

Effluent Quality Assessment

Valrico Advanced Wastewater Treatment Facility

Hillsborough County

NPDES #FL0040983

Sampled August 26, 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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Valrico Advanced Wastewater Treatment Facility (AWWTF), 1167 North Dover Road, Dover, Hillsborough County, Florida, 33527. NPDES #FL0040983.

Facility Overview

Valrico AWWTF is a Type I oxidation ditch domestic advanced 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 and composite samples for biological and chemical analyses and toxicity testing for this facility were collected on August 26, 2013. All samples were collected from the EFA-01 NPDES sampling point, which is located after the disinfection unit, 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 0.087 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02mg/L.
- Copper, nickel, zinc, and fluoride were detected in the effluent at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.). Iron and total suspended solids (TSS) were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Di-n-butyl phthalate and Diethyl phthalate were detected in the field blank at concentrations that fell between the MDL and PQL of the respective tests but were not detected in the effluent sample.

Algal Growth Potential (See Table 2 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 45.6 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 August 27 - 31, 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%, 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 EFA-01 NPDES sampling point for this facility on August 26, 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. Effluent water quality samples collected on August 26, 2013, did not exceed any applicable water quality standards or violate any permit conditions.

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.

Valrico AWWTF	Class III Criteria	Effluent Limits	Effluent
Metals (µg/L unless otherwise noted)			
Aluminum			110 lp
Arsenic	≤ 50		0.25 Up
Cadmium	≤ 0.509 b		0.050 Up
Calcium (mg/L)			68.6 p
Chromium, Total	≤ 173 bψ		0.30 Up
Copper	≤ 19.3 b		1.22 p
Iron	≤ 1,000		37 lp
Lead	≤ 9.43 b		0.20 Up
Magnesium (mg/L)			15.4 p
Nickel	≤ 107 b		1.29 p
Potassium (mg/L)			13.7 p
Selenium	≤ 5.0		0.20 Up
Silver	≤ 0.07		0.025 Up
Sodium (mg/L)			84.4 p
Zinc	≤ 247 b		24 p
Nutrients (mg/L)			
Ortho-phosphate			0.52 s
Total Phosphorus			0.65 p
Total Ammonia			0.087 p
Un-ionized Ammonia	≤ 0.02 s		< 0.02 c
Total Ammonia			< 0.017 Y£
Nitrate and Nitrite			1.2 p
Total Kjeldahl Nitrogen			0.86 p
Organic Nitrogen			0.773 c
Total Nitrogen			2.06 c
Total Organic Carbon			5.9 p
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 5.0		7.08 s
pH (SU)	6.0 - 8.5		7.45 s
Specific Conductance (µmhos/cm)	≤ 1,275		864 s
Temperature (°C)			29.17 s
Salinity			≤ 0.39 c
Total Residual Chlorine (mg/L)	≤ 0.01		≤ 0.03 QU£
Chlorophyll *a* (µg/L) - Corrected			0.55 Us
Phaeophytin (µg/L)			0.46 Is
Total Suspended Solids (mg/L)		≤ 10.0 p	2 Is
Color (true, PCU)			22 s
Alkalinity (mg CaCO3/L)			162 s
Chloride (mg/L)			94 s
Fluoride (mg/L)	≤ 10.0		0.36 s
Sulfate (mg/L)			120 s
Flow (MGD)		3.0 a	2.04 a**
Hardness (mg $CaCO_3$)			234.7 c
Microbiology (Number of colony forming units/100ml)			
Fecal Coliforms ¥	≤ 400s #	≤ 25 s	1 Us

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

p - 24 hour flow proportioned composite

s - Single sample

I - 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

Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.

¥ - Fecal coliform analysis performed by Advanced Environmental Laboratory (AEL)

- 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 bioassay laboratory

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

* -Monitored from 8/01/2012 -7/31/2013

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.

