

Effluent Quality Assessment

CSX Transportation, Inc. – Winston Yard

Polk County

NPDES #FL0032581

Sampled September 09, 2013

November 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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CSX Transportation, Inc. – Winston Yard, 1700 Wilkinson Rd, Lakeland, Polk County, Florida, 33803. NPDES #FL0032581.

Facility Overview

CSX Transportation is a railroad terminal which treats storm water and groundwater runoff in a wetland treatment system prior to discharge to Winston Creek, a Class III Fresh Water. 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 biological and chemical analyses for this facility were collected on September 9, 2013. All samples were collected from the EFF-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 0.41 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.
- Hexazinone was detected in the effluent sample at a level between the laboratory method detection limit (MDL) and practical quantitation limit (PQL).
- Arsenic, manganese, turbidity, oils and greases, chloride, fluoride, sulfate, and fecal coliforms 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. Aluminum, total chromium, iron and total suspended solids (TSS) were detected between the MDL and PQL.
- Oils and greases were detected in the field blank at a level between the MDL and PQL.
- Total phosphorus and total Kjeldahl nitrogen (TKN) were detected in the effluent at levels that comply with permitted limits.

Algal Growth Potential (See Table 2 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 17.5 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 Appendices C)

- Tests were performed September 10 - 14, 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 samples collected from the EFF-02 NPDES sampling point for this facility on September 9, 2013, were 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 September 9, 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

CSX Transportation, Inc. - Winston Yard	Class III Criteria	Effluent Limits	Effluent
Organic Constituents (µg/L)			
Hexazinone			0.04 I
Metals (µg/L unless otherwise noted)			
Aluminum		Report	130 I
Arsenic	≤ 50	≤ 50	3.47
Cadmium	≤ 0.332 b		0.050 U
Calcium (mg/L)			36.8
Chromium, Total	≤ 108 b ψ		0.45 I
Copper	≤ 11.8 b		0.50 U
Iron	≤ 1,000	≤ 1,000	80 I
Lead	≤ 4.51 b		0.20 U
Magnesium (mg/L)			9.65
Manganese		Report	51.5
Nickel	≤ 65.8 b		0.25 U
Potassium (mg/L)			9.4
Selenium	≤ 5.0		0.20 U
Silver	≤ 0.07		0.025 U
Sodium			10.1
Zinc	≤ 151 b		5.0 U
Nutrients (mg/L)			
Ortho-phosphate			1.4
Total Phosphorus		≤ 5.0	1.7
Total Ammonia		Report	0.41
Un-ionized Ammonia	≤ 0.02 s	≤ 0.02 s	< 0.02 c
Total Ammonia			0.312 Y£
Nitrate and Nitrite		≤ 5.5	0.004 U
Total Kjeldahl Nitrogen		≤ 11.0	2.6
Organic Nitrogen			2.19
Total Nitrogen			2.602
Total Organic Carbon			25
General Physical and Chemical Parameters			
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0	5.41
pH (SU)	6.0 - 8.5	6.0 - 8.5	6.92
Specific Conductance (µmhos/cm)	≤ 1,275	≤ 1,275	316
Temperature (°C)		Report	25.3
Salinity			≤ 0.15 c
Total Residual Chlorine (mg/L)	≤ 0.01		≤ 0.03 QU£
Chlorophyll *a* (µg/L) - Corrected			66
Phaeophytin (µg/L)			14
Total Suspended Solids (mg/L)		≤ 45.0	8 I
Turbidity (NTU)	< 29 t	< 29 t	16 A
Color (true, PCU)			140
Alkalinity (mg CaCO3/L)			105 A
CBOD, 5 day (mg/L), N - inhibited			2.8
Oils and Greases (mg/L)	≤ 5.0	≤ 5.0	3.1
Chloride (mg/L)		Report	13 A
Fluoride (mg/L)	≤ 10.0	≤ 10.0	0.43
Sulfate (mg/L)		Report	30 A
Alpha, Total (pCi/L)	≤ 15	≤ 15	1.30 U
Alpha-Counting Error (pCi/L)			1.00
Flow (MGD)		Report	0.053 a*
Hardness (mg $CaCO_3$)		Report	131.6 c
Microbiology (Number of colony forming units/100ml)			
Fecal Coliforms ¥	≤ 400s #		320

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
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
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 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 bioassay laboratory
ψ - Class III Freshwater Water Quality Criterion (62-302.530(19)(a), F.A.C.) for chromium-III
* - Measured from 6/2012 - 6/2013

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.

