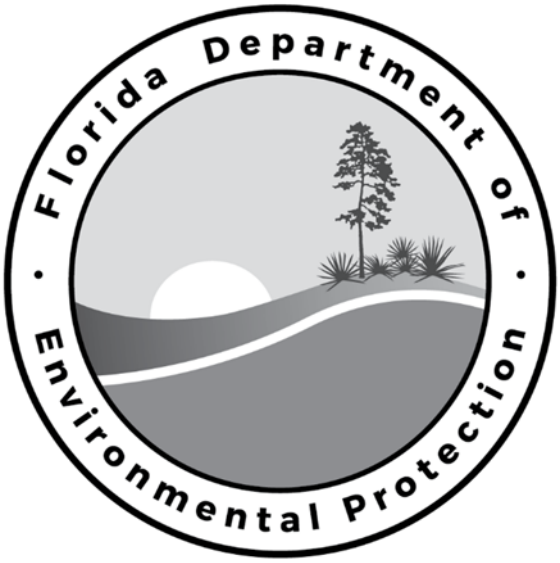


Effluent Quality Assessment of

Yara North America, Inc. – Port Sutton Ammonia Terminal

Hillsborough County

NPDES # FL0038652

Sampled May 8, 2017

July 2017

Biology Program

DEP Laboratory

Division of Environmental Assessment and Restoration

DEP Laboratory Quality Manual

NELAC Certification No. E31780

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Yara North America, Inc.-- Port Sutton Ammonia Terminal, 3421 Port Sutton Road, Tampa, Hillsborough County, Florida, 33619-9625. NPDES #FL0038652.

Facility Overview

Yara North America, Inc. – Port Sutton Ammonia Terminal is a bulk anhydrous ammonia storage and transfer facility. Wastewater mixes with stormwater (pumped from the monitored stormwater detention pond) before it is discharged. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information.

Methods

Effluent composite samples for toxicity testing and effluent grab samples for biological and chemical analyses for this facility were collected on May 8, 2017. All samples were collected from the EFF-01 NPDES sampling point for Outfall D-001 by Amaury Betancourt and Edgar Guerron-Orejuela (FDEP Southwest Regional Operation Center).

All field and laboratory methods followed DEP Standard Operating Procedures (see http://www.dep.state.fl.us/labs/library/lab_sops.htm and http://www.dep.state.fl.us/water/sas/sop/sops.htm for details) and met DEP quality assurance/quality control standards (see http://www.dep.state.fl.us/water/sas/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix B.

All references to 62-302.530, F.A.C. are to the final surface water quality criteria table with an effective date of 08/01/2013 and a notice identification number of 13249441.

Results

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

- Receiving Waters for this facility fall within the West Central Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). This FYI event can only provide single sample results; therefore, compliance should be determined with additional sampling events. http://ca.dep.state.fl.us/mapdirect/?focus=nutrientcriteria
- The total ammonia concentration in the grab sample collected and preserved for chemical analysis was 0.044 A 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.
- Aluminum, dissolved oxygen, fluoride, pH, total nitrogen, and turbidity were detected in the effluent at levels that comply with Class III Marine Water Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Arsenic, carbonaceous biological oxygen demand, nitrate + nitrite, and total suspended solids were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). There were no Class III Marine Water Quality Criteria or permit limit exceedances.

Algal Growth Potential (See Table 4 and Appendix C)

- The effluent Algal Growth Potential (AGP) was less than the laboratory detection limit for the saltwater species, *Dunaliella tertiolecta.* Effluent nutrient chemistry suggests that the effluent is nitrogen limited (Maloney et al. 1974).

Toxicity Test Results (See Appendix C)

- Tests were performed May 9 through 11, 2017.
- Acute bioassay results are reported as the Concentration Lethal to 50% of the test organisms (LC50)*

Americamysis bahia 48-hour acute definitive bioassay – LC_{50} > 100%, 0%* mortality in 100% sample at 48 hours

Menidia beryllina 48-hour acute definitive bioassay – LC_{50} > 100%, 5%* mortality in 100% sample at 48 hours

*NOTE: In a 48-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 62-4.241 F.A.C.).

- The bioassay samples were not acutely toxic to the test organisms.
- The sample was aerated for 15 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 9.4 mg/L to 7.5 mg/L.

