Biological Assessment of

# Black's Ford Wastewater Reclamation Facility

St. Johns County

NPDES # FL0174441

Sampled December 15th and 18th, 2014

September 2015

**Biology Section**

**Bureau of Laboratories**

**Division of Environmental Assessment and Restoration**

2014 FDEP Bureau of Laboratories Quality Manual

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## Facility Overview

The Black's Ford Wastewater Reclamation Facility is a domestic wastewater treatment facility. The effluent is discharged continuously into Black's Ford Wetlands, Class III Fresh Waters (see map Appendix A). The permitted capacity of the wastewater system is 3.0 million gallons per day (MGD). The annual average daily flow for December 2013 to November 2014 for discharge location D-001 was 1.367 MGD. The flow recorded by the facility during this survey was 2.095 MGD on December 15 and 2.075 MGD on December 18, 2014.

Biological assessments are prepared by FDEP staff to provide information for review of NPDES permit renewal applications. Biological assessments, in conjunction with other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions.

See the Facility Summary (Appendix B) for a description of the facility, summary of permit limits, and Discharge Monitoring Report (DMR) information.

## Methods

The purpose of this investigation was to determine the discharge's effects on the biota of the receiving waters. Chemical and biological data were collected in the receiving wetlands at three monitoring locations located 1,300 meters (m) (WIM-2), 2,150 m (WIM-3), and 2,900 m (WEP-1) downstream of the D-001 outfall. Hereafter, WIM-2, WIM-3, and WEP-1, which are the gradient test sites of this survey, are referred to as Near-field Site, Mid-field Site, and Far-field Site, respectively. The effluent and Near-field Site samples, as well as the field blank samples, were collected on December 15, 2014. Sampling at the Mid-field and Far-field Sites was intended to be conducted the same day, but due to sampler confusion about other monitoring locations in the area, samples were collected from the wrong sites. New sample bottles were obtained and the Mid-field and Far-field Sites were sampled three days later December 18, 2014. The facility continued to discharge to the wetland between sampling events. It was the decision of the committee reviewing this report that the retention time within the wetland system, given the distances between the gradient test sites, was likely long enough to make meaningful comparisons of the biological and chemical data between the effluent and all three sites, despite the time lapse. Field Blank samples were not taken on the December 18th sampling event. The composite sampler for effluent sampling was set up in the R-001 conveyance very close to where it is diverted from the effluent stream for reuse. The water level in this conveyance dropped low enough to fully expose the sampler tubing and disrupt composite sample collection. Therefore, all effluent samples were taken as grab samples from monitoring location EFF-1 at the final treatment point, prior to discharge into the receiving wetland. A Florida Wetland Condition Index – Vegetation (WCI-V) survey was conducted at the Near-field and Mid-field Sites.

All field and laboratory biological methods followed Bureau of Laboratories and Biology Section 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 C.

The following were involved in this investigation: Jann Gruentzel, Amy Kalmbacher, Patrick O'Connor, Jeremy Parrish, and Sharon Piltz (FDEP Northeast District Office, Jacksonville), and FDEP Central Laboratory in Tallahassee. The report was reviewed by District representatives and the Point Source Studies Review Committee (Mike Tanski, Andrew Tintle, and Jennifer Walters).

## Results

Physical and Chemical Parameters (See Table 1 and Appendices D and F)

- Specific conductance (µmhos/cm) was highest in the effluent and Near-field site (above 1,275 µmhos/cm, both exceeding the Class III Freshwater Quality Criterion (62-302.530(22), F.A.C.)) and slightly lower at the Mid-field and Far-field sites when compared to the effluent and Near-field values. According to samplers familiar with wetlands in the area, these sites were outside of the tidal influence of the St. John's River. It should also be noted that specific conductance was measured in the effluent and Near-field site on December 15, and specific conductance was measured at the Mid-field and Far-field sites three days later, on December 18.
- The pH (Standard Units) and dissolved oxygen (mg/L and % saturation) of the effluent, Near-field Site, Mid-field Site, and Far-field Site complied with effluent permit limits and/or Class III Freshwater Quality Criteria (62-302.530, F.A.C.). The pH at Far-field Site also complied with the limits in the facility's wetlands operational monitoring program.

Organic Constituents (See Table 2 and Appendix E)

- Acetaminophen was detected in the effluent sample between the method detection limit and the practical quantitation limit (MDL and PQL) and was not detected in the Near-field Site sample. Carbamazepine was detected in the effluent sample in a higher amount than in the Near-field Site sample. Samples for these analytes were not scheduled for Mid-field Site or Far-field Site.
- Sucralose was detected in the highest amount in the effluent sample, lower in the Near-field Site sample, lower still in the Mid-field Site sample, and lowest in the Far-field Site sample.
- 1,4-dioxane was detected in a higher amount in the effluent sample than in any of the study site samples. However, samples from the study sites were improperly preserved (J-qualifier).
- 1,4-dioxane was detected between the MDL and PQL in the field blank, which was improperly preserved (J-qualifier). Acetaminophen, carbamepazine, and sucralose were not detected in the field blank.

Nutrients (See Table 2 and Appendix E)

- Total phosphorous and total nitrogen in the effluent grab sample complied with the effluent permit limits for 24-hour flow proportioned composite limits.
- All effluent grab sample nutrients complied with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.). Nutrients detected in the study sites complied with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.).
- The amount of total phosphorous detected in the effluent grab sample was slightly higher than the amounts detected in the Near-field Site, Mid-field Site, and Far-field Site samples.
- The amounts of ortho-phosphate detected in the effluent grab and Mid-field Site samples were slightly higher than the amounts detected in the Near-field Site and Far-field Site samples.
- Total ammonia, total Kjeldahl nitrogen, and total nitrogen were detected in the highest amounts in the effluent grab sample, and decrease with distance from the point of discharge down the gradient study sites.
- The nitrate plus nitrite amount detected in the Near-field Site sample was twice the amounts detected in the Mid-field Site and Far-field Site samples, and an order of magnitude higher than the amount detected in the effluent grab sample.
- Organic nitrogen was detected in similar amounts in the effluent grab and Near-field Site samples, both higher than the amounts detected in the Mid-field Site and Far-field Site samples.
- Total organic carbon was detected in increasing amounts across the effluent, Near-field Site, Mid-field Site, and Far-field Site samples, respectively.
- No nutrients were detected in the field blank.

Analytical Water Chemistry (See Table 2 and Appendix E)

- Carbonaceous biochemical oxygen demand (CBOD; mg/L) in the effluent grab sample complied with permit limits. Total suspended solids (TSS; mg/L) analyses were not originally scheduled for the effluent, added to the list of analyses by samplers in the field, and ultimately not analyzed in the effluent grab sample due to a miscommunication between samplers and sample receiving staff.
- CBOD and TSS were detected between the MDL and the PQL in the Near-field Site, Mid-field Site, and Far-field Site samples. The CBOD level of the effluent grab sample was higher than each of the gradient test sites. CBOD results in the Mid-field Site and Far-field Site samples may have been compromised in the lab due to the nitrification inhibitor inadvertently being added twice (J-qualifier). It is not known if this double addition affected the results.
- Chlorophyll *a* (corrected) was detected between the MDL and the PQL in the effluent, Near-field Site, and Mid-field Site samples, and was not detected in the Far-field Site sample.
- Turbidity, alkalinity, fluoride, and sulfate amounts were similar between the effluent grab sample and the Near-field Site sample.
- Turbidity, alkalinity, fluoride, and sulfate were detected in decreasing levels and amounts across the effluent, Near-field Site, Mid-field Site, and Far-field Site samples, respectively.
- No water chemistry analytes were detected in the field blank.

Microbiology (See Table 2 and Appendix E)

- Fecal coliform analyses were performed by ALS Environmental, Jacksonville, FL, using Standard Method 9222 D.
- Fecal Coliforms detected in the Near-field Site sample exceeded the Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.).
- Fecal coliforms were not detected in the effluent, which thus complied with Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.) and facility permit limits. Fecal coliforms detected in the Mid-field Site and Far-field Site samples complied with the Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.).

Toxicity Whole Effluent Test (See Table 2 and Appendix E)

- Tests were performed December 16 through December 24, 2014.
- During the chronic definitive bioassay, the effluent grab sample IC25 for the water flea, *Ceriodaphnia dubia*, and the IC25 for the fish, *Pimephales promelas*, were calculated as being greater than 100% effluent, and therefore complied with the effluent permit limits for 24-hour flow proportioned composite limits.
- For more information or to obtain copies of the toxicity bench sheets, please contact the Biology Laboratory at 850-245-8177.

Metals (See Table 3 and Appendix E)

- All metals that were detected in the effluent grab sample were present in amounts that complied with Class III Freshwater Quality Criteria (62-302.530, F.A.C.)
- All metals in the Near-field Site, Mid-field Site, and Far-field Site samples were either undetected or detected at levels that complied with Class III Freshwater Quality Criteria (62-302.530, F. A. C.).
- No metals were detected in the field blank.

Algal Growth Potential (See Table 4 and Appendix E)

- Raschke and Shultz (1987) determined that algal growth potential (AGP) values above 5.0 mg dry weight/L, which represents a "problem" threshold for fresh receiving waters, imply nutrient enrichment. The AGP value in the effluent sample using the freshwater species, *Pseudokirchneriella subcapitata,* was approximately 24 times greater than the problem threshold value. The analytical chemistry suggests that the effluent is nitrogen limited. The AGP of the Near-field Site sample was eight times greater than the problem threshold value. The AGPs of the Mid-field Site and Far-field Site samples were 2.5 and 1.2 times greater, respectively, than the problem threshold value.

Bioassessment

Florida Wetland Condition Index – Vegetation (WCI-V) (See Table 5 and Appendix C)

- WCI-V sampling was conducted December 15, 2014
- The Florida Wetland Condition Index - Vegetation (WCI-V) is used to examine the ecological integrity of a vascular plant community. Because the method requires additional data for validation in certain regions and for wetland types not included in the original development dataset, it is used by FDEP in an exploratory manner. The WCI-V scores for Near-field and Mid-field Sites were similar, with the Mid-field Site (47.9) scoring higher than the Near-field Site (40.5). The Near-field and Mid-field Site scores were compared to the mean values and scores for the original WCI-V method development sites, for this type of forested wetland. For comparative purposes, the method development sites have been divided into two groups based on Landscape Development Intensity (LDI): sites with low LDI (LDI <2) and sites with high LDI (LDI ≥2). The WCI-V scores for the Near-field and Mid-field Sites were closest to the mean score for the isolated forested development sites in the North Florida region with low LDI scores (50.3). At both the Near-field Site and Mid-field Site, the metric scores for five metrics (tolerant species, average coefficient of conservatism (CC) score, exotic species, native perennial species, and wetland status) were closer to the mean values of lower LDI method development sites than to higher LDI (more human disturbance) method development sites. For sensitive taxa, both the Near-field Site and Mid-field Site scores were closer to the values for sites with higher LDIs. The Near-field Site had 45 total taxa, and Mid-field Site had 48 total taxa.

## Conclusion

Fecal coliforms of the WIM-2 (Near-field Site) sample exceeded Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.), but were not detected in the effluent grab sample. The specific conductance of the effluent and at WIM-2 (Near-field Site)

were measured above the numeric limits set out in the Class III Freshwater Quality Criterion (62-302.530(22), F.A.C.). Nutrient values were higher values in the effluent grab samples and generally decreased with distance from the point of discharge down the gradient test sites, as would be expected for a receiving wetland that is diluting effluent constituents as intended. The AGP of the effluent grab sample is high, 24 times greater than the problem threshold, and indicates the effluent has the potential to contribute nutrients to the receiving wetland. This is also indicated by the high AGP value of WIM-2 (Near-field Site) compared to the decreasing values at WIM-3 (Mid-field Site) and WEP-1 (Far-field Site) further from the effluent. The WCI-V individual metric scores and overall scores were similar between the downstream WIM-2 (Near-field Site) and WIM-3 (Mid-field Site) sites, and metric scores and overall scores for both sites were similar to method development sites with low human disturbance.

### Literature Cited


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

USEPA. 2000. Nutrient Criteria Technical Guidance Manual – River and Streams. EPA-822-B-00-002.