Valrico AWWTF					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	45.6	48.9 ± 9.8	78.3 ± 15.7	2.5	3.2

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): Valrico AWWTF	Former Names:
NPDES Permit Number: FL0040983 (Major)	Permit Expiration Date: March 30, 2014
Physical Address: 1167 North Dover Road, Dover, FL 33527	
District: SWD	County: Hillsborough
Function of Facility: Domestic Wastewater Treatment Plant	
Facility Type: Domestic Wastewater	Permitted Capacity (MGD): 12.0
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 3 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
FLW-03	Flow to outfall D-001 measured by meter just before the reaeration/dechlorination tank.
FLW-05	Flow rate through the UV system.
EFA-01	Sample point after disinfection.
EFB-01	After filtration and prior to disinfection.
EFD-01	Sample point at outlet from de-chlorination basin.
EFD-02	Sample point at outfall D-001.
PPI-01	UV system monitoring location.

Description of Permitted Outfall(s):

Surface Water Discharge:

An existing 3.0 mgd annual average daily flow (AADF) outfall (D-001) discharging to an unnamed ditch which flows to Turkey Creek (a Class III fresh water body, WBID No. 1578B) thence to the Alafia River, thence to Tampa Bay. The outfall consists of three 30-inch reinforced concrete pipes anchored to an energy dissipater structure and a concrete headwall, discharging approximately one foot below water surface. The discharge is located in Hillsborough County approximately at latitude 27° 57' 30" North and longitude 82° 12' 30" West.

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

WASTEWATER TREATMENT:

Operation of a new 12.0 mgd annual average daily flow (AADF), Type I oxidation ditch domestic advanced wastewater treatment facility (AWWTF). The facility includes the following units: a leachate and septage receiving station; a headworks with two mechanically cleaned step bar screens, a manually cleaned coarse bar screen, two cyclone degritter/classifier units, a biotrickling filter (vertical tower unit) upstream of the odor control system, two parallel 0.35 million gallon anaerobic selector tanks with mixers connecting to two oxidation ditches of 2.5 million gallons each and two parallel 0.30 million gallon anaerobic selector tanks with mixers connecting to two oxidation ditches of 1.7 million gallons each, providing a total anaerobic volume of 1.3 million gallons and a total aeration volume of 8.4 million gallons; two in-line nutrient analyzer systems; two clarifier splitter boxes; an alum feed system; six clarifiers of 750,000 gallons volume and 7,854 square feet each, providing a total settling volume of 4,500,000 gallons and 47,124 square feet total surface area including associated RAS pumps; an intermediate pump station with five 4,800 gpm pumps; eight deep bed de-nitrification sand filters providing 4,000 square feet total surface area; one effluent clearwell of 159,770 gallons total volume; one effluent mudwell of 219,680 gallons total volume; an ultraviolet light disinfection system; a bulk liquid sodium hypochlorite system for emergency dosing of the return activated sludge system and for use as a maintenance disinfection system on the reclaimed water distribution system; an effluent pump station with four 6,400 gpm pumps; four effluent storage tanks of 20.0 million gallons total volume; and two reaeration basins of 87,516 gallons total volume; four 3,900 gpm Reclaimed Water Pump Station high service pumps; one 1,900 gpm Reclaimed Pump Station jockey pump; and one 12 mgd reject pond.

This facility accepts biosolids transported by truck from several County school WWTFs. Biosolids are transferred to three aerated holding tanks with a total volume of 793,000 gallons. The Biosoilds are then transfered to two centrifuges prior to being conveyed to the Truck Loading Station. The Biosolids are then transported to the Hillsborough County NW Biosolids Facility for final treatment or disposal in a Class I or II landfill.

Filter backwash is returned to the headworks. Alum is available on a standby status. Effluent quality is continuously monitored for turbidity as a measure of TSS. There are two 1130 KW autostart generators available as an alternative power source.