CSX Transportation, Inc. - Winston Yard					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	17.5	15.7 ± 3.1	99.0 ± 19.8	0.3	1.5

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): CSX Transportation, Inc.- Winston Yard	Former Names:
NPDES Permit Number: **FL0032581 (Minor)**	Permit Expiration Date: **June 11, 2014**
Physical Address: **1700 Wilkinson Road, Lakeland, FL 33803**	
District: SWD	County: Polk
Function of Facility: Industrial Wastewater- Railroad Terminal	
Facility Type: Industrial Wastewater	Permitted Capacity (MGD):
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): **0.053 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):

Sample Point	Description of Monitoring Location
EFF-002	Discharge from Wetlands Cell
EFF-005	Emergency Overflow from Nugget Watershed
EFF-006	Emergency Overflow from the Industrial Activity Watershed
FLW-001	Continuous electronic water level recorder for measuring flow into the treatment wetlands.
FLW-002	Continuous electronic water level recorder for measuring flow out of the treatment wetlands.
FLW-005	Staff gauge used to measure flow at Emergency Overflow from the Nugget Watershed.
FLW-006	Continuous electronic water level recorder for measuring flow from the Emergency overflow from the Industrial Activity Watershed.
INF-001	Flows into Wetlands Cell
OTH-001	Rain Gauge Located on Site

Description of Permitted Outfall(s):

Surface Water Discharge:

Nugget Watershed

A new discharge, D-002, from the wetland treatment system (Phase A) to a ditch that ultimately discharges to Winston Creek (Class III Fresh waters) WBID # 1543A, D-002. The point of discharge is located approximately at latitude 28° 00' 55" N, longitude 81° 59' 56" W.

A new discharge, D-005, from the emergency overflow from the intake of the wetland treatment system (Phase A) to a ditch that ultimately discharges to Winston Creek (Class III Fresh waters) WBID # 1543A, D-005. The point of discharge is located approximately at latitude 28° 00' 55" N, longitude 81° 59' 56" W.

Industrial Activity Watershed

An existing discharge, D-006 from the Industrial Activity watershed collection ditch emergency overflow to a ditch that ultimately discharges to Winston Creek (Class III Fresh waters) WBID # 1543A, D-006. Under normal operating conditions the west collection ditch sends the collected water to the City of Lakeland Domestic waste water treatment plant. The point of discharge is located approximately at latitude 28° 00' 55" N, longitude 81° 59' 56" W.

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

WASTEWATER TREATMENT:

Industrial Activity Watershed: Due to the railroad exemption, only the areas where locomotive fueling and servicing occur are subject to storm water management. The storm water from these areas is segregated and managed through a series of drains leading to a 200,000 gallon above-ground storage tank.

Prior to discharge to the City of Lakeland's POTW, the water is sent through a new above-ground oil water separator. Previously this water was routed through an existing in-ground oil water separator and discharged to a collection/storage ditch (also known as the industrial ditch) where the water was held for either evaporation or discharge to the Lakeland POTW. A revised schematic of the runoff sources for this treatment system is provided in the attachment titled "Industrial Watershed Flow Schematic" Figure 1.

With the completion of this flow separation project, the water in the industrial ditch is solely composed of storm water from the tracks to the west and storm water from the western half of the Nugget to the east. The water in this ditch can either be stored and evaporated or discharged to the POTW. In the event water cannot be discharged to the POTW and there is no additional storage capacity in the existing storage ponds on site, water will discharge through an emergency outfall, D-006 (previously permitted as D-002).

