

Effluent Quality Assessment

City of Oldsmar Advanced Wastewater Treatment Facility

Pinellas County

NPDES #FL0027651

Sampled October 28, 2013

December 2013

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration
2013 FDEP Bureau of Labs Quality Manual
NELAC Certification No. E31780

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City of Oldsmar Advanced Wastewater Treatment Facility (AWWTF), 100 State Street West, Oldsmar, Pinellas County, Florida, 34677. NPDES #FL0027651.

Facility Overview

City of Oldsmar AWWTF is a Type 1 advanced wastewater treatment facility which uses the Bardenpho Process to treat domestic wastewater. 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 and composite samples for biological and chemical analyses for this facility were collected on October 28, 2013. All samples were collected from the EFD-02 NPDES sampling point for Outfall D-002 by Ramandeep Kaur and Gitta Schmitt (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 and Appendix C)

- The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.036 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.
- Bromodichloromethane, dibromochloromethane, copper, nickel, zinc, total nitrogen, turbidity, and fluoride were detected in the effluent at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Atrazine, arsenic, cadmium, total chromium, total suspended solids (TSS), and carbonaceous biological oxygen demand (CBOD) were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Due to the absence of a background measurement, it could not be determined if the effluent's specific conductance (1337 µmhos/cm) exceeded the Class III Freshwater Criterion for specific conductance (62-302.530 (22) F.A.C.). Total ammonia and aluminum were detected in the field blanks between the MDL and PQL of the analyses.

Algal Growth Potential (See Table 2 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 49 A 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 represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen–limited (Miller et al. 1978).

Toxicity Test Results (See Appendix C)

- Tests were performed October 29 –November 2, 2013.

Ceriodaphnia dubia 96-hour acute definitive bioassay –	LC_{50} > 100%, 0%* mortality in 100% sample at 96 hours
Pimephales promelas 96-hour acute definitive bioassay –	LC_{50} > 100%, 5%* 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-02 NPDES sampling point for this facility on October 28, 2013, was not acutely toxic to either test species during the 96-hour acute definitive bioassays. The effluent AGP result was greater than the "problem" threshold for fresh receiving waters suggesting that nutrient enrichment may be an issue. It was not determined if effluent water quality samples collected on October 28, 2013 exceeded applicable water quality standards for specific conductance.

For additional information concerning this sampling event, including bioassay bench sheets and SRT data, please contact Bruce.Alexander@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.

Table 1. Effluent limits, Class III Freshwater Criteria, chemical and microbiological data, and qualifiers

City of Oldsmar AWWTF	Class III Criteria	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
Atrazine			0.036	l
Bromodichloromethane	≤ 22 a	≤ 22 a	18	
Dibromochloromethane	≤ 34 a	≤ 34 a	15	
Metals (µg/L unless otherwise noted)				
Aluminum			11	l
Arsenic	≤ 50		0.94	l
Cadmium	≤ 0.458 b		0.12	l
Calcium (mg/L)			67.7	
Chromium, total ψ	≤ 154 b		0.51	l
Copper	≤ 3.7		1.25	
Iron	≤ 1,000		30	U
Lead	≤ 7.86 b		0.20	U
Magnesium (mg/L)			8.35	
Nickel	≤ 95.1 b		8.44	
Potassium (mg/L)			11.8	
Selenium	≤ 5.0		0.20	U
Silver	≤ 0.07		0.025	U
Sodium			195	
Zinc	≤ 219 b		137	
Nutrients (mg/L)				
Ortho-phosphate			1.2	
Total Phosphorus			1.4	‡
Total Ammonia			0.036	
Un-ionized Ammonia	≤ 0.02 s		< 0.02	c
Nitrate and Nitrite			0.92	‡
Total Kjeldahl Nitrogen			0.87	‡
Organic Nitrogen			0.834	c
Total Nitrogen		≤ 6.0 p	1.79	c
Total Organic Carbon			8.1	
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0		8.34	
pH (SU)	6.0 - 8.5	6.5 - 8.5	8.20	
Specific Conductance (µmhos/cm)	≤ 1,275		1,337	
Temperature (°C)			26.66	
Salinity			≤ 0.64	c
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	≤ 0.03	UQ£
Chlorophyll *a* (µg/L) - Corrected			0.55	U
Phaeophytin (µg/L)			0.40	U
Total Suspended Solids (mg/L)		≤ 10.0 p	2	l‡
Turbidity (NTU)	< 29 t		0.25	
Color (true, PCU)			18	
Alkalinity (mg CaCO3/L)			175	
CBOD, 5 day (mg/L), N - inhibited		≤ 10.0 p	1.3	l‡
Chloride (mg/L)			240	
Fluoride (mg/L)	≤ 10.0		0.68	
Sulfate (mg/L)			110	
Flow (MGD)		2.25	0.634	a*
Hardness (mg $CaCO_3$)			203.43	c
Microbiology (Number of colony forming units/100ml)				
Enterococci *	≤ 400s #	≤ 35 m	2	UQ
Fecal Coliforms *	≤ 400s #	≤ 25 s	1	U