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

| Black's Ford WRF | Units | Class III Criteria | Effluent Permit Limits | Effluent Grab [1] 12/15/14 | WIM-2 [1] (Near-field Site) 12/15/14 | WIM-3 [1] (Mid-field Site) 12/18/14 | WEP-1 [1] (Far-field Site) 12/18/14 |
|---|---|---|---|---|---|---|---|
| Sample Depth | m | - | - | - | 0.1 | 0.1 | 0.3 |
| Temperature | C | - | - | 20.55 | 10.2 | 9.65 | 11.0 |
| pH | SU | 6.0 - 8.5 | 6.0 - 8.5 | 6.8 | 7.2 | 7.1 | 7.3 |
| Specific Conductance | µmhos/cm | ≤ 1,275 | - | 1401 e | 1380 e | 1250 | 1135 |
| Salinity | | - | - | 0.8 c | 1 c | 0.9 c | 0.8 c |
| Dissolved Oxygen | % saturation | ≥ 38 | - | 44.5 c | 75.2 c | 65.7 c | 75.6 c |
| Dissolved Oxygen | mg/L | - | - | 4.0 | 8.4 | 7.4 | 8.3 |

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
e - Value exceeds the Class III Water Quality Criteria or permit limits
1 - The effluent grab sample, WIM-2 sample, and field blank were collected on December 15, 2014; WIM-3 and WEP-1 samples were collected on December 18th, 2014.

**Appears in Appendix E**
L - Actual value is known to be greater than value given

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

| Black's Ford WRF | Units | Class III Criteria | Effluent Permit Limits | Effluent Grab [1] 12/15/14 | WIM-2 [1] (Near-field Site) 12/15/14 | WIM-3 [1] (Mid-field Site) 12/18/14 | WEP-1 [1] (Far-field Site) 12/18/14 |
|---|---|---|---|---|---|---|---|
| **Analytical organic and pesticide data** | | | | | | | |
| Acetaminophen | µg/L | - | - | 0.0083 I | 0.0025 U | - | - |
| Carbamazepine | µg/L | - | - | 0.11 | 0.088 | - | - |
| Sucralose | µg/L | - | - | 58 | 51 | 43 | 37 |
| 1,4-Dioxane | µg/L | - | - | 0.64 | 0.44 Y | 0.46 Y | 0.32 Y |
| **Analytical water chemistry data** | | | | | | | |
| Ortho-phosphate | mg P/L | - | - | 0.36 | 0.27 | 0.34 | 0.26 |
| Total Phosphorus | mg P/L | - | 2.0 ps | 0.52 | 0.31 | 0.38 | 0.32 |
| Total Ammonia | mg N/L | - | Report ps | 3.5 | 0.31 | 0.062 | 0.028 |
| Un-ionized Ammonia (calculated salinity) | - | ≤ 0.02 s | - | < 0.02 c | < 0.02 c | < 0.02 c | < 0.02 c |
| Nitrate and Nitrite | mg N/L | - | - | 0.045 | 0.49 | 0.21 | 0.19 |
| Total Kjeldahl Nitrogen | mg N/L | - | - | 4.2 | 1.0 | 0.64 | 0.59 |
| Organic Nitrogen | mg N/L | - | - | 0.7 c | 0.7 c | 0.58 c | 0.56 c |
| Total Nitrogen | mg N/L | - | 6.0 ps | 4.2 c | 1.5 c | 0.85 c | 0.78 c |
| Total Organic Carbon | mg C/L | - | - | 7.1 A | 8.4 | 9.9 | 11 |
| Chlorophyll *a* - Corrected | µg/L | - | - | 0.92 I | 1.3 I | 1.1 I | 0.55 U |
| Phaeophytin | µg/L | - | - | 0.40 U | 1.3 | 0.40 U | 0.48 I |
| Hardness | - | - | - | 321 c | 313 c | 289 c | 262 c |
| CBOD, 5 day, N - inhibited | mg/L | - | 10.0 ps | 2.1 | 1.8 I | 0.89 IJ | 1.0 IJ |
| Total Suspended Solids | mg/L | - | 10.0 ps | - | 3 I | 2 I | 2 I |
| Turbidity | NTU | < 29 t | - | 2.2 A | 1.7 | 0.70 | 0.55 |
| Color (true) | PCU | - | - | 19 | 36 | 54 | 71 A |
| Alkalinity | mg $CaCO_3$/L | ≥ 20 | - | 147 A | 137 | 127 | 115 |
| Chloride | mg Cl/L | - | - | 220 A | 220 | 210 | 190 |
| Fluoride | mg F/L | ≤ 10.0 | - | 0.55 | 0.44 | 0.37 | 0.34 |
| Sulfate | mg $SO_4$/L | - | - | 200 A | 190 | 170 | 150 |
| Sulfide [2] | mg/L | - | - | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| **Microbiology** | | | | | | | |
| Fecal Coliforms | cfu/100 mL | ≤ 400 sx | ≤ 800 s | 2.0 U | 490 e | 320 | 270 |
| **Toxicity (IC-25 Chronic Definitive)** | | | | | | | |
| Bioassay - Water flea *(Ceriodaphnia dubia)* | - | - | ≥ 100 | > 100 | - | - | - |
| Bioassay – Fish *(Pimephales promelas)* | - | - | ≥ 100 | > 100 | - | - | - |

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
e - Value exceeds the Class III Water Quality Criteria or permit limits
p - 24 hour flow proportioned composite
s - Single sample
t - Shall not exceed 29 NTUs above background
x - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
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
J - Estimated value
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.

1 - The effluent grab sample, WIM-2 sample, and field blank were collected on December 15, 2015; WIM-3 and WEP-1 samples were collected on December 18th, 2014.
2 – Analyzed according to standard method SM 4500-S F by TestAmerica, Savannah.

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

| Black's Ford WRF | Units | Effluent Grab Class III Criteria | Effluent Grab [1] 12/15/14 | WIM-2 Class III Criteria | WIM-2 [1] (Near-field Site) 12/15/14 | WIM-3 Class III Criteria | WIM-3 [1] (Mid-field Site) 12/18/14 | WEP-1 Class III Criteria | WEP-1 [1] (Far-field Site) 12/18/14 |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | µg/L | - | 68 | - | 38 | - | 26 | - | 51 |
| Arsenic | µg/L | ≤ 50 | 0.25 U | ≤ 50 | 0.27 I | ≤ 50 | 0.29 I | ≤ 50 | 0.33 I |
| Cadmium | µg/L | ≤ 0.642 b | 0.050 U | ≤ 0.63 b | 0.050 U | ≤ 0.595 b | 0.050 U | ≤ 0.552 b | 0.050 U |
| Calcium | mg/L | - | 67.9 | - | 66.7 | - | 61.5 | - | 56.4 |
| Chromium, Total [g] | µg/L | ≤ 224 b | 0.44 I | ≤ 219 b | 0.36 I | ≤ 206 b | 0.41 I | ≤ 190 b | 0.45 I |
| Copper | µg/L | ≤ 25.3 b | 0.50 U | ≤ 24.7 b | 0.50 U | ≤ 23.1 b | 0.50 U | ≤ 21.2 b | 0.50 U |
| Iron | µg/L | ≤ 1,000 | 160 | ≤ 1,000 | 54 I | ≤ 1,000 | 45 I | ≤ 1,000 | 100 I |
| Lead | µg/L | ≤ 14 b | 0.20 U | ≤ 13.6 b | 0.20 U | ≤ 12.3 b | 0.20 U | ≤ 10.8 b | 0.20 U |
| Magnesium | mg/L | - | 36.8 | - | 35.6 | - | 33.0 | - | 29.4 |
| Nickel | µg/L | ≤ 140 b | 1.61 | ≤ 137 b | 1.07 | ≤ 128 b | 0.81 I | ≤ 118 b | 0.79 I |
| Potassium | mg/L | - | 15.3 | - | 13.7 | - | 12.3 | - | 11.0 |
| Selenium | µg/L | ≤ 5.0 | 0.20 U | ≤ 5.0 | 0.20 U | ≤ 5.0 | 0.20 U | ≤ 5.0 | 0.20 U |
| Silver | µg/L | ≤ 0.07 | 0.025 U | ≤ 0.07 | 0.025 U | ≤ 0.07 | 0.025 U | ≤ 0.07 | 0.025 U |
| Sodium | mg/L | - | 150 | - | 147 | - | 143 | - | 130 |
| Zinc | µg/L | ≤ 322 b | 11 I | ≤ 315 b | 5.3 I | ≤ 295 b | 5.0 U | ≤ 271 b | 5.0 U |

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

b - Value is calculated based on hardness, (62-302.530(3))

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

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 - The effluent grab sample, WIM-2 sample, and field blank were collected on December 15, 2014; WIM-3 and WEP-1 samples were collected on December 18th, 2014.

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

| **Black's Ford WRF** | | | | | |
|---|---|---|---|---|---|
| **Location** | AGP (measured) [3] | Predicted AGP (TSIN) ± 20% | Predicted AGP (TN) ± 20% | Inorganic N:P ratio | Total N:P ratio |
| **Effluent Grab [1] 12/15/14** | 121.6 A | 134.7 ± 26.9 | 161.3 ± 32.3 | 9.8 | 8.2 |
| **WIM-2 [1] (Near-field Site) 12/15/14** | 39.8 | 30.4 ± 6.1 | 56.6 ± 11.3 | 3.0 | 4.8 |
| **WIM-3 [1] (Mid-field Site) 12/18/14** | 13.0 | 10.3 ± 2.1 | 32.3 ± 6.5 | 0.8 | 2.2 |
| **WEP-1 [1] (Far-field Site) 12/18/14** | 6.33 | 8.3 ± 1.7 | 29.6 ± 5.9 | 0.8 | 2.4 |

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

1 - The effluent grab sample, WIM-2 sample, and field blank were collected on December 15, 2014; WIM-3 and WEP-1 samples were collected on December 18th, 2014.

3 –Tests performed using the freshwater species *Pseudokirchneriella subcapitata*.

**Table 5. Florida Wetland Condition Index – Vegetation (WCI-V)**

| Black's Ford WRF | WIM 2 [1] (Near-field Site) 12/15/14 | WIM 3 [1] (Mid-field Site) 12/15/14 | Low LDI [4] (≤2) | High LDI [4] (>2) |
|---|---|---|---|---|
| FWCI score | 40.5 | 47.9 | 50.3 | 20.4 |
| % Tolerant metric score | 5.9 | 9.8 | 8.1 | 2.1 |
| % Sensitive metric score | 0 | 1.2 | 8.8 | 2.5 |
| Average CC# metric score | 6.2 | 8.2 | 8.5 | 3.2 |
| % Exotic metric score | 7.3 | 8.5 | 9.3 | 4.0 |
| % Native Perennial metric score | 8.9 | 9.4 | 8.6 | 5.2 |
| % Wetland Status metric score | 12.1 | 10.8 | 7.0 | 3.3 |

1 - The WIM-2 WCI data was collected on December 15th, 2014; the WIM-3 WCI transect data was collected December 18th, 2014.

4 - Values represent the mean for development sites in each Landscape Development Index (LDI) group.

CC=Coefficient of Conservatism. Described on pgs. 27-28 of the document: The Florida Wetland Condition Index (FWCI): Developing Biological Indicators for Isolated Depressional Forested Wetlands (http://publicfiles.dep.state.fl.us/dear/sas/library/docs/wet_depf.pdf)

**Appendix A**

**Map of Facility**

## Blacks Ford Water reclamation Facility

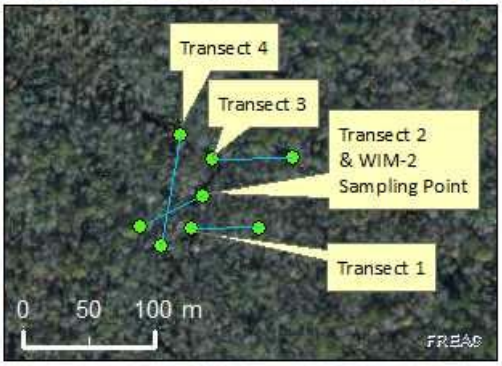
*Fifth Year Bioassessment Sampling Locations*