Conclusion

The effluent sample collected from the EFF-001 NPDES sampling point for this facility on May 8, 2017, was not acutely toxic to either test species during the 48-hour acute definitive bioassays. Nutrient chemistry suggests that the effluent is nitrogen limited. Effluent water quality samples collected on May 8, 2017, did not exceed any applicable water quality criteria or any permit conditions.

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

Literature Cited

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

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

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

Yara North America-Port Sutton	Units	Class III Criteria	Effluent Permit Limits	Yara Composite	Yara Effluent
Temperature	C	-	Report	22.6	26.0
pH	SU	6.5 - 8.5	6.5-8.0	7.92	7.97
Specific Conductance	µmhos/cm	-	-	45,679	46,196
Salinity	ppt	-	-	30 c	30 c
Dissolved Oxygen	% Saturation	-	-	98	99
Dissolved Oxygen	mg/L	≥ 5.0	-	7.1	6.8

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

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

Yara North America-Port Sutton	Units	Class III Criteria	Effluent Permit Limits	Yara Composite	Yara Effluent
Ortho-phosphate	mg P/L	-	-	-	0.18
Total Phosphorus	mg P/L	-	Report	-	0.23
Total Ammonia	mg N/L	-	Report	-	0.044 A
Un-ionized Ammonia (calculated salinity)	mg N/L	-	Report	-	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	-	0.007 IA
Total Kjeldahl Nitrogen	mg N/L	-	-	-	0.38
Organic Nitrogen	mg N/L	-	-	-	0.34 c
Total Nitrogen	mg N/L	-	≤ 3.0	-	0.39 c
Total Organic Carbon	mg C/L	-	-	-	3.8
Chlorophyll *a* - Corrected	µg/L	-	-	-	8.2
Phaeophytin	µg/L	-	-	-	5.8
Chlorophyll *a* - Uncorrected	µg/L	-	-	-	12
CBOD, 5 day, N - inhibited	mg/L	-	-	-	1.8 I
Total Suspended Solids	mg/L	-	-	-	4 I
Turbidity	NTU	< 29 t	-	-	2.6
Color (true)	PCU	-	-	-	2.5 U
Alkalinity	mg CaCO3/L	-	-	-	127 A
Chloride	mg Cl/L	-	-	-	17,000 A
Fluoride	mg F/L	≤ 5.0	-	-	1.2
Sulfate	mg SO4/L	-	-	-	2,300 A
Toxicity (Acute Definitive, LC50 % effluent)					
Bioassay - Mysid shrimp *(Americamysis bahia)*	%	-	≥ 100	> 100	-
Bioassay - Fish *(Menidia beryllina)*	%	-	≥ 100	> 100	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
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
U - Material analyzed for but not detected; value reported is the method detection limit

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

Yara North America-Port Sutton	Units	Class III Criteria	Effluent Permit Limits	Yara Effluent
Hardness	mg CaCO3/L	-	-	5,490 c
Aluminum	µg/L	≤ 1500	-	113
Arsenic	µg/L	-	-	2.2 I
Cadmium	µg/L	≤ 8.8	-	0.25 U
Calcium	mg/L	-	-	370
Chromium, Total [1]	µg/L	≤ 50	-	1.5 U
Copper	µg/L	≤ 3.7	-	2.5 U
Iron	µg/L	≤ 300	-	120 U
Lead	µg/L	≤ 8.5	-	1.0 U
Magnesium	mg/L	-	-	1110
Nickel	µg/L	≤ 8.3	-	1.2 U
Potassium	mg/L	-	-	323
Selenium	µg/L	≤ 71	-	1.0 U
Silver	µg/L	≤ 2.3	-	0.040 U
Sodium	mg/L	-	-	8,990
Zinc	µg/L	≤ 86	-	25 U

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
1 - Class III Marine Water Quality Criterion (62-302.530(19)(b), F.A.C.) is for chromium-VI

Table 4. Measured algal growth potential (AGP; mg dry weight/L) and ratios of nitrogen to phosphorus.