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

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

b - Value is calculated based on hardness

c - Value is calculated

m - monthly average

p - 16 hour flow proportioned composite

s - Single sample

t - Shall not exceed 29 NTUs above background

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

Q - Sample held beyond normal holding time

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

¥ - Fecal coliform analysis performed by Advanced Environmental Laboratories

- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)

£ - measurement taken in the FDEP laboratory

* - Measured from 10/12 - 9/13

ψ - Class III Freshwater Water Quality Criterion (62-302.530(19)(a), F.A.C.) for chromium-III

‡ - Included from composite sample

Table 2. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus

City of Oldsmar AWWTF					
Location	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (TN) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent	49 A	36.3 ± 7.3	68.0 ± 13.6	0.8	1.3

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

Appendix A
Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Ramandeep Kaur	Contact Number: (813)-470-5771
Facility Name (as it appears on permit): City of Oldsmar AWWTF	Former Names:
NPDES Permit Number: FL0027651	Permit Expiration Date: July 27, 2014
Physical Address: 100 State Street West, Oldsmar, FL 34677	
District: SWD	County: Pinellas
Function of Facility: Domestic Wastewater Treatment Plant	
Facility Type: Domestic Wastewater	Permitted Capacity (MGD): 2.25
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 0.527 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA	
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 Location Site Number	Description of Monitoring Location
EFA-01	After disinfection and prior to discharge to R001, R-002, D-001 and D-002.
EFB-01	After filtration and prior to disinfection.
EFD-01	After dechlorination and prior to discharge to existing outfall D-001.
EFD-02	After dechlorination and prior to discharge to new outfall D-002.
EFF-01	At weir outfall structure prior to discharge to Mobbly Bay
FLW-01	36-inch cipoletti weir prior to D-001 or D-002.

Description of Permitted Outfall(s):

Surface Water Discharge:

An existing 2.25 MGD annual average daily flow (AADF) permitted discharge to Mobbly Bayou (Class III marine water, WBID No. 1546) at Discharge Location (D-001) which is approximately 2360 feet in length and discharges through a 20-inch ductile iron pipe. The point of discharge is located approximately at latitude 28 ° 01' 38" N, longitude 82 ° 39' 32" W.

Surface Water Discharge: A new 2.25 MGD annual average daily flow (AADF) permitted discharge to an on-site man-made Class III fresh water pond at Discharge Location (D-002) through a 20-inch ductile iron pipe which is approximately 1,000 feet in length. Following discharge at D-002, the plant effluent flows through the existing man-made ponds prior to discharging over a weir to Mobbly Bayou (Class III marine water, WBID No. 1546). The point of discharge for D-002 is located approximately at latitude 28 ° 01' 46" N, longitude 82 ° 39' 22" W.