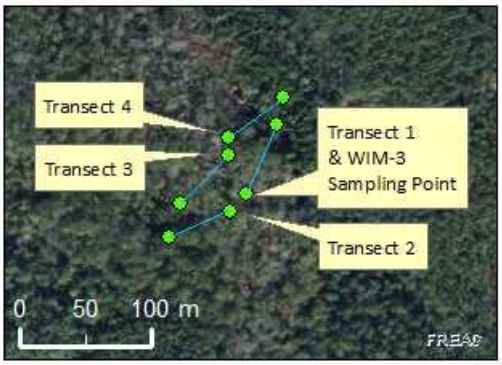













**Appendix B**

**Facility Summary**

# State of Florida
# Department of Environmental Protection
# Facility Introduction & Summary

| PART I: Information gathered prior to sampling event | |
|---|---|
| **Prepared By:**<br>Edward Jamro | **Contact Number:**<br>(904) 256-1617 |
| **Facility Name (as it appears on permit):**<br>Blacks Ford WRF | **Former Names:** |
| **NPDES Permit Number:**<br>FL0174441 | **Permit Expiration Date:**<br>January 10, 2016 |
| **Physical Address:**<br>1310 – 100 Roberts Road<br>Julington Creek, Florida 32259 | |
| **District:**<br>NED | **County:**<br>St. Johns |
| **Function of Facility:**<br>Treat domestic wastewater for public access reuse or discharge to Blacks ford Area Wetlands (WBID-2411). | |
| **Facility Type:**<br>Domestic Wastewater | **Permitted Capacity (MGD):**<br>3.0 |
| **Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months):** ***based on data in PCS on 10/09/14 for D001.***<br>1.348 MGD from 09/2013 – 08/2014. | |
| **If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):** ***Based on data in WAFR on 10/09/14 for R001.***<br>0.612 MGD from 09/2013 – 08/2014. | |
| **Description of type of Discharge: Continuous operation**<br>☐ **Continuous** ☒ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**<br>@ D001 if reuse happening | |

**Description of Sampling Location(s) - actual permit designation of permitted sampling point(s):**

| | |
|---|---|
| EFF-1 | Effluent sample point at the final treatment and prior to discharge to the wetland. |
| WIM- 1 | Sample point at the wetland internal monitoring point BF1, immediately downstream of the point of discharge to the wetland |
| WIM-2 | Sample point at the wetland internal monitoring point BF2, in the approximate geographic middle of the wetland. |
| WIM- 3 | Sample point at the wetland internal monitoring point BF3, in the approximate geographic middle of the wetland. |
| WEP- 1 | Sample point at the wetland internal monitoring point BF4, at the point of discharge from the wetland. |

**Description of Permitted Outfall(s): Surface Water Discharge:**

A 2.0 MGD annual average daily flow (AADF) permitted discharge to Blacks Ford Wetlands (Class III fresh waters – Receiving wetland) WIBD 2411 at Discharge Location (D-001) which includes five (5) distribution boxes covering 1000 lineal feet of perforated pipe. The Discharge D-001 is located approximately at latitude 30 º 04' 20" N, longitude 81 º 34' 33" W.

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

An existing 3.0 million gallon per day (MGD) annual average daily flow (AADF) permitted-capacity sequential batch reactor (SBR) activated sludge wastewater treatment facility (WWTF) consisting of the following major treatment processes:

a. Pretreatment Unit Processes: The pretreatment unit processes comprise an influent pump station equipped with one (1) step – screen unit (Huber mechanical step-screen) (3.0 feet channel width and 0.25-inch bar spacing), one (1) manual by-pass bar screen, a biological odor control system, which has a capacity of 400 cfm, and an influent equalization tank which has a diameter of 150 feet diameter, a side water depth of 19 feet, and a volume of 2.50 million gallon (Mgal) volume;
b. Biological Treatment Processes: The plant utilizes an activated sludge process designed to operate under non-steady state conditions via four (4) sequential batch reactors (SBR) with the total volume of 3.7 million gallons (including mixing for nitrogen removal, aeration, and sedimentation). Each SBR is equipped with an in-tank fluid and aeration mixing system, a fixed decanter, and a motive pump. Also with the system are electrical-operated motorized valves, manual valves, interconnecting piping, and a process controller with the process control software.
c. Air Distribution System: There are five (5) 125 HP process air blowers;
d. Equalization Tank: There is one (1) 0.333 Mgal effluent equalization tank;
e. Filtration System: The facility is equipped with four (4) cloth media disk filter units. Each disk has a total area of 215.2 $ft^2$ which provides an average hydraulic capacity of 1.0 MGD and peak flow capacity of 2.0 MGD.
f. Ultraviolet Disinfection System: The UV disinfection system consists of three (3) concrete ultraviolet (UV) disinfection channels (Each channel, 24.5-in in width, 51.0-ft in length, and 72.0-in depth, is sized for 2.5 MGD.) and install UV system (AQUARAY® 40HO VLS system). The UV system consists of 20 modules (10 modules in series in each channel), with 40 lamps in each module, providing a minimum UV transmission of 55 % at 254 nanometers (nm) and a minimum UV dose of 100.9 mW-s/cm2;
g. Reclaimed Storage and Transfer Station: The system consists of one reclaimed water storage tank (2.5 Mgal) and an effluent pump station consisting of 3 vertical turbine pumps (two operating and one standby; each pump is sized to pump 3,000 gpm at a TDH of 55 ft);
h. Digestion system: There is on 0.465 million gallon aerobic digester which is stored the biosolids before transferring to JEA – Buckman RMF for further treatment or treated to meet Class B requirements;
i. Chemical Storage Station: There is a chemical storages (for storage of acid acetic, alum ($Al_2(SO_4)_3 \cdot 12H_2O$) solution, sodium hypochlorite, etc. and feed facilities (pumping systems).

Reuse of reclaimed water via spray irrigation to public access reuse sites is used as a primary method disposal of the effluent. The surface water discharge (discharge to Blacks Ford Wetland) will be used as an alternative disposal method. The domestic biosolids are either transported to the JEA – Buckman RMF for further treatment and final disposal or treated to meet Class B requirements and land applied.

**I.A.1**. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge effluent from Outfall D-001 to Blacks Ford Wetlands (Class III Fresh Water - Receiving wetlands) WBID 2411. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.D.7:

| - | - | - | Limitations | | Monitoring Requirements | | | - |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | **Statistical Basis** | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| Flow to the Receiving Wetland | MGD | Max | 2.0 | Annual Average | Daily (7 days/Week) | Calculation | CAL – 1 | See Cond I.A.4 |
| | | Max | Report | Monthly | | | | |
| Cumulative Number of Days Discharge | Days/Mon | Max | Report | Monthly | Daily (7 days/Week) | Calculation | CAL – 2 | See Cond. I.A.5 |
| BOD, Carbonaceous 5-day, 20ºC | mg/L | Max | 5.0 | Annual Average | Weekly | 24-hour flow proportioned composite | EFF – 1 | |
| | | Max | 6.25 | Monthly Average | | | | |
| | | Max | 7.25[(a)] | Weekly Average | | | | |
| | | Max | 10.0 | Single Sample | | | | |
| Total Suspended Solid | mg/L | Max | 5.0 | Annual Average | Weekly | 24-hour flow proportioned composite | EFF – 1 | |
| | | Max | 6.25 | Monthly Average | | | | |
| | | Max | 7.25[(a)] | Weekly Average | | | | |
| | | Max | 10.0 | Single Sample | | | | |
| pH | S.U. | Min | 6.0 | Single Sample | Continuous | Meter | EFF – 1 | See Cond I.A.3 |
| | | Max | 8.5 | Single Sample | | | | |
| Ultraviolet Light Intensity | $\mu W/Cm^2$ | Min | Report | Single Sample | Daily 7days/Week | Instrument | EFF – 2 | See Cond I.A.7 |
| Ultraviolet Light Dosage | $MW-S/Cm^2$ | Min | Report | Single Sample | Daily 7days/Week | Meter | EFF – 2 | See Cond I.A.7 |

| - | - | - | Limitations | | Monitoring Requirements | | | - |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | **Statistical Basis** | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| Ultraviolet Light Transmittance | Percent | Min | Report | Single Sample | Daily 7days/Week | Calculation | EFF – 2 | See Cond I.A.7 |
| Coliform, Fecal | #/100mL | Max | 200 | Annual Average | Weekly | Grab | EFF – 1 | See Cond I.A.6 |
| | | Max | 200 | Monthly Geometric Mean | | | | |
| | | Max | 400 | 90th Percentile | | | | |
| | | Max | 800 | Single Sample | | | | |
| Nitrogen, Total (as N) | mg/L | Max | 3.0 | Annual Average | Weekly | 24-hour flow proportioned composite | EFF – 1 | |
| | | Max | 3.75 | Monthly Average | | | | |
| | | Max | 4.5[(a)] | Weekly Average | | | | |
| | | Max | 6.0 | Single Sample | | | | |
| Ammonia, Total (as N) | mg/L | Max | Report | Annual Average | Weekly | 24-hour flow proportioned composite | EFF – 1 | |
| | | Max | 2.0 | Monthly Average | | | | |
| | | Max | Report | Weekly Average | | | | |
| | | Max | Report | Single Sample | | | | |
| Phosphorus, Total (as P) | mg/L | Max | 1.0 | Annual Average | Weekly | 24-hour flow proportioned composite | EFF – 1 | |
| | | Max | 1.25 | Monthly Average | | | | |
| | | Max | 1.50[(a)] | Weekly Average | | | | |
| | | Max | 2.0 | Single Sample | | | | |

| - | - | - | Limitations | | Monitoring Requirements | | | - |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | **Statistical Basis** | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| Chronic Whole Effluent Toxicity, 7-Day $IC_{25}$ (*Ceriodaphnia dubia*) | percent | Min | 100 | Single Sample | Semi-annually | 24-hr flow proportioned composite | EFF – 1 | See Cond I.A.9 |
| Chronic Whole Effluent Toxicity, 7-Day $IC_{25}$ (*Pimephales promelas*) | percent | Min | 100 | Single Sample | Semi-annually | 24-hr flow proportioned composite | EFF – 1 | See Cond I.A.9 |
| Acute Whole Effluent Toxicity, 96-Hr $LC_{50}$ (*Ceriodaphnia dubia*) | percent | Min | 100 | Single Sample | Semi-annually | 24-hr flow proportioned composite | EFF – 1 | See Cond I.A.10 |
| Acute Whole Effluent Toxicity, 96-Hr $LC_{50}$ (*Cyprinella leedsi*) | percent | Min | 100 | Single Sample | Semi-annually | 24-hr flow proportioned composite | EFF – 1 | See Cond I.A.10 |

*Note [(a)]: The weekly limit is applicable only when two or more sample is taken within a given week.*

**I.A.**

3. During the period of required operator attendance hourly measurement of pH may be substituted for continuous measurement, *[Chapter 62-601, Figure 2]*

4. Flow (effluent discharge) to Blacks Ford Wetlands from the Outfall D-001 shall be calculable based on the differences between flow through the WWTF measured at PPI-1 (Sample point immediately after the effluent equalization and prior to the filtration) and flow to the public access reuse system measured at EFA – 2 (Sample point at the reuse water pump station prior to transmission to the reuse system.).

5. Cumulative number of days in a calendar month on which the effluent is discharged from Outfall D – 001 shall be reported on the DMR. A daily discharge is defined when the discharge occurs for 6.0 (six) hours or more per day.

6. The effluent limitation for the monthly geometric mean for fecal coliform is only applicable if 10 or more values are reported. If fewer than 10 values are reported, the monthly geometric mean shall be calculated and reported on the Discharge Monitoring Report. *[62-600.440(4)(c)]*

7. The facility shall provide ultraviolet (UV) disinfection. This UV system shall be monitored on a daily basis and the intensity and unit operation shall be verified. The operation and maintenance shall be performed on a regular basis in accordance with the manufacturer recommended factor of safety. Daily record keeping, routine cleaning and daily system checks shall be performed. *[62-600.440 (4)]*

8. The Florida water quality criteria and standards shall not be violated as a result of the discharge. *[62-620.320(9)] & [62-302.530]*

