Biological Assessment of

Ascend Performance Materials

Escambia County

NPDES # FL0002488

Sampled June 16, 2015

February 2016

Biology Program

FDEP Laboratory

Division of Environmental Assessment and Restoration

FDEP Laboratory Quality Manual

NELAC Certification No. E31780

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Facility Overview

Ascend Performance Materials is a chemical manufacturer. The effluent is discharged into the Escambia River, a Class III Fresh Water (see map, Appendix A). The permitted capacity of the wastewater system is 27.7 million gallons daily (MGD) average monthly flow. The annual daily average flow for May 2014 to May 2015 for the south outfall D-001 (monitoring location EFF-1) was 41.79 MGD and for the north outfall D-002 (monitoring location EFF-2) was 3.58 MGD. The plant discharges continuously, and the flow measured during this survey was 59.6 MGD for the south outfall D-001 (monitoring location EFF-1) and 0.9 MGD for the north outfall D-002 (monitoring location EFF-2) (Northwest District Office sampling staff).

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, Administrative Order (AO), and Discharge Monitoring Report (DMR) information.

Methods

The purpose of this investigation was to determine the discharges' effects on the biota of the receiving waters. For each outfall, chemical and biological comparisons were made between an upstream Control Site and a downstream Test Site.

Outfall D-001, hereafter called Effluent 1, is the main point of discharge. Its control site, Control Site 1, is located in the Escambia River beginning 110 meters (m) upstream of the point of discharge and ending 210 m upstream of the point of discharge) and its test site, Test Site 1, is located in the Escambia River beginning 170 m downstream of the point of discharge and ending 70 m upstream of the point of discharge.

Outfall D-002, hereafter called Effluent 2, is a secondary outfall that discharges a small fraction of the total effluent. The effluent discharges to a small stream north of the facility which flows 550 meters to its confluence with the Escambia River. Its control site, Control Site 2, is located in the Escambia River beginning 12 m upstream of the confluence and ending 112 m upstream of the confluence. Its test site, Test Site 1, is located in the Escambia River beginning 125 m downstream of the confluence and ending 25 m downstream of the confluence.

The point of confluence of Effluent 2 with the Escambia River is located 2500 m upstream of the point of discharge of Effluent 1. Intake D-099, where sampling is conducted to determine permit-limits for certain metals, is located halfway between the two outfalls. Effluent samples were taken at each outfall (Effluent 1 and Effluent 2) as grab and composite samples from monitoring locations EFF-01 and EFF-02, after dechlorination.

Field and laboratory biological methods followed FDEP 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), with the exception that habitat, macroinvertebrates, plants, and algae were assessed and collected only along the left bank, on the facility side, rather than on both sides of the Escambia River. Explanations of specific methods and measurements can be found in Appendix C.

The following were involved in this investigation: Nathan Mulkey and Rick Abad (FDEP Northwest District Office, Pensacola), 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, E, and F)

- Habitat Assessment was not conducted per SOP however, the following descriptions and comparisons among the four sites, Test Site 1, Control Site 1, Test Site 2, and Control Site 2, can be made. Water velocity along the left bank of the Escambia River at all four sites was low to very low. Bank stability, buffer width, and vegetation quality were considered optimal. The river is dredged in the center but otherwise, channelization is minimal. The in-river area assessed at Test Site 1 and Control Site 1 sites was a 100m by 4m stretch adjacent to the left bank, and at Test Site 2 and Control Site 2 was a 100m by 3m stretch adjacent to the left bank. At all four sites, aquatic vegetation, snags, and roots were present but availability of productive habitat was lacking and substrates were smothered with sand and silt.

- The pH (Standard Units), specific conductance (µmhos/cm), and dissolved oxygen (mg/L and % saturation) of both effluents and their respective Test and Control Site samples complied with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and effluent permit limits.

Organic Constituents (See Appendix F)

- Organic constituents were not detected in the Effluent 1 or Effluent 2 grab samples.
- Organic constituents were not detected in the Field blank.