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

An existing 2.25 MGD Annual Average Daily Flow (AADF) Type I advanced wastewater treatment facility, using the Bardenpho Biological Nutrient Removal (BNR) process. The plant consists of the following components: an on-site influent pumping station with three variable frequency drive submersible pumps; a headworks with one mechanically cleaned fine bar screen, and one grit removal basin, and a grit washer; a five stage Bardenpho BNR system (the first three stages of which are triple train, consisting of three fermentation basins of 45,790 gallons each, providing a total volume of 137,330 gallons, three first anoxic basins of 61,930 gallons each, providing a total volume of 185,800 gallons, three aeration basins of 247,740 gallons each, providing a total volume of 743,210 gallons, two second anoxic basins of 116,240 gallons each providing a total volume of 232,480 gallons, and one reaeration basin of 47,120 gallons total volume; two secondary clarifiers of 3,850 square feet total surface area each, with 345,220 gallons and 334,430 gallons total volume respectively; two dual media automatically backwashable filters of 495 square feet surface area each, providing a total surface area of 990 square feet; an intermediate pump station with four submersible variable frequency drive pumps and a wetwell of 9,210 gallons total volume where disinfection chlorination is introduced using sodium hypochlorite; two chlorine contact chambers of 25,780 each, providing a total contact volume of 51,560 gallons; and two post aeration basins of 33,405 gallons each, for a total volume of 66,810 gallons.

The residuals treatment stream consists of: two one-meter gravity belt thickeners, using polymer addition; lime storage, mixing, and delivery equipment; and four sludge holding tanks of 13,700 gallons each, providing a total stabilization volume of 54,800 gallons, where lime stabilization is accomplished. Residuals are disposed of by land application.

Effluent, which is excess reclaimed water or effluent failing to meet Part III public access quality standards is discharged at outfall D001 as described below and is dechlorinated by means of sodium bisulfite in a basin downstream of the post aeration basins. Effluent which meets Part III public access quality standards and is to be sent to the Master Urban Reuse System (R001) within the City of Oldsmar and to the Pinellas County Reuse System (R002), as described below, is transferred from the post aeration basin to an above ground reuse storage tank of 1.0 million gallons capacity, thence by means of a four pump high service reuse distribution system to R001 and R002. The on-site storage tank, pumping system and the reject system are controlled, sequenced and operated according to procedures set forth in the plant Operating Protocol in order to assure maximum reliability and safeguards on the quality of the reclaimed water.

Filter backwash, supernatant and filtrate, from the residuals process, are returned to the waste stream via the filtrate lift station to the headworks structure. Methanol injection is available in the BNR process second anoxic basin for process control. Alum coagulant feed is available on a standby status for injection prior to reaeration or prior to filtration for solids control. Effluent quality is continuously monitored for turbidity as a measure of TSS and chlorine residual as a measure of disinfection effectiveness. One autostart generator with a total output of 600 KW is available as an alternative power source.

Modification:

Construction of a new secondary clarifier of 5675 square feet of total surface area and 594,000 gallons total volume with a flow splitter box, replacement of the existing filters with new deep bed filters, modification of the old chlorine contact chamber and effluent holding tanks into a reject storage tank of 250,000 gallons and construction of the new outfall.

<u>REUSE:</u>

Land Application: An existing 2.25 MGD AADF Part III permitted capacity slow-rate public access Master Urban Reuse System (R-001) consisting of existing and proposed new reuse components within a general service area as described in detail in Permit Condition IV. 2. The system is generally located within the city limits of the City of Oldsmar. Permitted capacity of the system including existing and potential users is 2.25 mgd annual average daily flow, applied over approximately 1650 acres.