Yara North America-Port Sutton								
Location	**Test Species**	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (OP) ± 20%**	**Predicted AGP (TN) ± 20%**	**Predicted AGP (TP) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Yara Effluent	*Dunaliella tertiolecta*	3.00 U	not applicable [2]	not applicable [2]	not applicable [2]	not applicable [2]	0.3	1.7

2 - predictions not applicable to marine matrix

Appendix A

Facility Summary

State of Florida

Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Edgar Guerron Orejuela	**Contact Number:** 813-470-5749
Facility Name (as it appears on permit): YARA NORTH AMERICA, INC. – Port Sutton Ammonia Terminal	**Former Names:** Hydro-Agri ; Farmland Hydro
NPDES Permit Number: FL 0038652	**Permit Expiration Date:** October 9, 2017
Physical Address: 3421 Port Sutton Road; Tampa, FL, 33619-9625	
District: Southwest District	**County:** Hillsborough
Function of Facility: The Port Sutton Terminal is a bulk anhydrous ammonia storage and transfer facility that encompasses an area approximately 3.10 acres. The anhydrous ammonia arrives at the terminal via ship and is off-loaded and stored in two on-site storage tanks, one 16,000 short-ton tank and one 33,000 short-ton tank. The stored anhydrous ammonia is distributed to customers through a commercial underground pipeline and tanker trucks. (Anhydrous ammonia storage and transfer)	
Facility Type: Ammonia Terminal	**Permitted Capacity (MGD):** N/A
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): D-001 from March 2016 to February 2017 – 1.79 MGD	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
Description of type of Discharge: ☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify:	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): D-001 (EFF-001)	
Description of Permitted Outfall(s): Outfall D-001 discharges non-contact seawater for ammonia heating, condenser cooling water, and stormwater to Port Sutton Channel via a 24-inch diameter, 300-foot long HDPE pipeline.	
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): The facility intakes a mixture of warm seawater from the Tampa Electric Company (TECO) discharge and Class III Marine Waters from Port Sutton Channel for the purpose of heating the anhydrous ammonia, and pumps the seawater through two parallel shell and tube type heat exchanger units at a maximum rate of 1,600 gpm. A 15,000-gallon holding/buffer tank is also used in the condensers with the addition of anti-scalant, corrosion inhibitors and biocides to enhance the effectiveness of the condensers. The chemical additives used to treat the condenser water are biodegradable. The waste water system is equipped with a fully automatic differential pH detection and control system consisting of pH detectors before and after the ammonia heaters and triple redundant pH controller upstream of the I-002 internal insertion point for the stormwater discharge into Outfall D-001. The wastewater system is equipped with a fully automatic differential pH detection and control system consisting of pH detectors before and after the ammonia heaters and a triple redundant pH controller upstream of the I-002 internal insertion point for the stormwater discharge into Outfall D-001. The stormwater at this facility is collected in a 9,000-gallons concrete-lined stormwater detention pond located on the south side of the facility near the transfer dock. The water level in the pond is monitored and controlled with a sump pump system. The stormwater is pumped to the discharge pipeline and mixes with the seawater at a location upstream of Outfall D-001. The once-through seawater and stormwater discharges via a 24-inch diameter HDPE pipe through Outfall D-001 into the Port Sutton Channel.	

PART I: Continued

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

		Effluent Limitations						Monitoring Requirements		
Parameter	Units	Daily Min	Daily Max		Monthly Average			Monitoring Frequency	Sample Type	Monitoring Location Site Number
Flow	(MGD)	N/A	Report		Report			Continuous	Recorder	EFF-001
pH [See Condition I.A.7.J	(SU)	6.5	8.5		Report			Continuous	Recorder	EFF-001
pH [See Condition I.A.7.J	(SU)	Report	Report		Report			Weekly	Grab	INT-001
Temperature, Water [See Conditions I.A.5. & I.A. 7.]	(F), (DEG. F)	N/A	Report		Report			Continuous	Recorder	INT-001 EFF-001
Ammonia, Unionized (as NH3) [See Condition I.A.7]	(MG/L)	N/A	Report		Report			Weekly	Calculated	INT-001 EFF-001
Nitrogen, Ammonia, Total (as N) [See Condition I.A.7.]	(MG/L)	N/A	Report		Report			Weekly	Grab	INT-001 EFF-001
Nitrogen, Total (as N)	(MG/L)	N/A	3.0		Report			Weekly	Grab	EFF-001
Nitrogen, Total (as N)	(MG/L)	N/A	Report		Report			Weekly	Grab	INT-001
Nitrogen, Total (as N) [See Condition I.A.IO.I	(LBS/DAY)	N/A	Report		Report			Weekly	Calculation	INT-001 EFF-001