Nugget Watershed: Approximately half of the storm water and groundwater from the Nugget drainage basin is managed through the industrial ditch. The remainder of the drainage will be managed through an engineered wetland treatment cell. The engineered wetland is designed to manage groundwater discharging into the ditch system surrounding the Nugget and surface water runoff from the Nugget watershed. The system includes the existing surface water conveyance system between the upstream reaches of the watershed between existing weir 3 and a proposed overflow structure, D-005. An inlet structure (I-001) transfers water from the conveyance ditch system to the treatment wetlands. The wetland treatment consists of one one-acre treatment cell. The inlet structure is designed to provide a minimum retention time of 7 days for a 25-year, 24-hour storm event. In the event that water collected and stored in the ditch is at a stage that will prevent a residence time of less than 7 days it will bypass the wetland treatment system and discharge at the emergency overflow structure D-005. The effluent from the treatment wetlands is discharged through outfall D-002.

The treatment wetland system is designed to reduce the concentrations of nitrogen, phosphorous, and suspended solids. The removal mechanisms for each of these constituents include the following:

Suspended Solids	Sedimentation in the surface water conveyance system and sedimentation/filtration in the constructed wetland
Nitrogen	Microbial denitrification and plant uptake
Phosphorous	Adsorption with suspended solids and plant uptake

PART I: Continued

Receiving Waters: Winston Creek	Classification (indicate whether fresh or marine): 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:
Previous FYI report submitted as separate email attachment.

Describe previous or current Enforcement Actions (including WLs): The facility is under an Amended Consent Order, OGC File No. 91-2118A, executed on March 17, 2009, to address potential groundwater and surface water impacts related to past discharges and disposal issues.

Describe any violations or problems noted in previous inspection: None

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)

	Discharge Limitations			Monitoring Requirements		
Parameters (units)	Monthly Average	Daily Maximum	Daily Minimum	Monitoring Frequency*	Sample Type	Sample Point
Aluminum, Total Recoverable (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Arsenic, Total Recoverable (UG/L)	Report	50		Monthly	Grab	EFF-002 EFF-005 EFF-006
Chloride (as Cl) (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Fluoride, Total (as F) (MG/L)	Report	10.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Iron, Total Recoverable (MG/L)	Report	1.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Manganese, Total Recoverable (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Lead, Total Recoverable (UG/L)	Report	See Permit Condition I.A.6		Monthly	Grab	EFF-002 EFF-005 EFF-006
Nitrogen, Nitrate, Total (as N) (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Oil and Grease (MG/L)	Report	5.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Phosphorus, Total (MG/L)	Report	5.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Solids, Total Suspended (MG/L)	Report	45.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Turbidity (NTU)		29		Monthly	Grab	EFF-002 EFF-005 EFF-006
pH (SU)		8.5 See Permit Condition I.A.4	6.0	Monthly	Instantaneous	EFF-002 EFF-005 EFF-006

Parameters (units)	Monthly Average	Daily Maximum	Daily Minimum	Monitoring Frequency*	Sample Type	Sample Point
Specific Conductance (UMHO/CM)		1275		Monthly	Grab	EFF-002 EFF-005 EFF-006
Oxygen, Dissolved (DO) (MG/L)	Report		5.0	Monthly	Instantaneous	EFF-002 EFF-005 EFF-006
Alpha, Gross Particle Activity (PCI/L)	Report	15		Monthly	Grab	EFF-002 EFF-005 EFF-006
Hardness, Total (as CaCO3) (MG/L)		Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Nitrite plus Nitrate, Total 1 det. (as N) (MG/L)	Report	5.5		Monthly	Grab	EFF-002 EFF-005 EFF-006
Sodium, Total Recoverable (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Sulfate, Total (MG/L)	Report	Report		Monthly	Grab	EFF-002 EFF-005 EFF-006
Nitrogen, Kjeldahl, Total (as N) (MG/L)	Report	11.0		Monthly	Grab	EFF-002 EFF-005 EFF-006
Nitrogen, Ammonia, Total (as N) (MG/L)	--	Report See Permit Condition I.A.4		Monthly	Grab	EFF-002 EFF-005 EFF-006
Nitrogen, Ammonia, Total unionized (as N) (MG/L)	Report	0.02 See Permit Condition I.A.4		Monthly	Calculated	EFF-002 EFF-005 EFF-006
Temperature (F), Water (DEG.F)	---	Report See Permit Condition I.A.4		Monthly	Instantaneous	EFF-002 EFF-005 EFF-006
Flow (MGD)	Report	Report		Daily	Calculated	FLW-002 FLW-005 FLW-006
Rainfall (inches)	Report Monthly Total	Report		Daily	Gauge	OTH-001
Nitrogen, Total (lbs/YEAR)	See Permit Condition I.A.7			Monthly	Calculated	EFF-002 EFF-005 EFF-006
Whole Effluent Toxicity	See Permit Condition I.A.5					EFF-002 EFF-005 EFF-006