PART I: Continued

Receiving Waters:	Classification (indicate whether fresh or marine):
Mobbly Bayou	Class III Marine water body

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

Monitoring Date	Outfall Indicator	Parameter Description	Data	Limit	Statistical Base	Units
12/31/2012	002-1	COPPER, TOTAL RECOVERABLE	17	9	MAXIMUM	ug/L
1/31/2013	002-1	COPPER, TOTAL RECOVERABLE	15	9	MAXIMUM	ug/L
2/28/2013	002-1	CHLORINE, TOTAL RESIDUAL	0.7	1	MINIMUM	mg/L
3/31/2013	002-1	SOLIDS, TOTAL SUSPENDED	12.6	5	MAXIMUM	mg/L
3/31/2013	002-1	NITROGEN, TOTAL	7.38	3.75	MO AVG	mg/L
3/31/2013	002-1	NITROGEN, TOTAL	24.7	6	MAXIMUM	mg/L
3/31/2013	002-1	COPPER, TOTAL RECOVERABLE	9.8	9	MAXIMUM	ug/L
5/31/2013	002-1	CHLORINE, TOTAL RESIDUAL	0.4	1	MINIMUM	mg/L

Describe previous FYI and WQBEL study:
2005 FYI report submitted as separate email attachment.

Describe previous or current Enforcement Actions (including WLs):
Consent Order, OGC No. 07-2699
The facility is under consent order for high copper levels in the discharge. The facility requested to change the extension date to December 31, 2013.

Describe any violations or problems noted in previous inspection:

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):

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
Flow, to D-001	MGD	Maximum	2.25	Report	-	-	Continuous	Recording flow meters and totalizers	FLW-01	See Cond.I.A.5
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	Weekly	16-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	5.0	6.25	7.5	10.0	Weekly	16-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	Weekly	16-hour FPC	EFA-01	
pH	SU	Range	-	-	-	6.5 to 8.5	Continuous	Meter	EFA-01	See Cond.I.A.4
Coliform, Fecal, % less than detection	PERCENT	Minimum	75	-	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.6
Coliform, Fecal	#/100ML	Maximum	-	-	-	25	7 days/week	Grab	EFA-01	See Cond.I.A.6
Total Residual Chlorine (For Disinfection)	MG/L	Minimum	-	-	-	1.0	Continuous	Meter	EFA-01	See Cond.I.A.4 & 6
Total Residual Chlorine (For Dechlorination)	MG/L	Maximum	-	-	-	0.01	7 days/week	Grab	EFD-01	
Oxygen, Dissolved (DO)	MG/L	Minimum	-	-	-	5.0	7 days/week	Grab	EFD-01	
Whole Effluent Toxicity (Acute)	Percent	Minimum	-	-	-	100	Every Three Months	Grab	EFD-01	See Cond.I.A.11
Whole Effluent Toxicity (Chronic)	Percent	Minimum	-	-	-	100	Every Three Months	24-hour FPC	EFD-01	See Cond.I.A.12
Copper, Total Recoverable	UG/L	Maximum	-	-	-	3.7	Monthly	Grab	EFD-01	
Dichlorobromomethane	UG/L	Maximum	22	Report	-	-	Monthly	Grab	EFD-01	
Chlorodibromomethane	UG/L	Maximum	34	Report	-	-	Monthly	Grab	EFD-01	
Enterococci	#/100ML	Maximum	-	35	-	-	5/Month	Grab	EFA-01	See Cond.I.A.8
Nitrogen, Total (as N)	Tons/Year	Maximum	4.47	Report	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.9
Nitrogen, Total (as N)	Tons/5 Year	Maximum	3.15	Report	-	-	Monthly	Calculation	EFA-01	See Cond.I.A.9

City of Oldsmar AWWTF, Permit #: FL0027651; FYI3 PART II: Sampling Event Information	
Date(s) sample collected: October 28, 2013	**Sampler(s):** Ramandeep Kaur, Gitta Schmitt
Temperature (Deg C): 26.66	**pH (SU):** 8.20
Dissolved Oxygen (mg/L): 8.34 (DO% 104.5)	**Conductivity (umhos/cm):** Salinity: 0.66 PPTh
Total Residual Chlorine (mg/L): N/A	**Total Residual Chlorine - after Disinfection (mg/L):** N/A
Method of Chlorination: Sodium Hypochlorite	**Method of De-chlorination:** Sodium Bisulfite
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day): 0.527 MGD	
Describe Discharge during Sampling Event: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here: Grab samples were collected from EFD-02- Discharge sampling point.	