9. **Chronic Whole Effluent Toxicity Monitoring. – see top of page 13.**

10. **Acute Whole Effluent Toxicity Monitoring - see top of page 13.**

**I.B. Wetlands Operational Monitoring Program**

1. During the period beginning on the issuance date and lasting through the expiration date of the permit, the permittee is authorized to discharge effluent to the Blacks Ford receiving wetland. The Permittee, JEA, shall monitor water quality, sediment, and biota within and from the receiving wetlands. Such reclaimed water shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.D.7.:

| | | | Limitations | | Monitoring Requirements | | | |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | Statistical Basis | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| Stage | Feet | Range | Report | Single Sample | Continuously | Instrument | WEP – 1 | |
| Nitrogen, Total as N | mg/L | Max | 3.0 | Annual Average | Monthly | Grab | WEP – 1 | |
| | | Max | Report | Monthly Average | | | | |
| Total Ammonia, as N | mg/L | Max | Report | Annual Average | Monthly | Grab | WIM – 1[(b)] WEP – 1 | |
| | | Max | Report | Monthly Average | | | | |
| | | Max | - | Weekly Average | | | | |
| | | Max | Report | Single Sample | | | | |
| Temperature (ºC), Water | Deg ºC | Max | Report | Single Sample | Monthly | Meter | WIM – 1[(b)] WEP – 1 | |
| Unionized Ammonia as N | mg/L | Max | Report | Annual Average | Monthly | Calculated | CAL – 3 | See Cond I.B.4 |
| | | Max | 0.02 | Monthly Average | | | | |
| | | Max | - | Weekly Average | | | | |
| | | Max | Report | Single Sample | | | | |

| - | - | | Limitations | | Monitoring Requirements | | | - |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | Statistical Basis | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| Phosphorous, Total as P | mg/L | Max | Report | Annual Average | Monthly | Grab | WEP – 1 | |
| | | Max | 0.2 | Monthly Average | | | | |
| | | Max | - | Weekly Average | | | | |
| | | Max | Report | Single Sample | | | | |
| pH | S.U. | Min | 6.0 | Single Sample | Quarterly | Meter | WIM – 1[(b)] WEP – 1 | |
| | | Max | 8.5 | Single Sample | | | | |
| Dissolve Oxygen (DO) | mg/L | Min | Report | Single Sample | Quarterly | Meter | WIM – 1[(b)] WEP – 1 | |
| Specific conductance | µmhos/cm | Max | Report | Single Sample | Quarterly | Meter | WIM – 1[(b)] WEP – 1 | |
| $CBOD_5$ | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Total Suspended Solids | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Total Phosphorous, as P | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] | |
| Total Kjeldahl Nitrogen, as N | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Total Ammonia, as N | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Nitrite + Nitrate, as N | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Sulfate ($SO_4$), as S | mg/L | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Fecal Coliform | #/ 100mL | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |

| - | - | | Limitations | | Monitoring Requirements | | | - |
|---|---|---|---|---|---|---|---|---|
| Parameter | Units | Max/ Min | Limit | Statistical Basis | Frequency of Analysis | Sample Type | Monitoring Site Number | Notes |
| | | | | | | | | |
| Chlorophyll a | MG/cubic meter | Max | Report | Single Sample | Quarterly | Grab | WIM – 1[(b)] WEP – 1 | |
| Sediment Sulfide ($S^{2-}$), as S | mg/L | Max | Report | Single Sample | Annually | Grab | WIM – 1[(b)] WEP – 1 | |
| Woody Vegetation | Yes or No (Yes = 1 No= 0) | - | - | - | Once every five years | Grab | WIM – 1 | See Cond I.B.6 |
| | | | | | Annually | Grab | WIM – 2 WIM – 3 | |
| Herbaceous Vegetation-- Line Intercept Method | Yes or No (Yes = 1 No= 0) | - | - | - | Once every five years | Grab | WIM – 1 | See Cond I.B.7 |
| | | | | | Semi-annually | Grab | WIM – 2 WIM – 3 | |
| Threatened and Endangered Plant and Animal Species List | Yes or No (Yes = 1 No= 0) | - | - | - | Annually | Grab | WIM – 1 WIM – 2 WIM – 3 | See Cond I.B.8 |

Note [(b)]: The water quality samples collected downstream, physically accessible, and relatively close to the point discharge to the wetland can be used as alternative for the water quality samples collected at Transect 1 (WIM -1).

**I.B. 3.** Forty-eight hour, dawn to dusk, maximum of four hour interval. *[62-611.700(1) Table 3]*

4. Un-ionized ammonia shall be calculated based on a separate single grab sample for total ammonia. The pH and temperature at the time of the grab sample shall be used for the calculation and reported on the DMR. [62-302.530(3)]

5. The discharge of reclaimed water to the receiving wetlands shall:

   - Minimize change in the natural hydroperiod of the wetlands. *[62-611.350(1)]*

   - Preserve or enhance the type, nature, and function of the wetlands. *[§ 373.414 (4), F.S.]*

6. Canopy and subcanopy woody vegetation shall be surveyed in each of the three quadrants along Transects 2 and 3 (WIM – 2 and WIM – 3 ) as identified in the baseline monitoring report. The importance value of each of the species shall be calculated and compared to the baseline

monitoring report. The importance value of any of the most common species in the canopy and subcanopy as averaged over the three quadrants at any station shall not be reduced by more than 50 percent. In addition, the average importance value for all six quadrants of any of the most common plant species occupying the canopy or subcanopy stratum shall not be reduced by more than 25 percent. Transect 1 (WIM – 1) as identified in the baseline report shall be monitored for woody vegetation one time of the permit cycle and within 24 months of the expiration date of the permit. The Department reserves a right to change frequency monitor for woody vegetation at the Transect 1 to properly evaluate impact of the discharge to the wetland. *[62-611.700(1)Table 3 & 62-611.500(3)(d)1]*

7. Herbaceous vegetation shall be surveyed with the line-intercept method along each of Transects 2 and 3 as identified in the baseline monitoring report. Transect 1 (WIM – 1) as identified in the baseline report shall be monitored for herbaceous vegetation one time of the permit cycle and within 24 months of the expiration date of the permit. The Department reserves a right to change frequency monitor for herbaceous vegetation at the Transect 1 to properly evaluate impact of the discharge to the wetland. The permittee may submit a writing request (permit modification application) for a modification in the frequency of the monitoring this parameter based on a demonstration that there is an adequate data base to predict future trends in the effects of discharge of reclaimed water on the wetland *[62-611.700(1) Table 3]*

8. The threatened and endangered species list shall be updated annually based on qualitative observations of flora and fauna.

   *[62-611.700(1)Table 3]*

9. Monitoring results exceeding the requirements defined in 6. above may or may not be considered to be in compliance with the provisions of 62-611 FAC depending on the circumstances that have caused changes in the woody vegetation. If the results of the field monitoring program indicate that the criteria established in 5. above are exceeded, the permittee shall promptly schedule a meeting with the Department to discuss what, if any, remedial measures or modified permit requirements may be required to prevent future impacts. As necessary, the permit may be reopened and modified to include additional requirements to ensure compliance with the provisions of 62-611 FAC as well as a compliance schedule to implement such additional requirements.

10. Stage is used to determine flow and is required only at the point of discharge from the wetland. *[62-611.700(1) Table 3]*

11. Public access to the receiving wetlands shall be restricted, and the permittee, JEA, is responsible to restrict public access to the receiving wetlands. *[62-611.600(6)]*

12. Vegetation reductions or changes resulting from management operations authorized by the Department or events such as fire or a hurricane shall not constitute a violation. *[62-611.500(3)]*

13. The permittee shall submit an annual wetland summary report. The summary report shall include a site description, including a site map showing the point of discharge, location monitoring stations, and general flow patterns in the wetland, and biological monitoring summary. Summary discussion topics should include, but not limited to, the following: *[62-611.700(2)]*

    - Evaluation of the data in regard to rule criteria;
    - Interpretation of the data results;

- Specific comments concerning each potential exceedance of the criteria;
- Influent of the wastewater discharge on the wetlands and its effects on the type, nature and function of the wetlands (e. g. regeneration, growth, and sustainability of woody species, macroinvertebrate community presence and location; presence and biomass of fish species; and hydrologic variability)

The "Annual Wetlands Monitoring Summary Report" is due on January first of each year and will be sent to the District Office and to the Domestic Wastewater Section.

## PART I: Continued

| **Receiving Waters:** | **Classification (indicate whether fresh or marine):** |
|---|---|
| Blacks Ford Wetlands (Swamp) | Class III, Fresh waters – WBID 2422 /2431/2411 |

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

**Toxicity: -017 Current permit (issued 01/11/2011, revised 4/04/11, expires 01/10/16) requires semi-annual 7-day chronic definitive tests with 24-hr FPC samples and freshwater species (*C.dubia* and *P.promelas*). Test concentrations are 100%, 50%, 25%, 12.5% and 6.25% final effluent. Chronic tests if > 5 consecutive days of discharge or > 15 total days per month, otherwise acute tests are run. [Permit text shows grabs for acutes, but table I.A.1 shows 24-hr FPC. We meant grabs.] Two additional definitive tests are required if either the 7-day $IC_{25}$ < 100% or 96-hr LC50 < 100% final effluent, per species.**

**Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):** There are no open AO's or CO's.

**Facility Mixing Zone Details (if applicable):** NONE

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

Based on PCS & WAFR data – January 2013 to August 2014

| Date – Month/Yr | Parameter and Units | Limit | Result |
|---|---|---|---|
| D001 – 09-2013 | pH – SU | 6.0 (min) | 5.41 |
| R001 – 07-2013 | TSS – mg/l | 5.0 | 5.4 |
| R001 – 08-2013 | Fecal Coliform - #/100mls | 25 | 35 |
| R001 – 11-2013 | Fecal Coliform - #/100mls | 25 | 160 |
| R001 – 03-2014 | TSS – mg/l | 5.0 | 6 |

**Describe previous FYI and WQBEL study:**

1. Description of Receiving Water:

- The Blacks Ford Swamp (Blacks Ford Wetlands) is located approximately 5 miles east of Switzerland, Florida. The Blacks Ford Swamp is a 311-acre freshwater, forested wetland that includes about 136 acres of mixed deciduous swamp, 140 acres of logged forest, and 35 acres of mature loblolly bay forest. Blacks Ford Swamp flows south into the headwaters of the west branch of Trout Creek, which discharge to the St. Johns River approximately 2.5 miles south of the Shands Bridge (SR 16).

- Blacks Ford Swamp (WBID 2422), Trout Creek (WBID 2431), and the segment of St. Johns River (WBID 2411) are Class III predominantly fresh waters.

  In accordance with the Amended Decision Document Regarding Florida Department of Environmental Protection's Section 303(D) List Amendments For Basin Groups 1, 2, and 5, September 2009:

  - The WBIDs 2411 is not in impaired water Group 2 – September 2009 303(d) Lists.
  - The WBID 2431 (Trout Creek) is listed dissolved oxygen (DO) as a parameter of concern in the Group 2 – September 2009 303(d).
  - The WBID 2411(St. Johns River at Sixmile Creek) was listed for DO, lead, silver **and nutrient** (Chlorophyll-a) as concerned parameters in the impaired water Group 2 – 1998 303(d) Lists.

  The water in this waterbody remains on the September 2009 – 303(d) List for DO and nutrients. (Lead and silver were being delisted).

- Hydraulic Conditions:

  Hydrologic condition of the Blacks Ford Swamp -- Low Flow 7Q10 = 0.16 cfs

  Hydraulic condition of Trout Creek: - Low Flow 7Q10 = 0.0 cfs

2. Discussion on the limitations:

The limits in this permit are based in part on information received in the application, the wastewater characterization reported on the DMR, the results of Third-Year inspection, information received on the permit renewal application, and the receiving water body characterizations. The limits necessary to meet the rules and regulations of the Code of Federal Regulations (CFR) 40 and State of Florida were determined and included in this permit.

a. Technology-Based Effluent Limitations (TBELs)
Blacks Ford WRF, a municipal wastewater treatment facility, is a category of discharger for which technology-based effluent limits have been promulgated by federal and state regulations. These regulations are performance standards that constitute all known available and reasonable assurance of prevention, control, and treatment for municipal wastewater.
The limitations and conditions of the pH and fecal coliform levels have been developed to comply with the technology-based standards of the Clean Water Act.

b. Water Quality Based Effluent Limitation (WQBEL)

- Discussion on impact of conventional pollutants (CBOD5, TSS, TN and TP) on receiving waterbody downstream of the discharge:
  Annual average limits for CBOD5, TSS, TN, and TP were established pursuant with requirements of Rule 62-611.420, FAC, which is effluent discharged to a receiving wetland must be treated to meet a minimum of AWT levels (5mg/L of CBOD5, 5 mg/L of TSS, 3 mg/L of TN, and 1 mg/L of TP) and minimum of basic disinfection level.
- Discussion on impact of heavy metals (Aluminum, Arsenic, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Nickel, Selenium, Silver, and Zinc) on the receiving waterbody downstream of the discharge:
  * Results of the Department's Sampling Inspection conducted on July 21, 2008 indicates that the concentrations of the above listed metals were either below the MDL or in compliance with the Florida Water Quality Criteria (WQC).

- The data listed in the Expanded Effluent Testing (Application Form 2A) show that concentrations of the metals were at level that complied with the fresh water quality standard, except for silver. The report show average and maximum concentrations of silver were 0.43 ug/L and 1.3 ug/L, which exceeded the Florida water quality criterion for silver (0.07 ug/L). Further review the date, one can find that the maximum and average concentrations of silver were reported based on results of the three sample events:

| Sample Event # | Result (µg/L) | MDL/PQL (µg/L) |
|---|---|---|
| 1 | 0.02 U | 0.02 |
| 2 | 2.5 U | 2.5 |
| 3 | 0.05 U | 0.05 |

The Sample Event # 2 collected on the November 16, 2007 was analyzed with a method using high MDL (2.5µg/L). Although result showed silver was not detectable, it could not determine that whether the effluent sample was in compliance with the water quality criterion for silver. Therefore, JEA re-samples for silver on February 23, 2010 and result shows that silver was 0.0538U which was below the silver criterion. Thus, monitoring for silver is not required.