Whole Effluent Toxicity Test Requirements from Outfall D-002:

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. [Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]
(2) Whole effluent acute toxicity shall not exceed a 96 hour LC50 of less than 100% effluent in any test. [Rule 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]

b. Monitoring Frequency
(1) Routine toxicity tests shall be conducted once every three months the first starting upon the first month of discharge and lasting for the duration of this permit.

c. Sampling Requirements
(1) For each routine test or additional follow-up test conducted, a total of three grab samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
(3) Samples for routine and additional follow-up tests shall not be collected on the same day

d. Test Requirements
(1) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%, 50%, 25%, 12.5%,** and **6.25%** final effluent.
(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.
(3) All test species, procedures and quality assurance criteria used shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th ed., EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.
(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.

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**). 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., 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, and mailed to the Department at the address below within 30 days after the last day of the test.

(3) For additional follow-up tests, a single bioassay laboratory report shall be prepared according to EPA-821-R-02-013, Section 10, and mailed within 30 days after the last day of the second valid additional follow-up test.

(4) Data for invalid tests shall be included in the bioassay laboratory report for the repeat test.

(5) The same bioassay data shall not be reported as the results of more than one test.

(6) All bioassay laboratory reports shall be sent to:

Florida Department of Environmental Protection
Southwest District
13051North Telecom Parkway
Temple Terrace, Florida 33637

g. Test Failures

(1) A test fails when the test results do not meet the limits in 5.a (1) or (2).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in 5.a.(1) or (2) 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 5.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.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.

(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.

(b) The Department shall review and approve the plan before initiation.

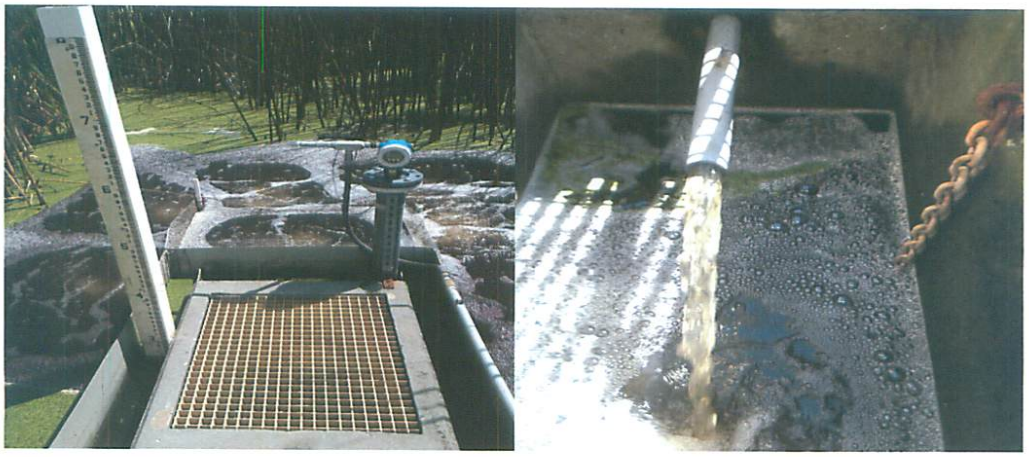
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.