Discharge sampling point for EFD-02

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.floridadep.org/labs/sop/index.htm and/or http://www.floridadep.org/labs/qa/index.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. Exceedances of Water Quality Criteria may constitute violations of specific provisions of Chapter 62-302 (F.A.C.) and/ or 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 a violation of 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 a violation of 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 a violation of 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 a violation of 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) 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 5.0 mg dry weight/L represents a “problem” threshold for fresh 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 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 (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 62-302.530(61), F.A.C.

(6) 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 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.

(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 Analyses of Effluent

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 10:45	41007	AGP/LN	Algal Growth Potential	49.0	A	mg DryWt/L	0.3	0.9
10/28/2013 10:45	41007	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.40	U	ug/L	0.4	1.2
10/28/2013 10:45	41007	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
10/28/2013 10:45	41007	Microbiology	Enterococci-Membrane Filter	2	UQ	cfu/100 mL	2	2
10/28/2013 10:45	41007	Overflow	Fecal Coliforms-Membrane Filter	1	U	cfu/100 mL	1	
10/28/2013 10:45	41007	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100	L	LC50		
10/28/2013 10:45	41007	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100	L	LC50		
10/28/2013 10:45	41007	Metals	Iron	30	U	ug/L	30	120
10/28/2013 10:45	41007	Metals	Magnesium	8.35		mg/L	0.04	0.16
10/28/2013 10:45	41007	Metals	Aluminum	11	I	ug/L	5	20
10/28/2013 10:45	41007	Metals	Cadmium	0.12	I	ug/L	0.05	0.2
10/28/2013 10:45	41007	Metals	Selenium	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	41007	Metals	Calcium	67.7		mg/L	0.075	0.3
10/28/2013 10:45	41007	Metals	Lead	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	41007	Metals	Nickel	8.44		ug/L	0.25	1
10/28/2013 10:45	41007	Metals	Sodium	195		mg/L	0.5	2
10/28/2013 10:45	41007	Metals	Silver	0.025	U	ug/L	0.025	0.1
10/28/2013 10:45	41007	Metals	Potassium	11.8		mg/L	0.3	1.2
10/28/2013 10:45	41007	Metals	Arsenic	0.94	I	ug/L	0.25	1
10/28/2013 10:45	41007	Metals	Chromium	0.51	I	ug/L	0.3	1.2
10/28/2013 10:45	41007	Metals	Zinc	137		ug/L	5	20
10/28/2013 10:45	41007	Metals	Copper	1.25		ug/L	0.5	1
10/28/2013 10:45	41007	Nutrients	Chloride	240		mg Cl/L	2	5
10/28/2013 10:45	41007	Nutrients	Organic Carbon	8.1		mg C/L	0.5	1
10/28/2013 10:45	41007	Nutrients	Sulfate	110		mg SO4/L	2	5
10/28/2013 10:45	41007	Nutrients	Ammonia-N	0.036		mg N/L	0.002	0.005
10/28/2013 10:45	41007	Nutrients	Alkalinity	175		mg CaCO3/L	0.65	2.5
10/28/2013 10:45	41007	Nutrients	O-Phosphate-P	1.2		mg P/L	0.04	0.1
10/28/2013 10:45	41007	Nutrients	Turbidity	0.25		NTU	0.1	0.1
10/28/2013 10:45	41007	Nutrients	Color (true)	18		PCU	2.5	6
10/28/2013 10:45	41007	Nutrients	Fluoride	0.68		mg F/L	0.035	0.1
10/28/2013 10:45	41007	Pesticides	Parathion Methyl	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Norflurazon	0.029	U	ug/L	0.029	0.11
10/28/2013 10:45	41007	Pesticides	Mevinphos	0.0095	U	ug/L	0.0095	0.038