Nutrients (See Table 2 and Appendix F)

- The Escambia River falls within the Panhandle West Nutrient Watershed Region for Numeric Nutrient Criteria (NNC). For this region, the NNC thresholds, expressed as annual geometric means, are 0.06 mg/L total phosphorus and 0.67 mg/L total nitrogen. This FYI event can only provide single sample results, therefore, compliance should be determined with additional sampling events.
- Total phosphorus detected in the Effluent 2 grab sample was an order of magnitude higher than the amounts detected in the Effluent 1 and the four site samples.
- Total nitrogen amounts were similar across all samples.
- No nutrients were detected in the Field blank.

Analytical Water Chemistry (See Table 2 and Appendix F)

- The amount of total residual chlorine (TRC; mg/L) in the Effluent 1 and Effluent 2 grab samples complied with the effluent permit limits.
- Turbidity, alkalinity, fluoride, and oils and greases in all samples complied with the Class III Freshwater Criteria (62-302.530, F.A.C.).

Toxicity Whole Effluent Test (See Table 1 and Appendix F)

- Tests were performed June 16 through June 22, 2015.
- The effluent sample was not toxic to the fish, *Pimephales promelas,* nor to the water flea, *Ceriodaphnia dubia,* during the chronic definitive bioassays and therefore, complied with effluent permit 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 F)

- Copper in the Effluent 1, Test Site 1, and Effluent 2 samples exceeded the Class III Freshwater Criterion (62-302.530(23), F.A.C.). Iron in the Effluent 1, Test Site 1, Control Site 1, and Effluent 2 samples, exceeded the Class III Freshwater Criterion (62-302.530(38), F.A.C.). Lead in the Effluent 2 sample exceeded the Class III Freshwater Criterion (62-302.530(39), F.A.C.).
- These detected amounts of copper, iron, and lead did not exceed the respective effluent permit limits because they are lower than the amounts of each analyte detected in the D-099 Intake sample.
- All other metals detected in the Effluent 1 and Effluent 2 samples were present at levels that complied with their respective effluent permit limits and Class III Freshwater Quality Criteria (62-302.530, F. A. C.).
- All other metals in the Test Site 1, Control Site 1, Test Site 2, and Control Site 2 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 F)

- Raschke and Shultz (1987) determined that AGP values above 5.0 mg dry weight/L, which represents a "problem" threshold for fresh receiving waters, imply nutrient enrichment. AGP values were calculated using the freshwater species, *Pseudokirchneriella subcapitata.*
- The AGP value in the Effluent 1 sample was approximately 3.5 times greater than the problem threshold value. The analytical chemistry suggests that the effluent is nitrogen/phosphorus- co-limited by both nitrogen and phosphorus. The AGP values of the Test Site 1 and Control Site 1 samples were similar to the Effluent 1 value.
- The AGP value in the Effluent 2 was approximately 4.5 times greater than the problem threshold value. The analytical chemistry suggests that the effluent is nitrogen/phosphorus- co-limited by both nitrogen and

phosphorus. The AGP values of the Test Site 2 and Control Site 2 samples were slightly lower than the Effluent 1 value.

Bioassessment

Periphyton (See Appendix E)

- The Rapid Periphyton Survey (RPS) was not conducted per SOP. The area sampled at the Test Site 1 and Control Site 1 sites was a 100m by 4m stretch adjacent to the left bank, and at Test Site 2 and Control Site 2 was a 100m by 3m stretch adjacent to the left bank. The remaining area in the stretches, including the right bank, was not assessed. The canopy measurements were not taken from the center of the river, but the center of the sampled stretch. Periphyton was rarely present in the assessed portions of each river segment and was never longer than 6mm.