Phosphorus, Total (as P)	(MG/L)	N/A	Report		Report			Weekly	Grab	INT-001 EFF-001
Phosphorus, Total (as P) [See Condition I.A.IO.]	(LBS/DAY)	N/A	Report		Report			Weekly	Calculation	INT-001 EFF-001
Turbidity	(NTUs)	N/A	See Condition I.A.8.		Report			Weekly	Grab	INT-001 EFF-001
Whole Effluent Toxicity – Chronic 7 Day IC25 (*Menidia bryllina*)	percent	N/A	See Condition I.A.14.		N/A			Annually	24-hr composite	EFF-001

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
Port Sutton Channel (WBID 1637)	Class III Marine

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

In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and (l)(b), F.A.C.] For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. [Rules 62-302.500(l)(a)4. and 62-4.241(l)(a), F.A.C.]

For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-014, Section 8.

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.

Samples for routine and additional follow-up tests shall not be collected on the same day.

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.

The permittee shall conduct 7-day survival and growth chronic toxicity tests with a mysid shrimp, *Americamysis* (*Mysidopsis*) *bahia*, Method 1007.0, and au inland silverside, *Menidia beryllina*, Method 1006.0, concurrently.

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 Marine and Estuarine Organisms, 3rd Edition, EPA-821-R-02-014. 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.

The control water and dilution water used shall be artificial sea salts as described in EPA-821-R-02-014, Section 7.2. The test salinity shall be determined as follows:

(a) For the *Americamysis bahia* bioassays, the effluent shall be adjusted to a salinity of 20 parts per thousand (ppt) with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 20 ppt. If the salinity of the effluent is greater than 20 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.
(b) For the *Menidia beryllina* bioassays, if the effluent salinity is less than 5ppt, the salinity shall be adjusted to 5 pp! with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 5 ppt. If the salinity of the effluent is greater than 5 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.
(c) If the salinity of the effluent requires adjustment, a salinity adjustment control should be prepared and included with each bioassay. The salinity adjustment control is intended to identify toxicity resulting from adjusting the effluent salinity with artificial sea salts. To prepare the salinity adjustment control, dilute the control/dilution water to the salinity of the effluent and adjust the salinity of the salinity adjustment control at the same time and to the same salinity that the salinity of the effluent is adjusted using the same artificial sea salts.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
N/A

Facility Mixing Zone Details (if applicable):
N/A

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

Date	Parameter and Units	Limit	Result

Describe previous FYI and WQBEL study:

The effluent sample collected from the EFF-01 for this facility on June 21, 2010, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result was not greater than the "problem" threshold for fresh receiving waters, suggesting that nutrient enrichment may be an issue. Effluent water quality samples collected on June 21, 2010, did not exceed any applicable water quality standards or violate any permit conditions.

Describe previous or current Enforcement Actions (including WLs):

N/A

Describe any violations or problems noted in previous inspection:

N/A

Discuss whether DMR trends within previous five years are improving or declining:

N/A

Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):
N/A

PART II: Sampling Event Information

Date(s) sample collected:	**Sampler(s):**
Temperature (Deg C):	**pH (SU):**
Dissolved Oxygen (mg/L):	**Conductivity (umhos/cm):**
Total Residual Chlorine (mg/L):	**Total Residual Chlorine - after Disinfection (mg/L):**
Method of Chlorination:	**Method of De-chlorination:**

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):

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:

Appendix B

Explanation of Measurements

(1) Quality Assurance and Quality Control

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

(2) Chemical Analyses of the Effluent

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

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.500(1)a and/or facility permit limits. A 25% inhibition concentration (IC25) is the effluent concentration causing a 25% reduction in a biological response such as biomass or reproduction when compared to a control population. An IC25 of less than 100% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or facility permit limits. A no observed effect concentration (NOEC) less than 100% effluent in a chronic test may constitute an exceedance of 62-302.530(61) and/or facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

(4) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or facility permit limits. Fecal coliform and enterococci results often are based on colony counts outside the acceptable range (B-qualifier). The dilutions performed on the sample did not yield results within the method acceptable range of 20- 60 colony forming units per plate. The B-qualifier does not affect data quality.