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 10:45	41007	Pesticides	Chlorpyrifos Ethyl	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Azinphos Methyl	0.019	U	ug/L	0.019	0.076
10/28/2013 10:45	41007	Pesticides	Parathion Ethyl	0.019	U	ug/L	0.019	0.076
10/28/2013 10:45	41007	Pesticides	Fenamiphos	0.029	U	ug/L	0.029	0.11
10/28/2013 10:45	41007	Pesticides	Ethoprop	0.0048	U	ug/L	0.0048	0.019
10/28/2013 10:45	41007	Pesticides	Butylate	0.019	U	ug/L	0.019	0.076
10/28/2013 10:45	41007	Pesticides	Naled	0.038	U	ug/L	0.038	0.15
10/28/2013 10:45	41007	Pesticides	Metribuzin	0.019	U	ug/L	0.019	0.076
10/28/2013 10:45	41007	Pesticides	Alachlor	0.057	U	ug/L	0.057	0.23
10/28/2013 10:45	41007	Pesticides	Metolachlor	0.057	U	ug/L	0.057	0.23
10/28/2013 10:45	41007	Pesticides	Bromacil	0.038	U	ug/L	0.038	0.15
10/28/2013 10:45	41007	Pesticides	Atrazine	0.036	I	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Metalaxyl	0.038	U	ug/L	0.038	0.15
10/28/2013 10:45	41007	Pesticides	Hexazinone	0.029	UJ	ug/L	0.029	0.11
10/28/2013 10:45	41007	Pesticides	Ametryn	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Prometryn	0.019	U	ug/L	0.019	0.076
10/28/2013 10:45	41007	Pesticides	Phorate	0.0048	U	ug/L	0.0048	0.019
10/28/2013 10:45	41007	Pesticides	Ethion	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Chlorpyrifos Methyl	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Simazine	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Malathion	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Pesticides	Fonofos	0.021	U	ug/L	0.021	0.084
10/28/2013 10:45	41007	Pesticides	Diazinon	0.0095	U	ug/L	0.0095	0.038
10/28/2013 10:45	41007	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
10/28/2013 10:45	41007	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
10/28/2013 10:45	41007	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Butyl benzyl phthalate	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 10:45	41007	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Diethyl phthalate	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.6
10/28/2013 10:45	41007	Priority Organic Pollutants	Di-n-butyl phthalate	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	Bromodichloromethane	18		ug/L	0.2	0.8
10/28/2013 10:45	41007	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
10/28/2013 10:45	41007	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
10/28/2013 10:45	41007	Priority Organic Pollutants	Dibromochloromethane	15		ug/L	0.2	0.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
10/28/2013 10:45	41007	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
10/28/2013 10:45	41007	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
10/28/2013 10:45	41007	Priority Organic Pollutants	2,4-Dinitrophenol	14	UJ	ug/L	14	57
10/28/2013 10:45	41007	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Dimethyl phthalate	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8
10/28/2013 10:45	41007	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 10:45	41007	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.76
10/28/2013 10:45	41007	Field Parameter	Dissolved Oxygen	8.34		mg/L		
10/28/2013 10:45	41007	Field Parameter	Specific Conductance	1,337		umhos/cm		
10/28/2013 10:45	41007	Field Parameter	Temperature	26.66		C		
10/28/2013 10:45	41007	Field Parameter	pH	8.20				
10/28/2013 10:10	41008	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.3	I	mg/L	0.2	2
10/28/2013 10:10	41008	Nutrients	Kjeldahl Nitrogen	0.87		mg N/L	0.08	0.2
10/28/2013 10:10	41008	Nutrients	TSS	2	I	mg/L	2	10
10/28/2013 10:10	41008	Nutrients	NO2NO3-N	0.92		mg N/L	0.04	0.1
10/28/2013 10:10	41008	Nutrients	Total-P	1.4		mg P/L	0.025	0.25
10/28/2013 11:40	41009	Metals	Lead	0.20	U	ug/L	0.2	0.8
10/28/2013 11:40	41009	Metals	Sodium	0.50	U	mg/L	0.5	2
10/28/2013 11:40	41009	Metals	Silver	0.025	U	ug/L	0.025	0.1
10/28/2013 11:40	41009	Metals	Nickel	0.25	U	ug/L	0.25	1
10/28/2013 11:40	41009	Metals	Magnesium	0.040	U	mg/L	0.04	0.16
10/28/2013 11:40	41009	Metals	Iron	30	U	ug/L	30	120
10/28/2013 11:40	41009	Metals	Selenium	0.20	U	ug/L	0.2	0.8
10/28/2013 11:40	41009	Metals	Copper	0.50	U	ug/L	0.5	1
10/28/2013 11:40	41009	Metals	Aluminum	5.1	I	ug/L	5	20
10/28/2013 11:40	41009	Metals	Zinc	5.0	U	ug/L	5	20
10/28/2013 11:40	41009	Metals	Arsenic	0.25	U	ug/L	0.25	1
10/28/2013 11:40	41009	Metals	Potassium	0.30	U	mg/L	0.3	1.2
10/28/2013 11:40	41009	Metals	Cadmium	0.050	U	ug/L	0.05	0.2
10/28/2013 11:40	41009	Metals	Calcium	0.075	U	mg/L	0.075	0.3
10/28/2013 11:40	41009	Metals	Chromium	0.30	U	ug/L	0.3	1.2
10/28/2013 11:40	41009	Nutrients	Sulfate	0.20	U	mg SO4/L	0.2	0.5
10/28/2013 11:40	41009	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
10/28/2013 11:40	41009	Nutrients	Organic Carbon	0.65	IY	mg C/L	0.5	1
10/28/2013 11:40	41009	Nutrients	Chloride	0.20	U	mg Cl/L	0.2	0.5
10/28/2013 11:40	41009	Nutrients	Fluoride	0.035	U	mg F/L	0.035	0.1
10/28/2013 11:40	41009	Nutrients	Ammonia-N	0.004	IY	mg N/L	0.002	0.005
10/28/2013 11:40	41009	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
10/28/2013 11:40	41009	Nutrients	Color (true)	2.5	U	PCU	2.5	6
10/28/2013 11:40	41009	Nutrients	Turbidity	0.10	U	NTU	0.1	0.1
10/28/2013 11:40	41009	Pesticides	Ethoprop	0.0050	U	ug/L	0.005	0.02
10/28/2013 11:40	41009	Pesticides	Fenamiphos	0.030	U	ug/L	0.03	0.12
10/28/2013 11:40	41009	Pesticides	Phorate	0.0050	U	ug/L	0.005	0.02