Macroinvertebrates (See Table 5)

- Hester Dendy samplers were deployed at each of the four sites however, on the 6/16/15 retrieval date, a number of replicates were missing. At Control Site 1, three of four replicates were retrieved and only two of four replicates were retrieved at Test Site 1. The Hester Dendy was not retrieved at the Control Site 2 and only one of four replicates was retrieved at Test Site 2. Hester Dendy samples were not analyzed due to fewer than the required minimum of three replicates per site per 62.302.530(10).
- A 20-dipnet sweep composite macroinvertebrate sample was collected at each of the four sites. The area sampled at the Test Site 1 and Control Site 1 sites was a 100m by 4m stretch adjacent to the left bank, and at Test Site 2 and Control Site 2 was a 100m by 3m stretch adjacent to the left bank. All four sites had similar numbers of Ephemeroptera, Trichoptera, sensitive, clinger, and long lived taxa. Very tolerant individuals made up between 19-27% of each sample (see Appendix C for an explanation of how these metrics typically respond to human disturbance). The Stream Condition Index (SCI) score was not calculated because samples were not collected per SOP SCI 1000 due to habitat limitation and low flow within the sampled area.
- For more information or to obtain a copy of the taxa lists, please contact the Biology Laboratory at 850-245-8177.

Conclusion

Nutrients in the Effluent 1 (D-001) sample and in the Effluent 2 (D-002) samples did not seem to be contributing to enrichment of the respective receiving waters. AGP values at each outfall were similar to the AGP values for the respective Test and Control Sites. The amounts of copper in the Effluent 1, Test Site 1, and Effluent 2 samples and the amounts of iron in the Effluent 1, Test Site 1, Control Site 1, and Effluent 2 samples exceeded the Class III Criteria (62-302.530(23,38), F.A.C.). These values did not exceed the effluent permit limits, as each metal was detected in a higher amount in the D-099 Intake sample. Biological sampling was limited along the banks of the Escambia River at each outfall, but results are similar across the four sites.

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

Ascend Performance Materials	Units	Class III Criteria	Effluent 1 (D-001) Permit Limits	Effluent 1 (D-001) [1]	Test Site A	Control Site A	Effluent 2 (D-002) Permit Limits	Effluent 2 (D-002) [1]	Test Site B	Control Site B
Sample Depth	m	-	-	-	0.2	0.2	-	-	0.2	0.2
Temperature	C	-	37.2	33.3	30.7	30.1	37.2	32.7	29.1	29.1
pH	SU	6.0 - 8.5	6.0 - 8.5	7.4	7.1	7.1	6.0 - 8.5	7.2	6.9	6.5
Specific Conductance	umhos/cm	≤ 1,275	-	347	138	137	-	146	126	126
Salinity	ppth	-	-	0.1 c	0.1 c	0.1 c	-	0.1 c	0.1 c	0.1 c
Dissolved Oxygen	% saturation	67	-	-	94.3	91.2	-	-	86.7	86.5
Dissolved Oxygen	mg/L	-	-	-	7.0	6.9	-	-	6.7	6.6

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

c - Value is calculated

1 - Effluent parameters were recorded by the facility's in-line meters.