Effluent failing to meet Part III public access quality standards is directed by means of an automated valve system and bypass line to an alternative Part II reuse system, R-002, described below or the 12.0 million gallon lined reject storage pond. The reject pond has a pump station to return reject water to the headworks of the treatment facility. Additional reject capability is provided by using the alternative disposal system D-001, an annual average daily flow permitted surface water discharge described below. The Part III reclaimed water is transferred to the Hillsborough County South-Central Master Reuse System (R-001) as described below.

REUSE:

Land Application: The Valrico Advanced Wastewater Treatment Facility serves as a source plant for up to 12.0 mgd AADF of reclaimed water which is transferred to the South-Central Hillsborough County Master Reuse System (R-001) at a transfer point located immediately downstream of the distribution flow meter at the source plant. The South-Central Hillsborough County Master Reuse System is a Part III slow rate public access land application system serving the southern and central portions of eastern Hillsborough County and consists of existing and proposed reuse sites.

Land Application: An existing 2.0 mgd AADF land application system consisting of a restricted public access sprayfield (R-002) at the Valrico AWWTF with a total area of approximately 253 acres. The land application system R-002 is located at the Valrico AWWTF in Hillsborough County approximately at latitude 27° 57' 17" North and longitude 82° 13' 50" West. R-002 is not authorized for use until it has been re-certified in accordance with Specific Condition VI.1.1.

PART I: Continued

Receiving Waters:	Classification (indicate whether fresh or marine):
Turkey Creek	Class III Fresh water body

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

Date	Parameter and Units	Limit	Result
	NONE		

Describe previous FYI and WQBEL study:
2007 FYI report submitted as separate email attachment.

Describe previous or current Enforcement Actions (including WLs):

N/A

Describe any violations or problems noted in previous inspection:
DMRs reviewed from September 2011 through July 2012 reported the following effluent limits for the discharge to Turkey Creek were not met: the total nitrogen weekly average was exceeded in February 2012; the total nitrogen monthly average was exceeded in December 2011, and in January and February of 2012; the total nitrogen single sample maximum was exceeded once in November 2011 and five times in February 2012; and the annual average was exceeded in March and April of 2012. These are addressed in Consent Order 12-0908. The facility has met each of the interim limits provided by the Consent Order.

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 current 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)

			Reclaimed Water 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	3.0	Report	-	-	Continuous	Meter	FLW-03	See Cond.I.A.4
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	5.0	6.25	7.5	10.0	5 Days/Week	24-hour FPC	EFA-01	
Solids, Total Suspended	MG/L	Maximum	5.0	6.25	7.5	10.0	5 Days/Week	24-hour FPC	EFA-01	
Nitrogen, Total (as N)	MG/L	Maximum	3.0	3.75	4.5	6.0	5 Days/Week	24-hour FPC	EFD-01	
Phosphorus, Total (as P)	MG/L	Maximum	1.0	1.25	1.5	2.0	5 Days/Week	24-hour FPC	EFD-01	
Solids, Total Suspended	MG/L	Maximum	-	-	-	5.0	5 Days/Week	Grab	EFB-01	See Cond.I.A.5
pH	SU	Range	-	-	-	6.0 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	Weekly	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	See Cond.I.A.6
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.7
Dichlorobromomethane	UG/L	Maximum	22	Report	-	-	Monthly	Grab	EFD-02	
Nitrogen, Total (as N)	Tons/Year	Maximum	Report (Ann. Total)	Report (Mo Total)	-	-	Monthly	Calculation	EFD-01	See Cond.I.A.8
Nitrogen, Total (as N)	Tons/5 Year	Maximum	Report (5Yr Avg.)	Report (Avg.)	-	-	Monthly	Calculation	EFD-01	See Cond.I.A.8