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 11:40	41009	Pesticides	Atrazine	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Chlorpyrifos Methyl	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Metolachlor	0.060	U	ug/L	0.06	0.24
10/28/2013 11:40	41009	Pesticides	Metribuzin	0.020	U	ug/L	0.02	0.079
10/28/2013 11:40	41009	Pesticides	Ametryn	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Chlorpyrifos Ethyl	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Diazinon	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Ethion	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Fonofos	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Parathion Ethyl	0.020	U	ug/L	0.02	0.079
10/28/2013 11:40	41009	Pesticides	Azinphos Methyl	0.020	U	ug/L	0.02	0.079
10/28/2013 11:40	41009	Pesticides	Bromacil	0.040	U	ug/L	0.04	0.16
10/28/2013 11:40	41009	Pesticides	Parathion Methyl	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Butylate	0.020	U	ug/L	0.02	0.079
10/28/2013 11:40	41009	Pesticides	Malathion	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Metalaxyl	0.040	U	ug/L	0.04	0.16
10/28/2013 11:40	41009	Pesticides	Mevinphos	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Naled	0.040	U	ug/L	0.04	0.16
10/28/2013 11:40	41009	Pesticides	Prometryn	0.020	U	ug/L	0.02	0.079
10/28/2013 11:40	41009	Pesticides	Simazine	0.0099	U	ug/L	0.0099	0.04
10/28/2013 11:40	41009	Pesticides	Hexazinone	0.030	UJ	ug/L	0.03	0.12
10/28/2013 11:40	41009	Pesticides	Norflurazon	0.030	U	ug/L	0.03	0.12
10/28/2013 11:40	41009	Pesticides	Alachlor	0.060	U	ug/L	0.06	0.24
10/28/2013 11:40	41009	Priority Organic Pollutants	2-Chlorophenol	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Nitrobenzene	2.0	U	ug/L	2	8.1
10/28/2013 11:40	41009	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0	U	ug/L	2	8.1
10/28/2013 11:40	41009	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0	U	ug/L	2	8.1
10/28/2013 11:40	41009	Priority Organic Pollutants	Isophorone	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Di-n-octyl phthalate	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Chrysene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Anthracene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Diethyl phthalate	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Dimethyl phthalate	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Naphthalene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	2-Chloronaphthalene	1.0	U	ug/L	1	4