Qualifiers from Appendix F

J - estimated value

L - Actual value is known to be greater than value given

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

Ascend Performance Materials	Units	Class III Criteria	Effluent 1 (D-001) Permit Limits	Effluent 1 (D-001) (composite)	Effluent 1 (D-001) (grab)	Test Site 1	Control Site 1	Effluent 2 (D-002) Permit Limits	Effluent 2 (D-002) (composite)	Effluent 2 (D-002) (grab)	Test Site 2	Control Site 2
Ortho-phosphate	mg P/L	-	-	-	0.020	0.011	0.012	-	-	0.36	0.012	0.012
Total Phosphorus	mg P/L	-	-	-	0.044	0.044	0.041	-	-	0.73	0.043	0.04
Total Ammonia	mg N/L	-	-	-	0.015	0.01	0.015	-	-	0.021	0.009	0.011
Un-ionized Ammonia	mg N/L	≤ 0.02 s	-	-	< 0.02 c	< 0.02 c	< 0.02 c	-	-	< 0.02 c	< 0.02 c	< 0.02 c
Nitrate and Nitrite	mg N/L	-	-	-	0.35	0.35	0.36	-	-	0.36	0.37	0.37
Total Kjeldahl Nitrogen	mg N/L	-	-	-	0.30	0.28	0.29	-	-	0.22	0.31	0.27
Organic Nitrogen	mg N/L	-	-	-	0.30 c	0.27 c	0.28 c	-	-	0.20 c	0.30 c	0.26 c
Total Nitrogen	mg N/L	-	-	-	0.65 c	0.63 c	0.65 c	-	-	0.58 c	0.68 c	0.64 c
Total Organic Carbon	mg C/L	-	-	-	4	4.1	4.1	-	-	2.6	4	4
Chlorophyll *a* - Corrected	µg/L	-	-	-	4.6	11	7.6 A	-	-	2.1	8.3	7.3
Phaeophytin	µg/L	-	-	-	2.2	1.8	2.2 A	-	-	1.9	1.8	1.9
CBOD, 5 day, N - inhibited	mg/L	-	-	0.53 I	-	1.1 I	0.92 I	-	-	0.63 I	0.83 I	1.0 I
Total Residual Chlorine		≤ 0.01	≤ 0.01	-	0.01	-	-	≤ 0.01	-	0.01	-	-
Total Suspended Solids	mg/L	-	-	3 I	-	5 I	6 I	-	-	2 I	4 I	4 I
Turbidity	NTU	< 29 t	-	-	7.6	7	7.5	-	-	5.0 A	7	7.2
Color (true)	PCU	-	-	-	47 A	45	45	-	-	30	44	45 A
Alkalinity	mg CaCO3/L	≥ 20	-	-	35	36	36	-	-	24	35	35
Chloride	mg Cl/L	-	-	-	9.8	11	11	-	-	8.2	8	8.1
Fluoride	mg F/L	≤ 10.0	-	-	0.044 I	0.048 I	0.047 I	-	-	0.038 I	0.044 I	0.044 I
Sulfate	mg SO4/L	-	-	-	9.7	10	9.9	-	-	8.5	9.1	9.1
Oils and Greases [2]	mg/L	≤ 5.0	-	-	1.9 U	2.0 U	1.9 U	-	-	2.2 U	1.9 U	2.1 U
Toxicity (IC25)												
Bioassay - Water flea *(Ceriodaphnia dubia) - survival*	% effluent	-	≥ 100	> 100	-	-	-	≥ 100	> 100	-	-	-
Bioassay - Fish *(Pimephales promelas) - growth*	% effluent	-	≥ 100	> 100	-	-	-	≥ 100	> 100	-	-	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
2 - Analyses performed by TestAmerica Laboratories, Inc, in Tallahassee, FL, using EPA method 1664A.