			Reclaimed Water Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Flowrate (Flow through the UV system)	**GPM**	**Record**	-	-	-	**Report (Daily maximum)**	**Continuous**	**Meter**	**FLW-05**	
Ultraviolet Light Operational Dosage	**mJ/cm^2**	**Minimum**	-	-	-	**100**	**Continuous**	**Meter**	**PPI-01**	**See Cond.I.A.19**
Ultraviolet Light Transmittance	**%**	**Minimum**	-	-	-	**55**	**Continuous**	**Meter**	**PPI-01**	**See Cond.I.A.18**
Ultraviolet Light Intensity	**mW/cm^2**	**Report**	-	-	-	**Report (Min)**	**Continuous**	**Meter**	**PPI-01**	**See Cond.I.A.17**
Turbidity	**NTU**	**Maximum**	-	-	-	**Report (Max)**	**Continuous**	**Meter**	**PPI-01**	**See Cond.I.A.11**
Water Level in Reactors	**Ft**	**Range**	-	-	-	**Report (Daily maximum)**	**Continuous**		**PPI-01**	**See Cond.I.A.21**
Reactor Status[1]	**On/off**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.12**
Lamp Status[1]	**On/off**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.13**
Lamp Age[1]	**Hrs**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.14**
Reactor On/Off Cycles[1]	**Total Number**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.12**
Reactor Power Setpoint[1]	**Setting level**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.15**
Ground Fault Interrupt Status[1]	**Yes/No**	**Record**	-	-	-	-	**Continuous**			**See Cond.I.A.16**

Valrico AWWTF, Permit #: FL0040983; FYI3 PART II: Sampling Event Information	
Date(s) sample collected: August 26, 2013	**Sampler(s):** Ramandeep Kaur, Gitta Schmitt
Temperature (Deg C): 29.17	**pH (SU):** 7.45
Dissolved Oxygen (mg/L): 7.08	**Conductivity (umhos/cm):** Salinity: 0.42 PPTh
Total Residual Chlorine (mg/L): N/A	**Total Residual Chlorine - after Disinfection (mg/L):** N/A
Method of Chlorination: UV Disinfection	**Method of De-chlorination:** N/A
Flow During Sample Collection for each outfall(MGD): EFA-01: 5.42 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): Mean flow from all outfalls (SUM-1): 5.73 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:	



Compliance sampling point for EFA-01

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.

(7) 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.

(8) 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	Result	Remark	Units	MDL	PQL
8/26/2013 10:00	FRESH (composite) 40922	Metals	Nickel	1.29		ug/L	0.25	1
8/26/2013 10:00	FRESH (composite) 40922	Metals	Selenium	0.20	U	ug/L	0.2	0.8
8/26/2013 10:00	FRESH (composite) 40922	Metals	Zinc	24		ug/L	5	20
8/26/2013 10:00	FRESH (composite) 40922	Metals	Potassium	13.7		mg/L	0.3	1.2
8/26/2013 10:00	FRESH (composite) 40922	Metals	Lead	0.20	U	ug/L	0.2	0.8
8/26/2013 10:00	FRESH (composite) 40922	Metals	Calcium	68.6		mg/L	0.075	0.3
8/26/2013 10:00	FRESH (composite) 40922	Metals	Silver	0.025	U	ug/L	0.025	0.1
8/26/2013 10:00	FRESH (composite) 40922	Metals	Cadmium	0.050	U	ug/L	0.05	0.2
8/26/2013 10:00	FRESH (composite) 40922	Metals	Arsenic	0.25	U	ug/L	0.25	1
8/26/2013 10:00	FRESH (composite) 40922	Metals	Copper	1.22		ug/L	0.5	1
8/26/2013 10:00	FRESH (composite) 40922	Metals	Chromium	0.30	U	ug/L	0.3	1.2
8/26/2013 10:00	FRESH (composite) 40922	Metals	Sodium	84.4		mg/L	0.5	2
8/26/2013 10:00	FRESH (composite) 40922	Metals	Iron	37	I	ug/L	30	120
8/26/2013 10:00	FRESH (composite) 40922	Metals	Aluminum	110	I	ug/L	60	240
8/26/2013 10:00	FRESH (composite) 40922	Metals	Magnesium	15.4		mg/L	0.04	0.16
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	Organic Carbon	5.9		mg C/L	0.5	1
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	Total-P	0.65		mg P/L	0.005	0.05
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	NO2NO3-N	1.2		mg N/L	0.04	0.1
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	Kjeldahl Nitrogen	0.86		mg N/L	0.08	0.2
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	Ammonia-N	0.087		mg N/L	0.002	0.005
8/26/2013 10:00	FRESH (composite) 40922	Nutrients	TSS	2	I	mg/L	2	10
8/26/2013 10:20	FRESH (EFFLUENT) 40921	AGP/LN	Algal Growth Potential	45.6		mg DryWt/L	0.3	0.9
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.46	I	ug/L	0.4	1.2
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Overflow	Fecal Coliforms-Membrane Filter	1	U	cfu/100 mL	1	
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100	L	LC50		
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100	L	LC50		
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	Alkalinity	162		mg CaCO3/L	0.65	2.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	Chloride	94		mg Cl/L	0.4	1
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	Fluoride	0.36		mg F/L	0.035	0.1
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	Sulfate	120		mg SO4/L	0.4	1
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	Color (true)	22		PCU	2.5	6
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Nutrients	O-Phosphate-P	0.52		mg P/L	0.04	0.1
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Atrazine	0.029	U	ug/L	0.029	0.12
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Ethion	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Ethoprop	0.0048	U	ug/L	0.0048	0.019
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Fonofos	0.0096	UJ	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Malathion	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Diazinon	0.0096	U	ug/L	0.0096	0.039