(5) Chlorophyll *a* Content

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

(6) Algal Growth Potential (AGP)

The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. High AGP values may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(b), F.A.C..

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

(7) Definition of Qualifiers

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

Appendix C

Chemical analysis of effluent

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Yara Composite	Toxicology	Bioassay-Acute-Def-SW-Mysid, LC50	100 L	LC50		
5/8/2017	Yara Composite	Toxicology	Bioassay-Acute-Def-SW-Fish, LC50	100 L	LC50		
5/8/2017	Yara Composite	Nutrients	Temperature	22.6	C		
5/8/2017	Yara Composite	Nutrients	pH	7.92			
5/8/2017	Yara Composite	Nutrients	Specific Conductance	45679	umhos/cm		
5/8/2017	Yara Composite	Nutrients	Dissolved Oxygen	98	%Sat		
5/8/2017	Yara Effluent	AGP/LN	Algal Growth Potential-Salinity Adjusted	3.00 U	mg DryWt/L	3	3
5/8/2017	Yara Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll/Phaeophytin Ratio	1.4		0	0
5/8/2017	Yara Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Uncorrected	12	µg/L	0.4	1.2
5/8/2017	Yara Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	5.8	µg/L	0.4	1.2
5/8/2017	Yara Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	8.2	µg/L	0.55	1.7
5/8/2017	Yara Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.8 I	mg/L	0.2	2
5/8/2017	Yara Effluent	Metals	Iron	120 U	µg/L	120	480
5/8/2017	Yara Effluent	Metals	Sodium	8.99E+03	mg/L	25	100
5/8/2017	Yara Effluent	Metals	Calcium	370	mg/L	3.8	15
5/8/2017	Yara Effluent	Metals	Nickel	1.2 U	µg/L	1.2	5
5/8/2017	Yara Effluent	Metals	Aluminum	113	µg/L	25	100
5/8/2017	Yara Effluent	Metals	Lead	1.0 U	µg/L	1	4
5/8/2017	Yara Effluent	Metals	Selenium	1.0 U	µg/L	1	4
5/8/2017	Yara Effluent	Metals	Silver	0.040 U	µg/L	0.04	0.16
5/8/2017	Yara Effluent	Metals	Copper	2.5 U	µg/L	2.5	5
5/8/2017	Yara Effluent	Metals	Chromium	1.5 U	µg/L	1.5	6
5/8/2017	Yara Effluent	Metals	Magnesium	1.11E+03	mg/L	2	8
5/8/2017	Yara Effluent	Metals	Potassium	323	mg/L	15	60
5/8/2017	Yara Effluent	Metals	Zinc	25 U	µg/L	25	100
5/8/2017	Yara Effluent	Metals	Arsenic	2.2 I	µg/L	1.2	5
5/8/2017	Yara Effluent	Metals	Cadmium	0.25 U	µg/L	0.25	1
5/8/2017	Yara Effluent	Nutrients	Ammonia-N	0.044 A	mg N/L	0.002	0.005

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Yara Effluent	Nutrients	Total Alkalinity	127 A	mg CaCO3/L	0.65	2.5
5/8/2017	Yara Effluent	Nutrients	Color (true)	2.5 U	PCU	2.5	6
5/8/2017	Yara Effluent	Nutrients	Sulfate	2.3E+03 A	mg SO4/L	40	100
5/8/2017	Yara Effluent	Nutrients	TSS	4 I	mg/L	3	10
5/8/2017	Yara Effluent	Nutrients	Total-P	0.23	mg P/L	0.01	0.1
5/8/2017	Yara Effluent	Nutrients	Organic Carbon	3.8	mg C/L	1	2
5/8/2017	Yara Effluent	Nutrients	Kjeldahl Nitrogen	0.38	mg N/L	0.08	0.2
5/8/2017	Yara Effluent	Nutrients	Turbidity	2.6	NTU	0.1	0.1
5/8/2017	Yara Effluent	Nutrients	Chloride	1.7E+04 A	mg Cl/L	40	100
5/8/2017	Yara Effluent	Nutrients	Fluoride	1.2	mg F/L	0.18	0.5
5/8/2017	Yara Effluent	Nutrients	O-Phosphate-P	0.18	mg P/L	0.04	0.1
5/8/2017	Yara Effluent	Nutrients	NO2NO3-N	0.007 IA	mg N/L	0.004	0.01
5/8/2017	Yara Effluent	Pesticides	Atrazine Desethyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Atrazine Desisopropyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Butylate	0.019 U	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Chlorpyrifos Ethyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Chlorpyrifos Methyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Norflurazon	0.028 U	µg/L	0.028	0.11
5/8/2017	Yara Effluent	Pesticides	Fonofos	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Hexazinone	0.028 UJ	µg/L	0.028	0.11
5/8/2017	Yara Effluent	Pesticides	Simazine	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Alachlor	0.057 U	µg/L	0.057	0.23
5/8/2017	Yara Effluent	Pesticides	Fenamiphos	0.028 UJ	µg/L	0.028	0.11
5/8/2017	Yara Effluent	Pesticides	Metolachlor	0.057 UJ	µg/L	0.057	0.23
5/8/2017	Yara Effluent	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Bromacil	0.038 U	µg/L	0.038	0.15
5/8/2017	Yara Effluent	Pesticides	Diazinon	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Malathion	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Ametryn	0.0095 U	µg/L	0.0095	0.038