(d) Progress reports shall be submitted quarterly to the Department at the address above.

(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 5.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 5.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.

(f) Upon completion of four consecutive, valid routine tests that demonstrate compliance with the effluent limitation in 5.a. (1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive valid routine whole effluent toxicity tests.

CSX Transportation-Winston Yard, Permit #: FL0032581; FYI3 PART II: Sampling Event Information	
Date(s) sample collected: September 9, 2013	**Sampler(s):** Ramandeep Kaur, Gitta Schmitt
Temperature (Deg C): 25.3	**pH (SU):** 6.92
Dissolved Oxygen (mg/L): 5.41	**Conductivity (umhos/cm):** Salinity: 0.15 PPTh
Total Residual Chlorine (mg/L): N/A	**Total Residual Chlorine - after Disinfection (mg/L):** N/A
Method of Chlorination: N/A	**Method of De-chlorination:** N/A
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): Mean flow from all outfalls: 0.053 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 D-002

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	Component	Result	Remark	Units	MDL	PQL
9/9/2013 10:30	Effluent	AGP/LN	Algal Growth Potential	17.5		mg DryWt/L	0.3	0.9
9/9/2013 10:30	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	66		ug/L	1	3.1
9/9/2013 10:30	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	14		ug/L	0.73	2.2
9/9/2013 10:30	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	2.8		mg/L	0.2	2
9/9/2013 10:30	Effluent	Overflow	Fecal Coliforms-Membrane Filter	320		cfu/100 mL	10	
9/9/2013 10:30	Effluent	Toxicology	Bioassay-Acute-Def-FW-Fish, LC50	100	L	LC50		
9/9/2013 10:30	Effluent	Toxicology	Bioassay-Acute-Def-FW-C.dubia, LC50	100	L	LC50		
9/9/2013 10:30	Effluent	Metals	Arsenic	3.47		ug/L	0.25	1
9/9/2013 10:30	Effluent	Metals	Selenium	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Metals	Cadmium	0.050	U	ug/L	0.05	0.2
9/9/2013 10:30	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/9/2013 10:30	Effluent	Metals	Sodium	10.1		mg/L	0.5	2
9/9/2013 10:30	Effluent	Metals	Nickel	0.25	U	ug/L	0.25	1
9/9/2013 10:30	Effluent	Metals	Hardness	132		mg/L	0.4	1.6
9/9/2013 10:30	Effluent	Metals	Magnesium	9.65		mg/L	0.04	0.16
9/9/2013 10:30	Effluent	Metals	Iron	80	I	ug/L	30	120
9/9/2013 10:30	Effluent	Metals	Aluminum	130	I	ug/L	60	240
9/9/2013 10:30	Effluent	Metals	Copper	0.50	U	ug/L	0.5	1
9/9/2013 10:30	Effluent	Metals	Potassium	9.4		mg/L	0.3	1.2
9/9/2013 10:30	Effluent	Metals	Lead	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Metals	Chromium	0.45	I	ug/L	0.3	1.2
9/9/2013 10:30	Effluent	Metals	Zinc	5.0	U	ug/L	5	20
9/9/2013 10:30	Effluent	Metals	Manganese	51.5		ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Metals	Calcium	36.8		mg/L	0.075	0.3
9/9/2013 10:30	Effluent	Nutrients	Nitrite-N	0.003	U	mg N/L	0.003	0.005
9/9/2013 10:30	Effluent	Nutrients	Alkalinity	105	A	mg CaCO3/L	0.65	2.5
9/9/2013 10:30	Effluent	Nutrients	Color (true)	140		PCU	2.5	6
9/9/2013 10:30	Effluent	Nutrients	O-Phosphate-P	1.4		mg P/L	0.04	0.1
9/9/2013 10:30	Effluent	Nutrients	Sulfate	30	A	mg SO4/L	0.2	0.5
9/9/2013 10:30	Effluent	Nutrients	TSS	8	I	mg/L	2	10
9/9/2013 10:30	Effluent	Nutrients	Chloride	13	A	mg Cl/L	0.2	0.5
9/9/2013 10:30	Effluent	Nutrients	Turbidity	16	A	NTU	0.1	0.1
9/9/2013 10:30	Effluent	Nutrients	Ammonia-N	0.41		mg N/L	0.02	0.05
9/9/2013 10:30	Effluent	Nutrients	Total-P	1.7		mg P/L	0.025	0.25
9/9/2013 10:30	Effluent	Nutrients	Organic Carbon	25	A	mg C/L	0.5	1