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Mevinphos	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Phorate	0.0048	U	ug/L	0.0048	0.019
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Fenamiphos	0.029	U	ug/L	0.029	0.12
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Parathion Ethyl	0.019	UJ	ug/L	0.019	0.077
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Prometryn	0.019	U	ug/L	0.019	0.077
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Norflurazon	0.029	U	ug/L	0.029	0.12
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Parathion Methyl	0.0096	UJ	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Alachlor	0.058	U	ug/L	0.058	0.23
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Metribuzin	0.019	U	ug/L	0.019	0.077
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Simazine	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Naled	0.039	UJ	ug/L	0.039	0.15
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Bromacil	0.039	UJ	ug/L	0.039	0.15
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Azinphos Methyl	0.019	U	ug/L	0.019	0.077
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Metolachlor	0.058	U	ug/L	0.058	0.23
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Chlorpyrifos Ethyl	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Ametryn	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Metalaxyl	0.039	U	ug/L	0.039	0.15
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Chlorpyrifos Methyl	0.0096	U	ug/L	0.0096	0.039
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Butylate	0.019	U	ug/L	0.019	0.077
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Pesticides	Hexazinone	0.029	U	ug/L	0.029	0.12
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzidine	94	U	ug/L	94	380
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Di-n-octyl phthalate	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2-Chloronaphthalene	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2-Nitrophenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Di-n-butyl phthalate	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8	UJ	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Hexachloroethane	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,4-Dinitrophenol	14	UJ	ug/L	14	57
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2-Chlorophenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Diethyl phthalate	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Pentachlorophenol	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,4-Dimethylphenol	9.4	U	ug/L	9.4	38

