitrogen	1.1	mg N/L	0.08	0.2
2/23/2015 11:05	Field Blank	Metals	Zinc	5.0 U	ug/L	5	20
2/23/2015 11:05	Field Blank	Metals	Copper	0.50 U	ug/L	0.5	1

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 11:05	Field Blank	Metals	Iron	30 U	ug/L	30	120
2/23/2015 11:05	Field Blank	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
2/23/2015 11:05	Field Blank	Metals	Silver	0.025 U	ug/L	0.025	0.1
2/23/2015 11:05	Field Blank	Metals	Nickel	0.25 U	ug/L	0.25	1
2/23/2015 11:05	Field Blank	Metals	Lead	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
2/23/2015 11:05	Field Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Metals	Chromium	0.30 U	ug/L	0.3	1.2
2/23/2015 11:05	Field Blank	Metals	Arsenic	0.25 U	ug/L	0.25	1
2/23/2015 11:05	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
2/23/2015 11:05	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
2/23/2015 11:05	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
2/23/2015 11:05	Field Blank	Metals	Aluminum	5.0 U	ug/L	5	20
2/23/2015 11:05	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
2/23/2015 11:05	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
2/23/2015 11:05	Field Blank	Nutrients	Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
2/23/2015 11:05	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
2/23/2015 11:05	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
2/23/2015 11:05	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
2/23/2015 11:05	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
2/23/2015 11:05	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
2/23/2015 11:05	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
2/23/2015 11:05	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
2/23/2015 11:05	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
2/23/2015 11:05	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
2/23/2015 11:05	Field Blank	Pesticides	Fenamiphos	0.030 UJ	ug/L	0.03	0.12
2/23/2015 11:05	Field Blank	Pesticides	Malathion	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Simazine	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Atrazine Desethyl	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Demeton	0.024 U	ug/L	0.024	0.097
2/23/2015 11:05	Field Blank	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.05
2/23/2015 11:05	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Bromacil	0.040 U	ug/L	0.04	0.16
2/23/2015 11:05	Field Blank	Pesticides	Metalaxyl	0.040 U	ug/L	0.04	0.16

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 11:05	Field Blank	Pesticides	Phorate	0.0050 U	ug/L	0.005	0.02
2/23/2015 11:05	Field Blank	Pesticides	Ametryn	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Acetaminophen	0.0020 U	ug/L	0.002	0.01
2/23/2015 11:05	Field Blank	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Norflurazon	0.030 U	ug/L	0.03	0.12
2/23/2015 11:05	Field Blank	Pesticides	Diazinon	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Carbamazepine	0.0020 U	ug/L	0.002	0.01
2/23/2015 11:05	Field Blank	Pesticides	Atrazine	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Metolachlor	0.060 U	ug/L	0.06	0.24
2/23/2015 11:05	Field Blank	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Ethoprop	0.0050 U	ug/L	0.005	0.02
2/23/2015 11:05	Field Blank	Pesticides	Disulfoton	0.0050 U	ug/L	0.005	0.02
2/23/2015 11:05	Field Blank	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Pesticides	Alachlor	0.060 U	ug/L	0.06	0.24
2/23/2015 11:05	Field Blank	Pesticides	Hexazinone	0.030 UJ	ug/L	0.03	0.12
2/23/2015 11:05	Field Blank	Pesticides	Ethion	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Butylate	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Pesticides	Atrazine Desisopropyl	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Chlorpyrifos Methyl	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Fonofos	0.010 U	ug/L	0.01	0.04
2/23/2015 11:05	Field Blank	Pesticides	Naled	0.040 U	ug/L	0.04	0.16
2/23/2015 11:05	Field Blank	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Pesticides	Prometon	0.020 U	ug/L	0.02	0.081
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Naphthalene	0.20 UJ	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bromoform	0.20 U	ug/L	0.2	0.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	m,p-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	40
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	60
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Pentachlorophenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bromodichloromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	400
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	cis-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	60
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	4.3 I	ug/L	2	8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	o-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Chloroform	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Methyl-t-butyl ether	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	2-Butanone	5.0 U	ug/L	5	20
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 11:05	Field Blank	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,2-Dichloropropane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Vinyl chloride	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Methyl-t-butyl ether	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Dibromochloromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Bromomethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Trichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Ethylbenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Toluene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Benzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Carbon tetrachloride	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Chlorobenzene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Methylene chloride	1.0 U	ug/L	1	4
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	m,p-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Trichlorofluoromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,2-Dichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Bromodichloromethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Chloroform	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Chloromethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Tetrachloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	o-Xylene	0.50 U	ug/L	0.5	2
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,1-Dichloroethane	0.20 U	ug/L	0.2	0.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	MDL	PQL
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	2-Butanone	5.0 U	ug/L	5	20
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Bromoform	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	cis-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	1,1-Dichloroethene	0.20 U	ug/L	0.2	0.8
2/23/2015 10:40	Trip Blank	Priority Organic Pollutants	Chloroethane	0.50 U	ug/L	0.5	2

EPA End Sheet

The Bioassay of City of Tampa-Howard F. Curren AWTP effluent sampled on February 23, 2015. NPDES #FL0020940.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 0 9 4 0	11 12 15 02 23	18 B	19 S	20 01

Remarks

66

The Priority Pollutants Analysis of City of Tampa-Howard F. Curren AWTP effluent sampled on February 23, 2015. NPDES #FL0020940.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 0 9 4 0	11 12 15 02 23	18 X	19 S	20 01

Remarks

66

Biological Analyses of City of Tampa-Howard F. Curren AWTP effluent sampled on February 23, 2015. NPDES #FL0020940.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 2 0 9 4 0	11 12 15 02 23	18 S	19 S	20 01

Remarks

66