Expanded Effluent Testing Data show that the maximum concentration of mercury was 0.013 ng/L. The data show that concentration of mercury in the effluent was at level that complied with the fresh water quality standard (maximum 25.0 ng /L). There is no evidence to show that the discharge would or will impact the mercury level of the water bodies. The facility is not required to monitor for mercury.

3. Discussion of impact of the discharge (CBOD5 and nutrients) on dissolved oxygen (DO) concentration of receiving waterbody downstream of the wetland.

Although DO is listed as a parameter of concern in WBID 2434 (Trout Creek, downstream of the Blacks Ford Wetland and WBID 2411 (St. Johns River at Sixmile Creek), there is no sign of impact of discharge to DO concentration of the receiving water downstream if the wetland. In fact the effluent has treated to meet AWT before discharging to the wetlands. Data reported in the DMR shows that the average, median and maximum monthly average concentrations of CBOD5 in the effluent discharged from the outfall D-001 to the wetland were 2.48 mg/L, 2.20 mg/L and 6.8 mg/L, respectively. Data reported also shows that the average, median and maximum monthly average concentrations of CBOD5 in the effluent discharged from the wetland measured at WEP-1 to the Trout Creek were 2.05 mg/L, 2.00 mg/L and 2.10 mg/L, respectively. Data shows that the average, median and maximum monthly average concentrations of TKN in the effluent discharged from the wetland measured at WEP-1 to the Trout Creek were 1.78 mg/L, 1.05 mg/L and 4.55 mg/L, respectively.

Also the fact that Trout Creek is a stream, reaches directly downstream from Backs Ford Wetland, may reflect the naturally low DO concentrations found in wetlands.

- Whole effluent toxicity testing:

In order to provide reasonable assurance that the discharge will not adversely affect the designated use of the receiving water, whole effluent toxicity testing is required. Based on the good history toxicity compliance, the facility is required to conduct semi-annually chronic toxicity testing.

4. Considerations of impact of WWTF Effluent Constituents (CBOD5, total ammonia, and total nitrogen) on the Black Ford Swamp.

i. Impact of the effluent to the quality of the water leaving Blacks Ford Wetland can be estimated from the inflow quality, hydraulic loading rate, and ambient temperature. The method used to predict effluent quality from the wetland is based on the Mass Balance Design Model which is described in Treatment Wetlands by Robert H. Kadlec and Robert L. Knight (1996). The modified, first-order model shown below was found to be effective in describing the reductions commonly observed in wetlands:

$$Co = Cb + (Ci - Cb)EXP\left(-\frac{K}{HLR}\right)$$

Where:

Co = Outflow pollutant concentration from the wetlands, (mg/L)

Cb = Wetland background or ambient pollutant concentration, (mg/L)

Ci = Inflow pollutant concentration to the wetlands (mg/L)

HLR = Hydraulic loading rate = Flow /Wetland Area = Q/A, (m/yr)

K = 1st-order pollutant removal rate constant, meters per year, (m/yr)

*The mean K value for forested North American wetlands can be found in The Treatment Wetlands (Kadlec and Knight, 1996), (Chapter 12, 13and 14 ),.*

The model was organized in a spreadsheet to determine what wetland outflow pollutant concentrations (Co) would be appropriate for a given inflow pollutant concentrations. The model was run at a hydraulic loading rate of 2.28 m/yr (2.0 MGD of effluent on 311acres of the wetland area) and the results are summarized in the below table:

| Parameters | K (m/y) | Ci (mg/L) | Cb (mg/L) | Co (mg/L) |
|---|---|---|---|---|
| CBOD5 (mg/L) | 34 | 5.00 | 2.00 | 2.00 |
| Total NH3(mg/L) | 22 | 2.00 | 0.04 | 0.04 |
| TN (mg/L) | 22 | 3.00 | 1.10 | 1.10 |

Results of the calculations indicate that input of CBOD5, TN, and ammonia from the effluent do not increase outflow concentrations these parameters from the wetland.

ii. Total Phosphorous Limit in Discharge from Receiving Wetland:

In accordance with Rule 62-611.450(1) FAC, the limit of total phosphorous discharge to the wetland is currently waived until such time the facility completes and places into service AWT treatment capabilities. Also, the limit of total phosphorous discharge from the wetland is waived until there is demonstration that phosphorus is the limiting nutrient or contaminant. In the meantime, total phosphorus will be monitored monthly at the discharge from the wetland as a report only value.

iii. The fish monitoring requirements were deleted from the previous permit and continue not to be required because only *Gambusia affinis* was found present in the wetland during the baseline monitoring.

iv. The Blacks Ford WRF effluent is not directly discharged to St. Johns River. This facility does not have a Waste Load Allocation (WLA) in the currently adopted Lower St. Johns River TMDL. However, the permit contains a clause to re-open the permit if the Department develops a TMDL during the life of the permit that includes a WLA for this facility.

**In Conclusion:**

**Reasonable assurances to issue the permit revision were demonstrated:**

- **Applicable water quality standards will be maintained.**
- **The discharge will not be expected to considerably increase the nutrient levels in the receiving waters.**
- **Existing uses will be maintained in the receiving waters.**
- **Discharge to the Blacks Ford Wetland will become a backup discharge when the reclaimed water reuse system completed and placed into service.**

**Describe previous or current Enforcement Actions (including WLs): NONE**

No warning Letters or Consent Orders since 2009. Pre-2007 CO and AO closed.

**Describe any violations or problems noted in previous inspection:**
None in past year.
Inspection conducted on 5/22/2013 resulted in In-Compliance rating.
The composite samplers were not FPC and were upgraded. The UV light dosage was being reported incorrectly (units off by factor of 1000) but these were also corrected.

**Discuss whether DMR trends within previous five years are improving or declining:**
**5-year trends were reviewed in PCS.**
Effluent TSS appears to be trending downward.
Effluent flow and effluent ammonia appear to be trending upward.

**Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):**
Flows are starting to increase due to more development and to rerouting of flows from other JEA WWTP's.
Higher flows may be affecting odors at site

## PART II: Sampling Event Information

| | |
|---|---|
| **Date(s) sample collected:**<br>Start December 15, 2014 - planned | **Sampler(s):**<br>Sharon Piltz, Jann Gruentzel |
| **Temperature (Deg C):**<br>**20.55** | **pH (SU):**<br>6.83 |
| **Dissolved Oxygen (mg/L):**<br>**3.98** | **Conductivity (umhos/cm):**<br>1401 |
| **Total Residual Chlorine (mg/L):**<br>NA | **Total Residual Chlorine - after Disinfection (mg/L):**<br>NA |
| **Method of Chlorination:**<br>NA | **Method of De-chlorination:**<br>NA |

**Flow During Sample Collection for each outfall(MGD):**

EFA-1 12/15/14 – 2.095 MGD
12/17/14 – 2.078 MGD
12/19/15 – 2.012 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):**

1.367 MGD (Dec 30 2013 – Nov 30 2014)

**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:**

Flow decreased during the time the composite sampler was in place so the tubing was no longer in the water. All samples were switched over to grabs and there were no composite samples taken at this facility for this sampling event.

## Appendix C

## 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/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.

**(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) Algal Growth Potential (AGP)**

The algal growth potential (AGP) value is the peak growth of the alga within that 14-day period, recorded as mg dry weight/L. Raschke and Shultz (1987) found that an AGP above 5.0 mg dry weight/L represents a “problem” threshold for fresh receiving waters, implying nutrient enrichment. High AGP values may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(b), F.A.C.

The concentration of nutrients in a water sample may be used to calculate the expected yield of AGP under the assumption that other required nutrients (e.g. silicon, micronutrients) are present in excess (Miller *et al*. 1978). The expected amount of production is calculated as 38 times the total soluble inorganic nitrogen (nitrate and nitrite plus ammonia) under nitrogen limitation or 430 times the ortho-phosphate (OP) concentration under phosphorus limitation with an error of $\pm$ 20%. When the ratio of nitrogen to phosphorus (N: P) is less than 10:1, nitrogen limitation of algal production is likely. When the N: P ratio is 20:1 or greater, phosphorus limitation is likely (USEPA 2000). For ratios in-between, co-limitation may occur. Production of lower biomass than expected may be evidence of growth inhibition related to toxic compounds present in the water sample tested and may constitute an exceedance of 62-302.530(61), F.A.C.

**(6) 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.

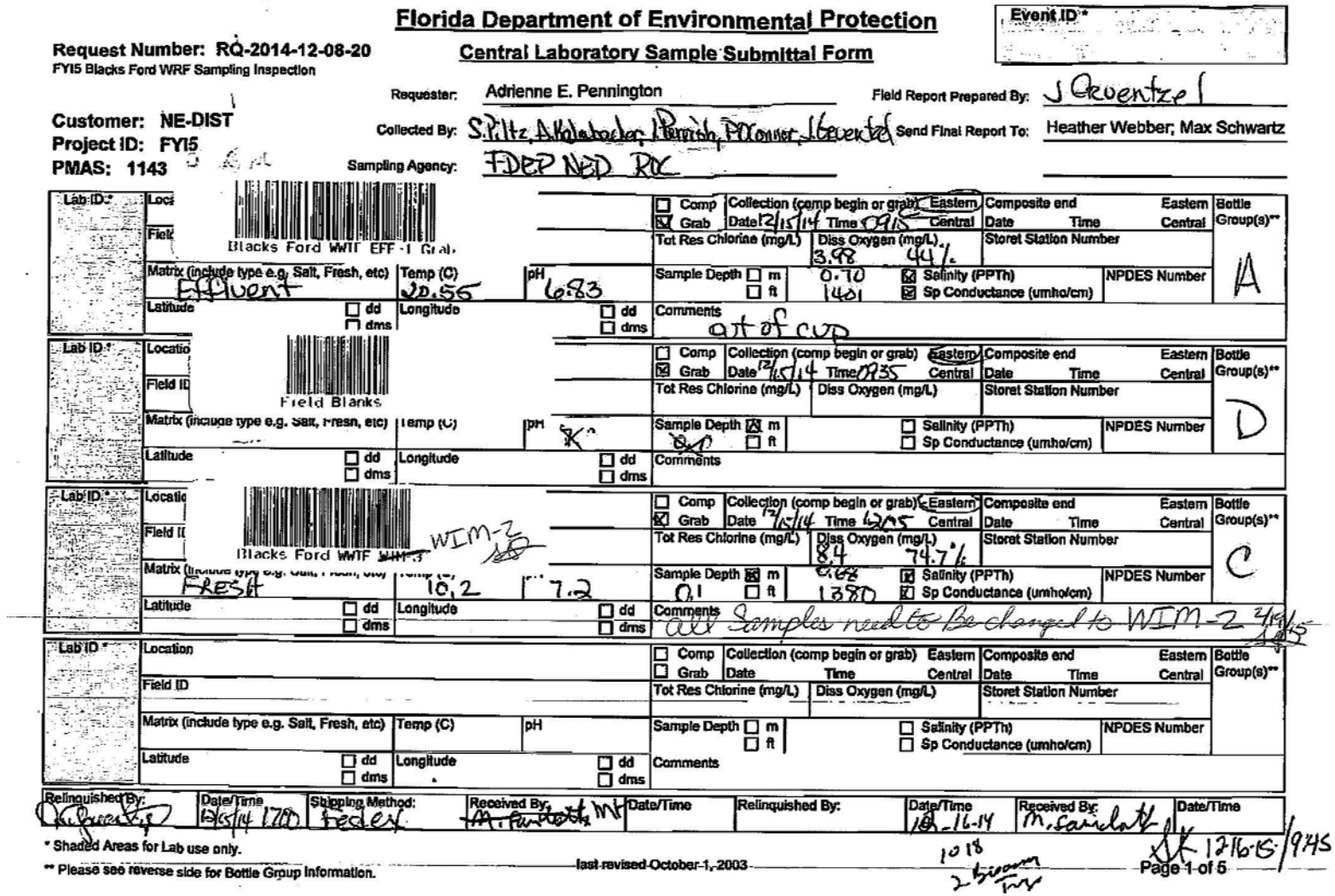
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate

Z - Colonies were too numerous to count (TNTC)

**(7) Florida Wetland Condition Index-Vegetation**

The Florida Wetland Condition Index-Vegetation (WCI-V) for isolated, forested wetlands is a biological assessment of wetland health conducted by sampling vascular plants along transects, identifying them to the species level, and calculating metric values based on attributes of the plant community that change predictably along an independent gradient of human disturbance. The index is calculated based on 6 metrics: percent tolerant indicator species, percent sensitive indicator species, percent exotic macrophyte species, average Coefficient of Conservatism (CC) score, percent native perennial species, and percent wetland status species. These metrics are calibrated for 4 ecoregions within the state including the Panhandle, North, Central, and South regions. The score is based on a 0-60 scale, with 60 representing high biological integrity. This current index is based on the Florida Wetland Condition Index (FWCI) developed by Reiss and Brown (2005) to provide a quantitative measure of the biological integrity of a wetland system.