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 10:30	Effluent	Nutrients	Kjeldahl Nitrogen	2.6		mg N/L	0.08	0.2
9/9/2013 10:30	Effluent	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
9/9/2013 10:30	Effluent	Nutrients	Fluoride	0.43		mg F/L	0.035	0.1
9/9/2013 10:30	Effluent	Overflow	Alpha-Counting Error	1.00		pCi/L		
9/9/2013 10:30	Effluent	Overflow	Oil and Grease	3.1		mg/L	0.73	2.6
9/9/2013 10:30	Effluent	Overflow	Alpha, Total	1.30	U	pCi/L	1.3	
9/9/2013 10:30	Effluent	Pesticides	Diazinon	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Mevinphos	0.010	UJ	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Norflurazon	0.030	U	ug/L	0.03	0.12
9/9/2013 10:30	Effluent	Pesticides	Prometryn	0.020	U	ug/L	0.02	0.08
9/9/2013 10:30	Effluent	Pesticides	Ethion	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Phorate	0.0050	U	ug/L	0.005	0.02
9/9/2013 10:30	Effluent	Pesticides	Naled	0.040	U	ug/L	0.04	0.16
9/9/2013 10:30	Effluent	Pesticides	Parathion Ethyl	0.020	U	ug/L	0.02	0.08
9/9/2013 10:30	Effluent	Pesticides	Azinphos Methyl	0.020	U	ug/L	0.02	0.08
9/9/2013 10:30	Effluent	Pesticides	Bromacil	0.040	U	ug/L	0.04	0.16
9/9/2013 10:30	Effluent	Pesticides	Hexazinone	0.040	I	ug/L	0.03	0.12
9/9/2013 10:30	Effluent	Pesticides	Metolachlor	0.060	U	ug/L	0.06	0.24
9/9/2013 10:30	Effluent	Pesticides	Metribuzin	0.020	U	ug/L	0.02	0.08
9/9/2013 10:30	Effluent	Pesticides	Ametryn	0.010	UJ	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Atrazine	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Butylate	0.020	U	ug/L	0.02	0.08
9/9/2013 10:30	Effluent	Pesticides	Chlorpyrifos Ethyl	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Malathion	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Metalaxyl	0.040	U	ug/L	0.04	0.16
9/9/2013 10:30	Effluent	Pesticides	Parathion Methyl	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Simazine	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Fenamiphos	0.030	U	ug/L	0.03	0.12
9/9/2013 10:30	Effluent	Pesticides	Alachlor	0.060	U	ug/L	0.06	0.24
9/9/2013 10:30	Effluent	Pesticides	Chlorpyrifos Methyl	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Pesticides	Ethoprop	0.0050	U	ug/L	0.005	0.02
9/9/2013 10:30	Effluent	Pesticides	Fonofos	0.010	U	ug/L	0.01	0.04
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Acenaphthene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Fluorene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0	U	ug/L	1	4

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2-Chlorophenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	15	UJ	ug/L	15	60
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Naphthalene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40	U	ug/L	40	160
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Acenaphthylene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Fluoranthene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Hexachloroethane	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Hexachlorobenzene	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Nitrobenzene	2.0	U	ug/L	2	8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2-Nitrophenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Diethyl phthalate	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0	U	ug/L	2	8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Anthracene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzidine	100	U	ug/L	100	400
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Chrysene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	3.0	U	ug/L	3	12
9/9/2013 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0	U	ug/L	2	8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Phenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Pyrene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	10	U	ug/L	10	40
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	60
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Dimethyl phthalate	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0	U	ug/L	2	8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Pentachlorophenol	3.0	U	ug/L	3	12