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Yara Effluent	Pesticides	Atrazine	0.0098 I	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Demeton	0.023 U	µg/L	0.023	0.091
5/8/2017	Yara Effluent	Pesticides	Ethoprop	0.0047 U	µg/L	0.0047	0.019
5/8/2017	Yara Effluent	Pesticides	Mevinphos	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Phorate	0.0047 U	µg/L	0.0047	0.019
5/8/2017	Yara Effluent	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.076
5/8/2017	Yara Effluent	Pesticides	Disulfoton	0.0047 U	µg/L	0.0047	0.019
5/8/2017	Yara Effluent	Pesticides	Ethion	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Pesticides	Metalaxyl	0.038 UJ	µg/L	0.038	0.15
5/8/2017	Yara Effluent	Pesticides	Naled	0.038 U	µg/L	0.038	0.15
5/8/2017	Yara Effluent	Pesticides	Parathion Methyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Hexachloroethane	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Priority Organic Pollutants	Isophorone	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	µg/L	14	57
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2-Nitrophenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Fluorene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	4-Nitrophenol	14 U	µg/L	14	57
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Acenaphthene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.94 U	µg/L	0.94	3.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Yara Effluent	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Fluoranthene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Phenanthrene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.4 U	µg/L	9.4	38
5/8/2017	Yara Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	µg/L	38	150
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzidine	94 U	µg/L	94	380
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Priority Organic Pollutants	Nitrobenzene	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Phenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Anthracene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Naphthalene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Acenaphthylene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Dimethyl phthalate	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Chrysene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	µg/L	1.9	7.5
5/8/2017	Yara Effluent	Priority Organic Pollutants	Pentachlorophenol	0.94 U	µg/L	0.94	3.8