**Appendix D**
**Chain of Custody**



**Florida Department of Environmental Protection**

**Central Laboratory Sample Submittal Form**

Event ID *

Request Number: RQ-2014-12-08-20
FY15 Blacks Ford WRF Sampling Inspection

Requester: Adrienne E. Pennington
Field Report Prepared By: J Gruentzel
Customer: NE-DIST
Project ID: FY15
PMAS: 1143
Collected By: S. Piltz, A. Holsbeke, Parrish, P. Conner, J. Gruentzel
Send Final Report To: Heather Webber; Max Schwartz
Sampling Agency: FDEP NED RO

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID * | Location: Blacks Ford WWTF EFF-1 Grab | ☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Date 12/15/14 Time 0915 Central | Composite end Date Time Eastern Central | Bottle Group(s)** |
| | Field ID | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) 3.98 44% | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc): Effluent | Temp (C): 20.56 | pH: 6.83 | Sample Depth ☐ m ☐ ft: 0.70 | ☒ Salinity (PPTh) 1401 ☒ Sp Conductance (umho/cm) | NPDES Number | A |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | Comments: at of CVP | | | |
| Lab ID * | Location: Blacks Ford WWTF Field Blanks | ☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Date 12/15/14 Time 0935 Central | Composite end Date Time Eastern Central | Bottle Group(s)** |
| | Field ID | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH: X | Sample Depth ☒ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | D |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | Comments | | | |
| Lab ID * | Location: Blacks Ford WWTF ~~WIM-3~~ WIM-2 | ☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Date 12/15/14 Time 0935 Central | Composite end Date Time Eastern Central | Bottle Group(s)** |
| | Field ID | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) 8.4 74.7% | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc): Fresh | Temp (C): 10.2 | pH: 7.2 | Sample Depth ☒ m ☐ ft: 0.1 | ☒ Salinity (PPTh) 1380 ☒ Sp Conductance (umho/cm) | NPDES Number | C |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | Comments: All Samples need to be changed to WIM-2 12/15/14 1035 | | | |
| Lab ID * | Location | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | Composite end Date Time Eastern Central | Bottle Group(s)** |
| | Field ID | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | Comments | | | |

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| J Gruentzel | 12/15/14 1700 | Fedex | M. Fawbush | | | 12-16-14 1018 | M. Sandlat | 12/16/15 0945 |

* Shaded Areas for Lab use only.
** Please see reverse side for Bottle Group Information.

last revised October 1, 2003

2 boxes TW

Page 1 of 5

# Florida Department of Environmental Protection

## Central Laboratory Sample Submittal Form

**Event ID ***

**Request Number: RQ-2014-12-08-20**
FYI5 Blacks Ford WRF Sampling Inspection

Requester: Adrienne E. Pennington
Field Report Prepared By: S. Piltz

**Customer: NE-DIST**
**Project ID: FYI5**
**PMAS: 1143**

Collected By: SPiltz
Send Final Report To: Heather Webber; Max Schwartz
Sampling Agency: NED ROC Dear

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID * | Lo [Blacks Ford WWTF EFF-1 Grab] | | | ☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Date 12/16/14 Time 0700 Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** A | | |
| | Fie | | | Tot Res Chlorine (mg/L) | | Diss Oxygen (mg/L) 3.58 | Storet Station Number | | | | |
| | Matrix (include type e.g. Salt, Fresh, etc) Effluent | Temp (C) 21.33 | pH 6.60 | Sample Depth ☐ m ☐ ft * | | 0.68 13.62 | ☒ Salinity (PPTh) ☒ Sp Conductance (umho/cm) | | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude | ☐ dd ☐ dms | Comments Out of Cap | | | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** | | |
| | Field ID | | | Tot Res Chlorine (mg/L) | | Diss Oxygen (mg/L) | Storet Station Number | | | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | | | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude | ☐ dd ☐ dms | Comments | | | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** | | |
| | Field ID | | | Tot Res Chlorine (mg/L) | | Diss Oxygen (mg/L) | Storet Station Number | | | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | | | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude | ☐ dd ☐ dms | Comments | | | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** | | |
| | Field ID | | | Tot Res Chlorine (mg/L) | | Diss Oxygen (mg/L) | Storet Station Number | | | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | | | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude | ☐ dd ☐ dms | Comments | | | | | | | |

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| | 12/19/14 | Fed Ex | | | | | S/C | 12-29-14/0900 |

* Shaded Areas for Lab use only.
** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Red cooler - 1 jug - 0.5°C
Red cooler - 2 jugs - 0.5°C

12.20.14 0900
C. Reichert

# Florida Department of Environmental Protection

## Central Laboratory Sample Submittal Form

**Event ID ***

**Request Number: RQ-2014-12-08-20**
FYI5 Blacks Ford WRF Sampling Inspection

Requester: Adrienne E. Pennington

Field Report Prepared By: S. Pitz

**Customer: NE-DIST**
**Project ID: FYI5**
**PMAS: 1143**

Collected By: S. Pitz / J. Gruentzel / A. Kalmbacher

Send Final Report To: Heather Webber; Max Schwartz

Sampling Agency:

Blacks Ford WWTF EFF-1 Grab

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lab ID * | Location | | | ☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Date 12/17/14 Time 0851 Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** |
| | Field ID | | | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | | A |
| | Matrix (include type e.g. Salt, Fresh, etc) EFF | Temp (C) 8.57 | pH 6.71 | Sample Depth ☐ m ☐ ft * | 0.68 | ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm) 1352 | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments taken out of cup * | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** |
| | Field ID | | | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** |
| | Field ID | | | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments | | | | | |
| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Date Time Central | | Composite end Date Time | Eastern Central | Bottle Group(s)** |
| | Field ID | | | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments | | | | | |

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| | 12/17/14 | FedEx | | | | | SK | 12-18-14 / 9:50 |

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

2 biossay bottles

1012 C. Reichert 12.18.14

# Florida Department of Environmental Protection

## Central Laboratory Sample Submittal Form

Event ID:*

**Request Number: RQ-2014-12-08-20**
FY15 Blacks Ford WRF Sampling Inspection

Requester: Adrienne E. Pennington
Field Report Prepared By: J. Gruentzel

**Customer: NE-DIST**
**Project ID: FY15**
**PMAS: 1143**

Collected By: S. Pitts, J. Gruentzel, A. Kalmbacher, J. Rivard, FDEP NED
Send Final Report To: Heather Webber, Max Schwartz

Sampling Agency: FDEP NED FOC

---

**Lab ID:*** Location: Blacks Ford ~~WWF-2~~ WIM3
Field ID:
Matrix (include type e.g. Salt, Fresh, etc): Fresh | Temp (C): 9.65 | pH: 7.06
Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms
☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Central: Date 12/18/14 Time 1030 | Composite end Eastern Central: Date Time
Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L): 7.43 66.2% | Storet Station Number
Sample Depth ☒ m ☐ ft: 0.1 | Salinity (PPTh): 0.65 | ☒ Sp Conductance (umho/cm): 1250 | NPDES Number
Bottle Group(s)**: C
Comments: All Samples need to be changed to #WIM-3 3/9/15

**Lab ID:*** Location: Blacks Ford WWTF WEP-1
Field ID:
Matrix (include type e.g. Salt, Fresh, etc): Fresh | Temp (C): 16.0 | pH: 7.30
Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms
☐ Comp ☒ Grab | Collection (comp begin or grab) Eastern Central: Date 12/18/14 Time 1245 | Composite end Eastern Central: Date Time
Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L): 8.3 75% | Storet Station Number
Sample Depth ☒ m ☐ ft: 0.3 | Salinity (PPTh): 0.57 | ☒ Sp Conductance (umho/cm): 1135 | NPDES Number
Bottle Group(s)**: C
Comments:

**Lab ID:*** Location:
Field ID:
Matrix (include type e.g. Salt, Fresh, etc): | Temp (C): | pH:
Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms
☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Central: Date Time | Composite end Eastern Central: Date Time
Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number
Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number
Bottle Group(s)**:
Comments:

**Lab ID:*** Location:
Field ID:
Matrix (include type e.g. Salt, Fresh, etc): | Temp (C): | pH:
Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms
☐ Comp ☐ Grab | Collection (comp begin or grab) Eastern Central: Date Time | Composite end Eastern Central: Date Time
Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number
Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number
Bottle Group(s)**:
Comments:

---

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| [signature] | 12/18/14 1500 | FedEx | | | | | SK | 12-19-14 9:39 |

* Shaded Areas for Lab use only.
** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 5