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Phenanthrene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20	U	ug/L	0.2	0.8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0	U	ug/L	2	8
9/9/2013 10:30	Effluent	Priority Organic Pollutants	Isophorone	1.0	U	ug/L	1	4
9/9/2013 10:30	Effluent	Field Parameter	pH	6.92				
9/9/2013 10:30	Effluent	Field Parameter	Temperature	25.3		C		
9/9/2013 10:30	Effluent	Field Parameter	Dissolved Oxygen	5.41		mg/L		
9/9/2013 10:30	Effluent	Field Parameter	Specific Conductance	316		umhos/cm		
9/9/2013 11:15	Field Blank	Metals	Lead	0.20	U	ug/L	0.2	0.8
9/9/2013 11:15	Field Blank	Metals	Selenium	0.20	U	ug/L	0.2	0.8
9/9/2013 11:15	Field Blank	Metals	Aluminum	60	U	ug/L	60	240
9/9/2013 11:15	Field Blank	Metals	Copper	0.50	U	ug/L	0.5	1
9/9/2013 11:15	Field Blank	Metals	Magnesium	0.040	U	mg/L	0.04	0.16
9/9/2013 11:15	Field Blank	Metals	Chromium	0.30	U	ug/L	0.3	1.2
9/9/2013 11:15	Field Blank	Metals	Cadmium	0.050	U	ug/L	0.05	0.2
9/9/2013 11:15	Field Blank	Metals	Iron	30	U	ug/L	30	120
9/9/2013 11:15	Field Blank	Metals	Hardness	0.40	U	mg/L	0.4	1.6
9/9/2013 11:15	Field Blank	Metals	Potassium	0.30	U	mg/L	0.3	1.2
9/9/2013 11:15	Field Blank	Metals	Manganese	0.20	U	ug/L	0.2	0.8
9/9/2013 11:15	Field Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
9/9/2013 11:15	Field Blank	Metals	Sodium	0.50	U	mg/L	0.5	2
9/9/2013 11:15	Field Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
9/9/2013 11:15	Field Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/9/2013 11:15	Field Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
9/9/2013 11:15	Field Blank	Metals	Zinc	5.0	U	ug/L	5	20
9/9/2013 11:15	Field Blank	Nutrients	Turbidity	0.10	U	NTU	0.1	0.1
9/9/2013 11:15	Field Blank	Nutrients	Organic Carbon	0.50	U	mg C/L	0.5	1
9/9/2013 11:15	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080	U	mg N/L	0.08	0.2
9/9/2013 11:15	Field Blank	Nutrients	Total-P	0.003	I	mg P/L	0.002	0.005
9/9/2013 11:15	Field Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
9/9/2013 11:15	Field Blank	Nutrients	Nitrite-N	0.003	U	mg N/L	0.003	0.005
9/9/2013 11:15	Field Blank	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
9/9/2013 11:15	Field Blank	Nutrients	Ammonia-N	0.011		mg N/L	0.002	0.005
9/9/2013 11:15	Field Blank	Nutrients	Color (true)	2.5	U	PCU	2.5	6
9/9/2013 11:15	Field Blank	Nutrients	Sulfate	0.20	U	mg SO4/L	0.2	0.5
9/9/2013 11:15	Field Blank	Nutrients	Chloride	0.20	U	mg Cl/L	0.2	0.5
9/9/2013 11:15	Field Blank	Nutrients	Fluoride	0.035	U	mg F/L	0.035	0.1
9/9/2013 11:15	Field Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 11:15	Field Blank	Overflow	Alpha, Total	0.6	U	pCi/L	0.6	
9/9/2013 11:15	Field Blank	Overflow	Oil and Grease	1.3	I	mg/L	0.92	3.3
9/9/2013 11:15	Field Blank	Overflow	Alpha-Counting Error	0.4		pCi/L		
9/9/2013 11:15	Field Blank	Pesticides	Alachlor	0.061	U	ug/L	0.061	0.25
9/9/2013 11:15	Field Blank	Pesticides	Chlorpyrifos Methyl	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Fonofos	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Metolachlor	0.061	U	ug/L	0.061	0.25
9/9/2013 11:15	Field Blank	Pesticides	Norflurazon	0.031	U	ug/L	0.031	0.12
9/9/2013 11:15	Field Blank	Pesticides	Azinphos Methyl	0.020	U	ug/L	0.02	0.082
9/9/2013 11:15	Field Blank	Pesticides	Metribuzin	0.020	U	ug/L	0.02	0.082
9/9/2013 11:15	Field Blank	Pesticides	Bromacil	0.041	U	ug/L	0.041	0.16
9/9/2013 11:15	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Hexazinone	0.031	U	ug/L	0.031	0.12
9/9/2013 11:15	Field Blank	Pesticides	Mevinphos	0.010	UJ	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Metalaxyl	0.041	U	ug/L	0.041	0.16
9/9/2013 11:15	Field Blank	Pesticides	Naled	0.041	U	ug/L	0.041	0.16
9/9/2013 11:15	Field Blank	Pesticides	Atrazine	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Diazinon	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Ethoprop	0.0051	U	ug/L	0.0051	0.02
9/9/2013 11:15	Field Blank	Pesticides	Fenamiphos	0.031	U	ug/L	0.031	0.12
9/9/2013 11:15	Field Blank	Pesticides	Malathion	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Prometryn	0.020	U	ug/L	0.02	0.082
9/9/2013 11:15	Field Blank	Pesticides	Simazine	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Ametryn	0.010	UJ	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Phorate	0.0051	U	ug/L	0.0051	0.02
9/9/2013 11:15	Field Blank	Pesticides	Ethion	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Pesticides	Butylate	0.020	U	ug/L	0.02	0.082
9/9/2013 11:15	Field Blank	Pesticides	Parathion Ethyl	0.020	U	ug/L	0.02	0.082
9/9/2013 11:15	Field Blank	Pesticides	Parathion Methyl	0.010	U	ug/L	0.01	0.041
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Phenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.1	UJ	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Fluorene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.21	U	ug/L	0.21	0.82