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Butyl benzyl phthalate	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Dimethyl phthalate	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Hexachlorobenzene	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Hexachlorobutadiene	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Phenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2,4-Dichlorophenol	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.75
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	Isophorone	0.94	U	ug/L	0.94	3.8
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.5
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8	U	ug/L	2.8	11
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Field Parameter	pH	7.45				
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Field Parameter	Temperature	29.17		C		
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Field Parameter	Dissolved Oxygen	7.08		mg/L		
8/26/2013 10:20	FRESH (EFFLUENT) 40921	Field Parameter	Specific Conductance	864		umhos/cm		
8/26/2013 10:20	TRIP BLANK	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
8/26/2013 11:05	Field Blank	Nutrients	Color (true)	2.5	U	PCU	2.5	6
8/26/2013 11:05	Field Blank	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
8/26/2013 11:05	Field Blank	Nutrients	Fluoride	0.035	U	mg F/L	0.035	0.1
8/26/2013 11:05	Field Blank	Nutrients	Chloride	0.20	U	mg Cl/L	0.2	0.5
8/26/2013 11:05	Field Blank	Nutrients	Sulfate	0.20	U	mg SO4/L	0.2	0.5
8/26/2013 11:05	Field Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
8/26/2013 11:05	Field Blank	Pesticides	Atrazine	0.0099	U	ug/L	0.0099	0.04

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
8/26/2013 11:05	Field Blank	Pesticides	Parathion Methyl	0.0099	UJ	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Simazine	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Azinphos Methyl	0.020	U	ug/L	0.02	0.079
8/26/2013 11:05	Field Blank	Pesticides	Parathion Ethyl	0.020	UJ	ug/L	0.02	0.079
8/26/2013 11:05	Field Blank	Pesticides	Ametryn	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Hexazinone	0.030	U	ug/L	0.03	0.12
8/26/2013 11:05	Field Blank	Pesticides	Metribuzin	0.020	U	ug/L	0.02	0.079
8/26/2013 11:05	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Ethion	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Ethoprop	0.0050	U	ug/L	0.005	0.02
8/26/2013 11:05	Field Blank	Pesticides	Fonofos	0.0099	UJ	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Malathion	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Metalaxyl	0.040	U	ug/L	0.04	0.16
8/26/2013 11:05	Field Blank	Pesticides	Mevinphos	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Fenamiphos	0.030	U	ug/L	0.03	0.12
8/26/2013 11:05	Field Blank	Pesticides	Metolachlor	0.059	U	ug/L	0.059	0.24
8/26/2013 11:05	Field Blank	Pesticides	Naled	0.040	UJ	ug/L	0.04	0.16
8/26/2013 11:05	Field Blank	Pesticides	Butylate	0.020	U	ug/L	0.02	0.079
8/26/2013 11:05	Field Blank	Pesticides	Chlorpyrifos Methyl	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Norflurazon	0.030	U	ug/L	0.03	0.12
8/26/2013 11:05	Field Blank	Pesticides	Alachlor	0.059	U	ug/L	0.059	0.24
8/26/2013 11:05	Field Blank	Pesticides	Bromacil	0.040	UJ	ug/L	0.04	0.16
8/26/2013 11:05	Field Blank	Pesticides	Diazinon	0.0099	U	ug/L	0.0099	0.04
8/26/2013 11:05	Field Blank	Pesticides	Phorate	0.0050	U	ug/L	0.005	0.02
8/26/2013 11:05	Field Blank	Pesticides	Prometryn	0.020	U	ug/L	0.02	0.079
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.7
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.3	I	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7

Date Sampled	Field ID	Analysis Group	Components	Result	Remark	Units	MDL	PQL
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.6	I	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Bromodichloromethane	0.20	U	ug/L	0.2	0.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	UJ	ug/L	14	58
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
8/26/2013 11:05	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8

EPA End Sheet

The Bioassay of Valrico AWWTF effluent sampled on August 26, 2013. NPDES #FL0040983.

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 4 0 9 8 3 11	12 1 3 0 8 2 6	18 **B**	19 **S**	20 1

Remarks

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The Priority Pollutants Analysis of Valrico AWWTF effluent sampled on August 26, 2013. NPDES #FL0040983.

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 4 0 9 8 3 11	12 1 3 0 8 2 6	18 **X**	19 **S**	20 1

Remarks

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Biological Analyses of Valrico AWWTF effluent sampled on August 26, 2013. NPDES #FL0040983.

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 4 0 9 8 3 11	12 1 3 0 8 2 6	18 **S**	19 **S**	20 1

Remarks

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