## Appendix E

## Chemical analysis of effluent and receiving water

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 8:50 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Specific Conductance | 1352 | umhos/cm | | |
| 12/17/14 8:50 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Temperature | 21.57 | C | | |
| 12/17/14 8:50 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | pH | 6.71 | | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | AGP/LN | Algal Growth Potential | 121.6 A | mg DryWt/L | 0.3 | 0.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Chlorophyll/Grain Size/BOD | Chlorophyll-a, Corrected | 0.92 I | ug/L | 0.55 | 1.7 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Chlorophyll/Grain Size/BOD | Biochemical Oxygen Demand-5 Day,N-Inhib | 2.1 | mg/L | 0.2 | 2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Chlorophyll/Grain Size/BOD | Phaeophytin-a | 0.40 U | ug/L | 0.4 | 1.2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Overflow | Fecal Coliforms-Membrane Filter | 2.0 U | cfu/100 mL | 2 | 2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Toxicology | Bioassay-Chron-Def-FW-Fish, NOEC | 100 | NOEC | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Toxicology | Bioassay-Chron-Def-FW-C.dubia, NOEC | 100 | NOEC | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Toxicology | Bioassay-Chron-Def-FW-C.dubia, IC25 | 100 L | IC25 | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Toxicology | Bioassay-Chron-Def-FW-Fish, IC25 | 100 L | IC25 | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Arsenic | 0.25 U | ug/L | 0.25 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Magnesium | 36.8 | mg/L | 0.04 | 0.16 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Aluminum | 68 | ug/L | 5 | 20 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Chromium | 0.44 I | ug/L | 0.3 | 1.2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Selenium | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Iron | 160 | ug/L | 30 | 120 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Copper | 0.50 U | ug/L | 0.5 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Nickel | 1.61 | ug/L | 0.25 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Silver | 0.025 U | ug/L | 0.025 | 0.1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Sodium | 150 | mg/L | 0.5 | 2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Calcium | 67.9 | mg/L | 0.075 | 0.3 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Lead | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Cadmium | 0.050 U | ug/L | 0.05 | 0.2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Zinc | 11 I | ug/L | 5 | 20 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Metals | Potassium | 15.3 | mg/L | 0.3 | 1.2 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Kjeldahl Nitrogen | 4.2 | mg N/L | 0.4 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Color (true) | 19 | PCU | 2.5 | 6 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Organic Carbon | 7.1 A | mg C/L | 0.5 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Chloride | 220 A | mg Cl/L | 2 | 5 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Fluoride | 0.55 | mg F/L | 0.035 | 0.1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Turbidity | 2.2 A | NTU | 0.1 | 0.1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Total-P | 0.52 | mg P/L | 0.005 | 0.05 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Sulfate | 200 A | mg SO4/L | 2 | 5 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | O-Phosphate-P | 0.36 | mg P/L | 0.04 | 0.1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | NO2NO3-N | 0.045 | mg N/L | 0.004 | 0.01 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Ammonia-N | 3.5 | mg N/L | 0.2 | 0.5 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Alkalinity | 147 A | mg CaCO3/L | 0.65 | 2.5 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Overflow | Sulfide | 1.0 U | mg/L | 1 | 1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Atrazine | 0.015 U | ug/L | 0.015 | 0.06 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Chlorpyrifos Methyl | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Demeton | 0.024 UJ | ug/L | 0.024 | 0.096 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Ethion | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Alachlor | 0.060 U | ug/L | 0.06 | 0.24 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Atrazine Desethyl | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Azinphos Methyl | 0.020 U | ug/L | 0.02 | 0.08 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Fonofos | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Metalaxyl | 0.040 U | ug/L | 0.04 | 0.16 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Naled | 0.040 UJ | ug/L | 0.04 | 0.16 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Prometryn | 0.020 U | ug/L | 0.02 | 0.08 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Chlorpyrifos Ethyl | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Sucralose | 58 | ug/L | 1 | 5 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Carbamazepine | 0.11 | ug/L | 0.0025 | 0.012 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Bromacil | 0.040 U | ug/L | 0.04 | 0.16 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Butylate | 0.020 U | ug/L | 0.02 | 0.08 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Disulfoton | 0.0050 U | ug/L | 0.005 | 0.02 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Phorate | 0.0050 U | ug/L | 0.005 | 0.02 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Prometon | 0.020 U | ug/L | 0.02 | 0.08 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Ametryn | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Atrazine Desisopropyl | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Diazinon | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Fenamiphos | 0.030 U | ug/L | 0.03 | 0.12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Hexazinone | 0.030 UJ | ug/L | 0.03 | 0.12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Metolachlor | 0.060 U | ug/L | 0.06 | 0.24 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Mevinphos | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Parathion Methyl | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Ethoprop | 0.0050 U | ug/L | 0.005 | 0.02 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Acetaminophen | 0.0083 I | ug/L | 0.0025 | 0.012 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Metribuzin | 0.020 U | ug/L | 0.02 | 0.08 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Norflurazon | 0.030 U | ug/L | 0.03 | 0.12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Parathion Ethyl | 0.020 U | ug/L | 0.02 | 0.08 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Malathion | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Pesticides | Simazine | 0.010 U | ug/L | 0.01 | 0.04 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,4-Dinitrophenol | 15 UJ | ug/L | 15 | 58 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,6-Dinitrotoluene | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Phenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Nitrobenzene | 1.9 U | ug/L | 1.9 | 7.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Diethyl phthalate | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 1.9 U | ug/L | 1.9 | 7.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2-Chloronaphthalene | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 39 UJ | ug/L | 39 | 160 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 1.9 U | ug/L | 1.9 | 7.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Pentachlorophenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Phenanthrene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,4-Dichlorophenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Anthracene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Butyl benzyl phthalate | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Di-n-octyl phthalate | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Naphthalene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,4-Dinitrotoluene | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2-Chlorophenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Fluorene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Isophorone | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2-Nitrophenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Acenaphthylene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzo(a)anthracene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Chrysene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Hexachloroethane | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | N-Nitrosodimethylamine | 1.9 U | ug/L | 1.9 | 7.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 0.97 U | ug/L | 0.97 | 3.9 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Di-n-butyl phthalate | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Dimethyl phthalate | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Hexachlorobutadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Acenaphthene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzidine | 97 U | ug/L | 97 | 390 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzo(a)pyrene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Fluoranthene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Hexachlorobenzene | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Hexachlorocyclopentadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 1.9 U | ug/L | 1.9 | 7.8 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 1,4-Dioxane | 0.64 | ug/L | 0.02 | 0.1 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Pyrene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 0.97 U | ug/L | 0.97 | 3.9 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 2,4-Dimethylphenol | 9.7 U | ug/L | 9.7 | 39 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | 4-Nitrophenol | 15 U | ug/L | 15 | 58 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.19 U | ug/L | 0.19 | 0.78 |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Specific Conductance | 1401 | umhos/cm | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | pH | 6.83 | | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Dissolved Oxygen | 3.98 | mg/L | | |
| 12/15/14 9:15 | Effluent Grab | Blacks Ford WWTF EFF-1 Grab | Nutrients | Temperature | 20.55 | C | | |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | AGP/LN | Algal Growth Potential | 39.8 | mg DryWt/L | 0.3 | 0.9 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Chlorophyll/Grain Size/BOD | Biochemical Oxygen Demand-5 Day,N-Inhib | 1.8 I | mg/L | 0.2 | 2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Chlorophyll/Grain Size/BOD | Phaeophytin-a | 1.3 | ug/L | 0.4 | 1.2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Chlorophyll/Grain Size/BOD | Chlorophyll-a, Corrected | 1.3 I | ug/L | 0.55 | 1.7 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Overflow | Fecal Coliforms-Membrane Filter | 490 | cfu/100 mL | 10 | 10 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Magnesium | 35.6 | mg/L | 0.04 | 0.16 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Calcium | 66.7 | mg/L | 0.075 | 0.3 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Nickel | 1.07 | ug/L | 0.25 | 1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Potassium | 13.7 | mg/L | 0.3 | 1.2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Cadmium | 0.050 U | ug/L | 0.05 | 0.2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Lead | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Copper | 0.50 U | ug/L | 0.5 | 1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Chromium | 0.36 I | ug/L | 0.3 | 1.2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Arsenic | 0.27 I | ug/L | 0.25 | 1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Zinc | 5.3 I | ug/L | 5 | 20 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Silver | 0.025 U | ug/L | 0.025 | 0.1 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Selenium | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Aluminum | 38 | ug/L | 5 | 20 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Sodium | 147 | mg/L | 0.5 | 2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Metals | Iron | 54 I | ug/L | 30 | 120 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Organic Carbon | 8.4 | mg C/L | 0.5 | 1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | TSS | 3 I | mg/L | 2 | 10 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Ammonia-N | 0.31 | mg N/L | 0.01 | 0.025 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | NO2NO3-N | 0.49 | mg N/L | 0.004 | 0.01 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | O-Phosphate-P | 0.27 | mg P/L | 0.008 | 0.02 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Kjeldahl Nitrogen | 1.0 | mg N/L | 0.08 | 0.2 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Total-P | 0.31 | mg P/L | 0.005 | 0.05 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Alkalinity | 137 | mg CaCO3/L | 0.65 | 2.5 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Fluoride | 0.44 | mg F/L | 0.035 | 0.1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Color (true) | 36 | PCU | 2.5 | 6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Sulfate | 190 | mg SO4/L | 2 | 5 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Chloride | 220 | mg Cl/L | 2 | 5 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Turbidity | 1.7 | NTU | 0.1 | 0.1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Overflow | Sulfide | 1.0 U | mg/L | 1 | 1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Pesticides | Carbamazepine | 0.088 | ug/L | 0.0025 | 0.012 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Pesticides | Acetaminophen | 0.0025 U | ug/L | 0.0025 | 0.012 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Pesticides | Sucralose | 51 | ug/L | 1 | 5 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,4-Dichlorophenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Pentachlorophenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Hexachlorocyclopentadiene | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,4-Dimethylphenol | 9.5 U | ug/L | 9.5 | 38 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,4-Dinitrophenol | 14 UJ | ug/L | 14 | 57 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Acenaphthylene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzo(a)anthracene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Hexachlorobenzene | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Diethyl phthalate | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Fluorene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 1.9 U | ug/L | 1.9 | 7.6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2-Chlorophenol | 0.95 U | ug/L | 0.95 | 3.8 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Di-n-butyl phthalate | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2-Chloronaphthalene | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 4-Nitrophenol | 14 U | ug/L | 14 | 57 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Anthracene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzo(a)pyrene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Di-n-octyl phthalate | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 1.9 U | ug/L | 1.9 | 7.6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | N-Nitrosodimethylamine | 1.9 U | ug/L | 1.9 | 7.6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Nitrobenzene | 1.9 U | ug/L | 1.9 | 7.6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Phenanthrene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,4-Dinitrotoluene | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Hexachlorobutadiene | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Phenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Pyrene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 1.9 U | ug/L | 1.9 | 7.6 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzidine | 95 U | ug/L | 95 | 380 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Fluoranthene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Hexachloroethane | 2.9 U | ug/L | 2.9 | 11 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Naphthalene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2,6-Dinitrotoluene | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Butyl benzyl phthalate | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Chrysene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Dimethyl phthalate | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Isophorone | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 1,4-Dioxane | 0.44 Y | ug/L | 0.02 | 0.1 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 2-Nitrophenol | 0.95 U | ug/L | 0.95 | 3.8 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 38 UJ | ug/L | 38 | 150 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Priority Organic Pollutants | Acenaphthene | 0.19 U | ug/L | 0.19 | 0.76 |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Temperature | 10.2 | C | | |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | pH | 7.2 | | | |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Specific Conductance | 1380 | umhos/cm | | |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Sample Depth | 0.1 | m | | |
| 12/15/14 12:05 | WIM-2 | Blacks Ford WIM-2 | Nutrients | Dissolved Oxygen | 8.4 | mg/L | | |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | AGP/LN | Algal Growth Potential | 13.0 | mg DryWt/L | 0.3 | 0.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Chlorophyll/Grain Size/BOD | Biochemical Oxygen Demand-5 Day,N-Inhib | 0.89 IJ | mg/L | 0.2 | 2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Chlorophyll/Grain Size/BOD | Phaeophytin-a | 0.40 U | ug/L | 0.4 | 1.2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Chlorophyll/Grain Size/BOD | Chlorophyll-a, Corrected | 1.1 I | ug/L | 0.55 | 1.7 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Overflow | Fecal Coliforms-Membrane Filter | 320 | cfu/100 mL | 10 | 10 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Chromium | 0.41 I | ug/L | 0.3 | 1.2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Nickel | 0.81 I | ug/L | 0.25 | 1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Potassium | 12.3 | mg/L | 0.3 | 1.2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Silver | 0.025 U | ug/L | 0.025 | 0.1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Zinc | 5.0 U | ug/L | 5 | 20 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Arsenic | 0.29 I | ug/L | 0.25 | 1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Iron | 45 I | ug/L | 30 | 120 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Sodium | 143 | mg/L | 0.5 | 2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Copper | 0.50 U | ug/L | 0.5 | 1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Calcium | 61.5 | mg/L | 0.075 | 0.3 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Aluminum | 26 | ug/L | 5 | 20 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Cadmium | 0.050 U | ug/L | 0.05 | 0.2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Selenium | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Lead | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Metals | Magnesium | 33.0 | mg/L | 0.04 | 0.16 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Organic Carbon | 9.9 | mg C/L | 0.5 | 1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Turbidity | 0.70 | NTU | 0.1 | 0.1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Sulfate | 170 | mg SO4/L | 2 | 5 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Alkalinity | 127 | mg CaCO3/L | 0.65 | 2.5 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | O-Phosphate-P | 0.34 | mg P/L | 0.012 | 0.03 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Total-P | 0.38 | mg P/L | 0.005 | 0.05 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Chloride | 210 | mg Cl/L | 2 | 5 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Kjeldahl Nitrogen | 0.64 | mg N/L | 0.08 | 0.2 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Fluoride | 0.37 | mg F/L | 0.035 | 0.1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Ammonia-N | 0.062 | mg N/L | 0.002 | 0.005 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | TSS | 2 I | mg/L | 2 | 10 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | NO2NO3-N | 0.21 | mg N/L | 0.004 | 0.01 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Color (true) | 54 | PCU | 2.5 | 6 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Overflow | Sulfide | 1.0 U | mg/L | 1 | 1 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Pesticides | Sucralose | 43 | ug/L | 0.2 | 1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2-Chloronaphthalene | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Butyl benzyl phthalate | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Dimethyl phthalate | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Nitrobenzene | 2.0 U | ug/L | 2 | 7.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Phenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Pyrene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,4-Dinitrophenol | 15 U | ug/L | 15 | 59 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2-Nitrophenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 4-Nitrophenol | 15 U | ug/L | 15 | 59 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Fluorene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,4-Dichlorophenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,4-Dinitrotoluene | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Fluoranthene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Hexachlorobutadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Hexachlorocyclopentadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Hexachloroethane | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 2.0 U | ug/L | 2 | 7.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | N-Nitrosodimethylamine | 2.0 U | ug/L | 2 | 7.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,4-Dimethylphenol | 9.8 U | ug/L | 9.8 | 39 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzo(a)pyrene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Chrysene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Di-n-octyl phthalate | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Pentachlorophenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 2.0 U | ug/L | 2 | 7.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Acenaphthene | 0.20 U | ug/L | 0.2 | 0.78 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzidine | 98 U | ug/L | 98 | 390 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Isophorone | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Phenanthrene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2,6-Dinitrotoluene | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 2-Chlorophenol | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Anthracene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzo(a)anthracene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 2.0 U | ug/L | 2 | 7.8 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Di-n-butyl phthalate | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Hexachlorobenzene | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Naphthalene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Acenaphthylene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.20 U | ug/L | 0.2 | 0.78 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 39 UJ | ug/L | 39 | 160 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | Diethyl phthalate | 0.98 U | ug/L | 0.98 | 3.9 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Priority Organic Pollutants | 1,4-Dioxane | 0.46 Y | ug/L | 0.02 | 0.1 |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | pH | 7.06 | | | |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Dissolved Oxygen | 7.43 | mg/L | | |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Sample Depth | 0.1 | m | | |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Temperature | 9.65 | C | | |
| 12/18/14 10:30 | WIM-3 | Blacks Ford WWTF WIM-3 | Nutrients | Specific Conductance | 1250 | umhos/cm | | |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | AGP/LN | Algal Growth Potential | 6.33 | mg DryWt/L | 0.3 | 0.9 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Chlorophyll/Grain Size/BOD | Phaeophytin-a | 0.48 I | ug/L | 0.4 | 1.2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Chlorophyll/Grain Size/BOD | Chlorophyll-a, Corrected | 0.55 U | ug/L | 0.55 | 1.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Chlorophyll/Grain Size/BOD | Biochemical Oxygen Demand-5 Day,N-Inhib | 1.0 IJ | mg/L | 0.2 | 2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Overflow | Fecal Coliforms-Membrane Filter | 270 | cfu/100 mL | 10 | 10 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Potassium | 11.0 | mg/L | 0.3 | 1.2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Zinc | 5.0 U | ug/L | 5 | 20 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Nickel | 0.79 I | ug/L | 0.25 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Arsenic | 0.33 I | ug/L | 0.25 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Iron | 100 I | ug/L | 30 | 120 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Magnesium | 29.4 | mg/L | 0.04 | 0.16 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Chromium | 0.45 I | ug/L | 0.3 | 1.2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Lead | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Calcium | 56.4 | mg/L | 0.075 | 0.3 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Aluminum | 51 | ug/L | 5 | 20 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Cadmium | 0.050 U | ug/L | 0.05 | 0.2 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Copper | 0.50 U | ug/L | 0.5 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Sodium | 130 | mg/L | 0.5 | 2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Silver | 0.025 U | ug/L | 0.025 | 0.1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Metals | Selenium | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Total-P | 0.32 | mg P/L | 0.005 | 0.05 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Alkalinity | 115 | mg CaCO3/L | 0.65 | 2.5 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | TSS | 2 I | mg/L | 2 | 10 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Kjeldahl Nitrogen | 0.59 | mg N/L | 0.08 | 0.2 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | NO2NO3-N | 0.19 | mg N/L | 0.004 | 0.01 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Fluoride | 0.34 | mg F/L | 0.035 | 0.1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Organic Carbon | 11 | mg C/L | 0.5 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Color (true) | 71 A | PCU | 2.5 | 6 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Sulfate | 150 | mg SO4/L | 2 | 5 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | O-Phosphate-P | 0.26 | mg P/L | 0.004 | 0.01 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Turbidity | 0.55 | NTU | 0.1 | 0.1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Ammonia-N | 0.028 | mg N/L | 0.002 | 0.005 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Chloride | 190 | mg Cl/L | 2 | 5 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Overflow | Sulfide | 1.0 U | mg/L | 1 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Pesticides | Sucralose | 37 | ug/L | 0.2 | 1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 1.9 U | ug/L | 1.9 | 7.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Chrysene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Hexachlorobutadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Pentachlorophenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2-Nitrophenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 4-Nitrophenol | 14 U | ug/L | 14 | 58 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Acenaphthene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Anthracene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Diethyl phthalate | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Hexachloroethane | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,4-Dichlorophenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,4-Dinitrotoluene | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Acenaphthylene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Fluorene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 0.96 U | ug/L | 0.96 | 3.8 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzo(a)pyrene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Butyl benzyl phthalate | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Di-n-butyl phthalate | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Di-n-octyl phthalate | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Naphthalene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,4-Dinitrophenol | 14 U | ug/L | 14 | 58 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,6-Dinitrotoluene | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Hexachlorobenzene | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Hexachlorocyclopentadiene | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | N-Nitrosodimethylamine | 1.9 U | ug/L | 1.9 | 7.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Phenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzidine | 96 U | ug/L | 96 | 380 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Dimethyl phthalate | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Isophorone | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 1.9 U | ug/L | 1.9 | 7.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Phenanthrene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Pyrene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2,4-Dimethylphenol | 9.6 U | ug/L | 9.6 | 38 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2-Chlorophenol | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 1.9 U | ug/L | 1.9 | 7.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 2-Chloronaphthalene | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 38 UJ | ug/L | 38 | 150 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Benzo(a)anthracene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 0.96 U | ug/L | 0.96 | 3.8 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Fluoranthene | 0.19 U | ug/L | 0.19 | 0.77 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 2.9 U | ug/L | 2.9 | 12 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | Nitrobenzene | 1.9 U | ug/L | 1.9 | 7.7 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Priority Organic Pollutants | 1,4-Dioxane | 0.32 Y | ug/L | 0.02 | 0.1 |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Specific Conductance | 1135 | umhos/cm | | |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Dissolved Oxygen | 8.3 | mg/L | | |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Temperature | 11.0 | C | | |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | pH | 7.30 | | | |
| 12/18/14 12:45 | WEP-1 | Blacks Ford WWTF WEP-1 | Nutrients | Sample Depth | 0.3 | m | | |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Copper | 0.50 U | ug/L | 0.5 | 1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Iron | 30 U | ug/L | 30 | 120 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Zinc | 5.0 U | ug/L | 5 | 20 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Arsenic | 0.25 U | ug/L | 0.25 | 1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Calcium | 0.075 U | mg/L | 0.075 | 0.3 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Chromium | 0.30 U | ug/L | 0.3 | 1.2 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Potassium | 0.30 U | mg/L | 0.3 | 1.2 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Sodium | 0.50 U | mg/L | 0.5 | 2 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Aluminum | 5.0 U | ug/L | 5 | 20 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Cadmium | 0.050 U | ug/L | 0.05 | 0.2 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Nickel | 0.25 U | ug/L | 0.25 | 1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Selenium | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Lead | 0.20 U | ug/L | 0.2 | 0.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Magnesium | 0.040 U | mg/L | 0.04 | 0.16 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Metals | Silver | 0.025 U | ug/L | 0.025 | 0.1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Color (true) | 2.5 U | PCU | 2.5 | 6 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Alkalinity | 0.65 U | mg CaCO3/L | 0.65 | 2.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Chloride | 0.20 U | mg Cl/L | 0.2 | 0.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Sulfate | 0.20 U | mg SO4/L | 0.2 | 0.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Ammonia-N | 0.002 U | mg N/L | 0.002 | 0.005 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Total-P | 0.002 U | mg P/L | 0.002 | 0.005 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | O-Phosphate-P | 0.004 U | mg P/L | 0.004 | 0.01 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | NO2NO3-N | 0.004 U | mg N/L | 0.004 | 0.01 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Kjeldahl Nitrogen | 0.080 U | mg N/L | 0.08 | 0.2 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Organic Carbon | 0.50 U | mg C/L | 0.5 | 1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Turbidity | 0.10 U | NTU | 0.1 | 0.1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Nutrients | Fluoride | 0.035 U | mg F/L | 0.035 | 0.1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Overflow | Sulfide | 1.0 U | mg/L | 1 | 1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Parathion Ethyl | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Prometryn | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Atrazine | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Hexazinone | 0.029 UJ | ug/L | 0.029 | 0.12 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Mevinphos | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Naled | 0.039 UJ | ug/L | 0.039 | 0.15 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Ethoprop | 0.0048 U | ug/L | 0.0048 | 0.019 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Norflurazon | 0.029 U | ug/L | 0.029 | 0.12 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Malathion | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Ethion | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Demeton | 0.023 UJ | ug/L | 0.023 | 0.093 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Ametryn | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Carbamazepine | 0.0025 U | ug/L | 0.0025 | 0.012 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Chlorpyrifos Methyl | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Bromacil | 0.039 U | ug/L | 0.039 | 0.15 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Atrazine Desethyl | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Sucralose | 0.010 U | ug/L | 0.01 | 0.05 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Metribuzin | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Metalaxyl | 0.039 U | ug/L | 0.039 | 0.15 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Chlorpyrifos Ethyl | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Metolachlor | 0.058 U | ug/L | 0.058 | 0.23 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Fonofos | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Butylate | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Simazine | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Prometon | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Disulfoton | 0.0048 U | ug/L | 0.0048 | 0.019 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Azinphos Methyl | 0.019 U | ug/L | 0.019 | 0.077 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Atrazine Desisopropyl | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Alachlor | 0.058 U | ug/L | 0.058 | 0.23 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Acetaminophen | 0.0025 U | ug/L | 0.0025 | 0.012 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Parathion Methyl | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Fenamiphos | 0.029 U | ug/L | 0.029 | 0.12 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Phorate | 0.0048 U | ug/L | 0.0048 | 0.019 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Pesticides | Diazinon | 0.0096 U | ug/L | 0.0096 | 0.039 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Naphthalene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Phenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2-Nitrophenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzidine | 94 U | ug/L | 94 | 380 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzo(a)anthracene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzo(a)pyrene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Hexachlorobutadiene | 2.8 U | ug/L | 2.8 | 11 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Nitrobenzene | 1.9 U | ug/L | 1.9 | 7.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,4-Dinitrophenol | 14 U | ug/L | 14 | 57 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,6-Dinitrotoluene | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 2.8 U | ug/L | 2.8 | 11 |