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	62
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Naphthalene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	10	U	ug/L	10	41
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2-Chlorophenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2-Nitrophenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	41	U	ug/L	41	160
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Hexachloroethane	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1	U	ug/L	2.1	8.2
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Pentachlorophenol	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Anthracene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.1	U	ug/L	2.1	8.2
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Chrysene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Fluoranthene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Phenanthrene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Acenaphthene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Nitrobenzene	2.1	U	ug/L	2.1	8.2
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Pyrene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	UJ	ug/L	15	62
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.1	U	ug/L	2.1	8.2
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzidine	100	U	ug/L	100	410
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.1	U	ug/L	2.1	8.2

Date Sampled	Field ID	Analysis Group	Component	Result	Remark	Units	MDL	PQL
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0	U	ug/L	1	4.1
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.21	U	ug/L	0.21	0.82
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	3.1	U	ug/L	3.1	12
9/9/2013 11:15	Field Blank	Priority Organic Pollutants	Isophorone	1.0	U	ug/L	1	4.1

EPA End Sheet

The Bioassay of CSX Transportation, Inc. - Winston Yard effluent sampled on September 9, 2013. NPDES #FL0032581.

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 3 2 5 8 1 11	12 1 3 0 9 0 9	18 **B**	19 **S**	20 2

Remarks

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The Priority Pollutants Analysis of CSX Transportation, Inc. - Winston Yard effluent sampled on September 9, 2013. NPDES #FL0032581.

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 3 2 5 8 1 11	12 1 3 0 9 0 9	18 **X**	19 **S**	20 2

Remarks

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Biological Analyses of CSX Transportation, Inc. - Winston Yard effluent sampled on September 9, 2013. NPDES #FL0032581.

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 3 2 5 8 1 11	12 1 3 0 9 0 9	18 **S**	19 **S**	20 2

Remarks

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