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 11:40	41009	Priority Organic Pollutants	Acenaphthene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Phenanthrene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	2-Nitrophenol	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	61
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Hexachlorobenzene	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Dibromochloromethane	0.20	U	ug/L	0.2	0.8
10/28/2013 11:40	41009	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	Phenol	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Pyrene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	2,4-Dimethylphenol	10	U	ug/L	10	40
10/28/2013 11:40	41009	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40	U	ug/L	40	160
10/28/2013 11:40	41009	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Acenaphthylene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzidine	100	U	ug/L	100	400
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Fluorene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	Hexachloroethane	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
10/28/2013 11:40	41009	Priority Organic Pollutants	2,4-Dinitrophenol	15	UJ	ug/L	15	61
10/28/2013 11:40	41009	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzo(a)anthracene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0	U	ug/L	2	8.1
10/28/2013 11:40	41009	Priority Organic Pollutants	Butyl benzyl phthalate	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Di-n-butyl phthalate	1.0	U	ug/L	1	4
10/28/2013 11:40	41009	Priority Organic Pollutants	Fluoranthene	0.20	U	ug/L	0.2	0.81
10/28/2013 11:40	41009	Priority Organic Pollutants	Hexachlorobutadiene	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	Pentachlorophenol	3.0	U	ug/L	3	12
10/28/2013 11:40	41009	Priority Organic Pollutants	2,4-Dichlorophenol	1.0	U	ug/L	1	4

Date Sampled	Field ID	Analysis Group	Components	Results	Remark	Units	MDL	PQL
10/28/2013 11:40	41009	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0	U	ug/L	2	8.1
10/28/2013 11:40	41009	Priority Organic Pollutants	Benzo(a)pyrene	0.20	U	ug/L	0.2	0.81
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,1,1-Trichloroethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,2-Dichloroethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	cis-1,3-Dichloropropene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Chloroethane	0.50	U	ug/L	0.5	2
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,1,2-Trichloroethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Trichlorofluoromethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Trichloroethene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Chloromethane	0.50	U	ug/L	0.5	2
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Bromoform	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Carbon tetrachloride	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	trans-1,2-Dichloroethene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	trans-1,3-Dichloropropene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,2-Dichloropropane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Benzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Tetrachloroethene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,2-Dichlorobenzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,4-Dichlorobenzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Bromomethane	0.50	U	ug/L	0.5	2
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Chlorobenzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Vinyl chloride	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,1-Dichloroethene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Methylene chloride	0.50	U	ug/L	0.5	2
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,3-Dichlorobenzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Dibromochloromethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,1,2,2-Tetrachloroethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Chloroform	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Ethylbenzene	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Toluene	0.50	U	ug/L	0.5	2
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	1,1-Dichloroethane	0.20	U	ug/L	0.2	0.8
10/28/2013 10:45	TRIP BLANK	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8

The Bioassay of City of Oldsmar AWWTF effluent sampled on October 28, 2013. NPDES #FL0027651.

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	FL0027651		121310 28		B	S	01

Remarks

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The Priority Pollutants Analysis of City of Oldsmar AWWTF effluent sampled on October 28, 2013. NPDES #FL0027651.

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	FL0027651		121310 28		X	S	01

Remarks

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Biological Analyses of City of Oldsmar AWWTF effluent sampled on October 28, 2013. NPDES #FL0027651.

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	FL0027651		121310 28		S	S	01

Remarks

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