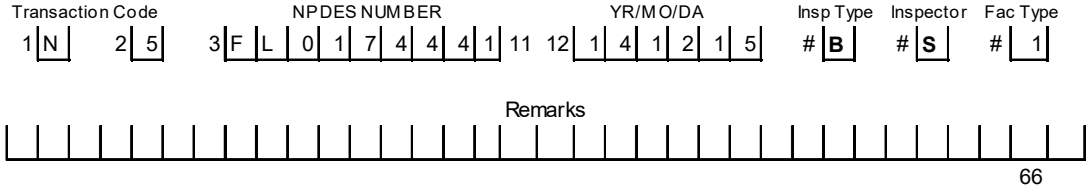
| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Fluorene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Hexachlorobenzene | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Isophorone | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 1.9 U | ug/L | 1.9 | 7.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | N-Nitrosodimethylamine | 1.9 U | ug/L | 1.9 | 7.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 2.8 U | ug/L | 2.8 | 11 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,4-Dimethylphenol | 9.4 U | ug/L | 9.4 | 38 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Diethyl phthalate | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Dimethyl phthalate | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Fluoranthene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 1,4-Dioxane | 0.036 IY | ug/L | 0.02 | 0.1 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,4-Dichlorophenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 1.9 U | ug/L | 1.9 | 7.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Acenaphthene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Pentachlorophenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Phenanthrene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Chrysene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Di-n-butyl phthalate | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Hexachlorocyclopentadiene | 2.8 U | ug/L | 2.8 | 11 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Hexachloroethane | 2.8 U | ug/L | 2.8 | 11 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2,4-Dinitrotoluene | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2-Chloronaphthalene | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 2-Chlorophenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 2.8 U | ug/L | 2.8 | 11 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 4-Nitrophenol | 14 U | ug/L | 14 | 57 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Acenaphthylene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Butyl benzyl phthalate | 0.94 U | ug/L | 0.94 | 3.8 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Pyrene | 0.19 U | ug/L | 0.19 | 0.75 |

| Date_Sampled | UDL | Station | SCH_Group | Component | Result | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 38 UJ | ug/L | 38 | 150 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Anthracene | 0.19 U | ug/L | 0.19 | 0.75 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 1.9 U | ug/L | 1.9 | 7.5 |
| 12/15/14 9:35 | Field Blank | Field Blanks | Priority Organic Pollutants | Di-n-octyl phthalate | 0.94 U | ug/L | 0.94 | 3.8 |

**EPA End Sheet**

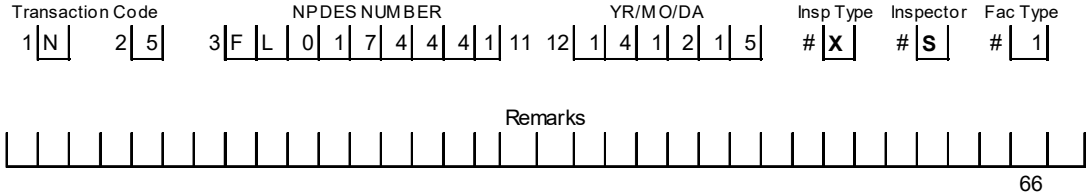
## The Bioassay of the Black's Ford Wastewater Reclamation Facility effluent sampled on December 15, 2014, NPDES #FL0174441

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




## The Priority Pollutants Analysis of the Black's Ford Wastewater Reclamation Facility effluent sampled on December 15, 2014, NPDES #FL0174441

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




## Biological Analyses of the Black's Ford Wastewater Reclamation Facility effluent sampled on December 15, 2014, NPDES #FL0174441

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