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Yara Effluent	Priority Organic Pollutants	Pyrene	0.19 U	µg/L	0.19	0.75
5/8/2017	Yara Effluent	Priority Organic Pollutants	2-Chlorophenol	0.94 U	µg/L	0.94	3.8
5/8/2017	Yara Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	µg/L	2.8	11
5/8/2017	Yara Effluent	Nutrients	Dissolved Oxygen	99	%Sat		
5/8/2017	Yara Effluent	Nutrients	pH	7.97			
5/8/2017	Yara Effluent	Nutrients	Specific Conductance	46196	umhos/cm		
5/8/2017	Yara Effluent	Nutrients	Temperature	26.0	C		
5/8/2017	Field Blank	Metals	Aluminum	3.0 U	µg/L	3	12
5/8/2017	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
5/8/2017	Field Blank	Metals	Iron	30 U	µg/L	30	120
5/8/2017	Field Blank	Metals	Lead	0.050 U	µg/L	0.05	0.2
5/8/2017	Field Blank	Metals	Chromium	0.40 U	µg/L	0.4	1.6
5/8/2017	Field Blank	Metals	Copper	0.20 U	µg/L	0.2	0.8
5/8/2017	Field Blank	Metals	Nickel	0.20 U	µg/L	0.2	0.8
5/8/2017	Field Blank	Metals	Cadmium	0.020 U	µg/L	0.02	0.08
5/8/2017	Field Blank	Metals	Silver	0.010 U	µg/L	0.01	0.04
5/8/2017	Field Blank	Metals	Zinc	1.0 U	µg/L	1	4
5/8/2017	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
5/8/2017	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
5/8/2017	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
5/8/2017	Field Blank	Metals	Selenium	0.20 U	µg/L	0.2	0.8
5/8/2017	Field Blank	Metals	Arsenic	0.050 U	µg/L	0.05	0.2
5/8/2017	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
5/8/2017	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
5/8/2017	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
5/8/2017	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
5/8/2017	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
5/8/2017	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
5/8/2017	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
5/8/2017	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
5/8/2017	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
5/8/2017	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
5/8/2017	Field Blank	Nutrients	Total Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
5/8/2017	Field Blank	Pesticides	Atrazine Desisopropyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Metribuzin	0.019 U	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Demeton	0.023 U	µg/L	0.023	0.091
5/8/2017	Field Blank	Pesticides	Hexazinone	0.029 UJ	µg/L	0.029	0.11
5/8/2017	Field Blank	Pesticides	Norflurazon	0.029 U	µg/L	0.029	0.11
5/8/2017	Field Blank	Pesticides	Mevinphos	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Ametryn	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Ethion	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Malathion	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Parathion Methyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Bromacil	0.038 U	µg/L	0.038	0.15
5/8/2017	Field Blank	Pesticides	Diazinon	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Metolachlor	0.057 UJ	µg/L	0.057	0.23
5/8/2017	Field Blank	Pesticides	Parathion Ethyl	0.019 U	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Prometryn	0.019 U	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Naled	0.038 U	µg/L	0.038	0.15
5/8/2017	Field Blank	Pesticides	Butylate	0.019 U	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Chlorpyrifos Methyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Disulfoton	0.0048 U	µg/L	0.0048	0.019
5/8/2017	Field Blank	Pesticides	Fenamiphos	0.029 UJ	µg/L	0.029	0.11
5/8/2017	Field Blank	Pesticides	Phorate	0.0048 U	µg/L	0.0048	0.019
5/8/2017	Field Blank	Pesticides	Prometon	0.019 UJ	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Atrazine Desethyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Azinphos Methyl	0.019 U	µg/L	0.019	0.076
5/8/2017	Field Blank	Pesticides	Fonofos	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Metalaxyl	0.038 UJ	µg/L	0.038	0.15
5/8/2017	Field Blank	Pesticides	Simazine	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Alachlor	0.057 U	µg/L	0.057	0.23

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Field Blank	Pesticides	Atrazine	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Pesticides	Ethoprop	0.0048 U	µg/L	0.0048	0.019
5/8/2017	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.0095 U	µg/L	0.0095	0.038
5/8/2017	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	µg/L	15	58
5/8/2017	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Chrysene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15 U	µg/L	15	58
5/8/2017	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	Phenanthrene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39 U	µg/L	39	160
5/8/2017	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	Pyrene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	Benzidine	97 U	µg/L	97	390
5/8/2017	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Naphthalene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Phenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	µg/L	0.19	0.78

Date Sampled	Site ID	Analysis Group	Component	Result	Units	MDL	PQL
5/8/2017	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Fluoranthene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Acenaphthene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	Isophorone	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Anthracene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	1.9 U	µg/L	1.9	7.8
5/8/2017	Field Blank	Priority Organic Pollutants	Fluorene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	µg/L	2.9	12
5/8/2017	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.7 U	µg/L	9.7	39
5/8/2017	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.19 U	µg/L	0.19	0.78
5/8/2017	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.97 U	µg/L	0.97	3.9
5/8/2017	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.97 U	µg/L	0.97	3.9

EPA End Sheet

The Bioassay of Yara North America, Inc. -- Port Sutton Ammonia Terminal effluent sampled on May 8, 2017. NPDES #FL0038652.

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 FL0038652	11 12 170507	18 B	19 S	20 2

Remarks

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The Priority Pollutants Analysis of Yara North America, Inc. -- Port Sutton Ammonia Terminal effluent sampled on May 8, 2017. NPDES #FL0038652.

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 FL0038652	11 12 170508	18 X	19 S	20 2

Remarks

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Biological Analyses of Yara North America, Inc. -- Port Sutton Ammonia Terminal effluent sampled on May 8, 2017. NPDES #FL0038652.

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 FL0038652	11 12 170508	18 S	19 S	20 2

Remarks

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