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

Ascend Performance Materials	Units	Effluent Permit Limits	D-099 Intake Metals	Effluent 1 (D-001) Class III Criteria	Effluent 1 (D-001) (composite)	Test Site A Class III Criteria	Test Site A	Control Site 1 Class III Criteria	Control Site A	Effluent 2 (D-002) Class III Criteria	Effluent 2 (D-002) (composite)	Test Site B Class III Criteria	Test Site B	Control Site 2 Class III Criteria	Control Site B
Hardness	mg/L	Report	36 c	-	37.4 c	-	38.5 c	-	39 c	-	36.1 c	-	38.5 c	-	37.9
Aluminum	µg/L	-	145	-	177	-	228	-	216	-	156	-	165	-	202
Arsenic	µg/L	-	0.62 I	≤ 50	0.65 I	≤ 50	0.66 I	≤ 50	0.68 I	≤ 50	0.68 I	≤ 50	0.62 I	≤ 50	0.63 I
Cadmium	µg/L	-	0.050 U	≤ 0.131 b	0.050 U	≤ 0.134 b	0.050 U	≤ 0.13 b	0.050 U	≤ 0.127 b	0.050 U	≤ 0.133 b	0.050 U	≤ 0.132 b	0.050 U
Calcium	mg/L	-	12	-	12.1	-	12.6	-	12.7	-	11.8	-	12.9	-	12.7
Chromium, Total [g]	µg/L	-	0.81 I	≤ 38.5 b	0.66 I	≤ 39.5 b	0.59 I	≤ 40 b	0.62 I	≤ 37.4 b	0.58 I	≤ 39.4 b	0.50 I	≤ 39.0 b	0.67 I
Copper	µg/L	≤ 4.02 b [3]	26.9 [3]	≤ 4.02 b	9.77 e [4]	≤ 4.13 b	5.63 e [4]	≤ 4.1 b	2.8	≤ 3.91 b	6.18 e [4]	≤ 4.12 b	0.50 U	≤ 4.07 b	0.50 U
Iron	µg/L	≤ 1,000 [3]	1,720 [3]	≤ 1,000	1120 e [4]	≤ 1,000	1050 e [4]	≤ 1,000	1050 e [4]	≤ 1,000	1090 e [4]	≤ 1,000	980	≤ 1,000	990
Lead	µg/L	≤ 0.909 b [3]	1.34 [3]	≤ 0.909 b	0.28 I	≤ 0.945 b	0.29 I	≤ 0.95 b	0.46 I	≤ 0.869 b	1.28 e [4]	≤ 0.943 b	0.25 I	≤ 0.926 b	0.26 I
Magnesium	mg/L	-	1.62	-	1.74	-	1.72		1.7	-	1.61	-	1.52	-	1.51
Mercury	ng/L	12.0	0.10 U	12.0	3.4	12.0	2.0	12.0	2.1	12.0	2.2	12.0	1.7	12.0	2.0
Nickel	µg/L	≤ 22.7 b	1.67	≤ 22.7 b	0.79 I	≤ 23.3 b	0.58 I	≤ 23 b	0.59 I	≤ 22 b	0.61 I	≤ 23.2 b	0.55 I	≤ 23.0 b	0.61 I
Potassium	mg/L	-	1.2	-	1.4		1.2		1.2	-	1.2 I	-	1.2 I	-	1.2 I
Selenium	µg/L	-	0.20 U	≤ 5.0	0.20 U	≤ 5.0	0.21 I	≤ 5.0	0.20 U	≤ 5.0	0.20 U	≤ 5.0	0.20 U	≤ 5.0	0.20 I
Silver	µg/L	-	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U
Sodium	mg/L	-	11.2	-	26.2	-	11.7		11.3	-	11.7	-	9.6	-	9.6
Zinc	µg/L	≤ 52 b	44	≤ 52 b	7.2 I	≤ 53.4 b	5.0 U	≤ 54 b	5.4 I	≤ 50.5 b	9.8 I	≤ 53.3 b	5.0 U	≤ 52.7 b	5.0 U

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

c - Value is calculated

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

e - Value exceeds the Class III Water Quality Criteria

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

3 - The permit limit for this analyte is the value detected in the D-099 Intake metals sample.

4 – The detected amount of this analyte did not exceed the effluent permit limit because it is lower than the amount detected at the D-099 Intake.

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

Ascend Performance Materials								
Location	**Test Species**	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (OP) ± 20%**	**Predicted AGP (TN) ± 20%**	**Predicted AGP (TP) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent 1 (D-001)	*Pseudokirchneriella subcapitata*	17.2	13.9 ± 2.8	8.6 ± 1.7	24.7 ± 4.9	18.9 ± 3.8	18.3	14.8
Test Site 1	*Pseudokirchneriella subcapitata*	19.1	13.7 ± 2.7	4.7 ± 0.9	23.9 ± 4.8	18.9 ± 3.8	32.7	14.3
Control Site 1	*Pseudokirchneriella subcapitata*	18.3	14.3 ± 2.9	5.2 ± 1	24.7 ± 4.9	17.6 ± 3.5	31.3	15.9
Effluent 2 (D-002)	*Pseudokirchneriella subcapitata*	23.6 A	14.5 ± 2.9	not applicable [5]	22 ± 4.4	not applicable [5]	1.1	0.8
Test Site 2	*Pseudokirchneriella subcapitata*	18.6	14.4 ± 2.9	5.2 ± 1	25.8 ± 5.2	18.5 ± 3.7	31.6	15.8
Control Site 2	*Pseudokirchneriella subcapitata*	17.8	14.5 ± 2.9	5.2 ± 1	24.3 ± 4.9	17.2 ± 3.4	31.8	16

Pseudokirchneriella subcapitata - freshwater species

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

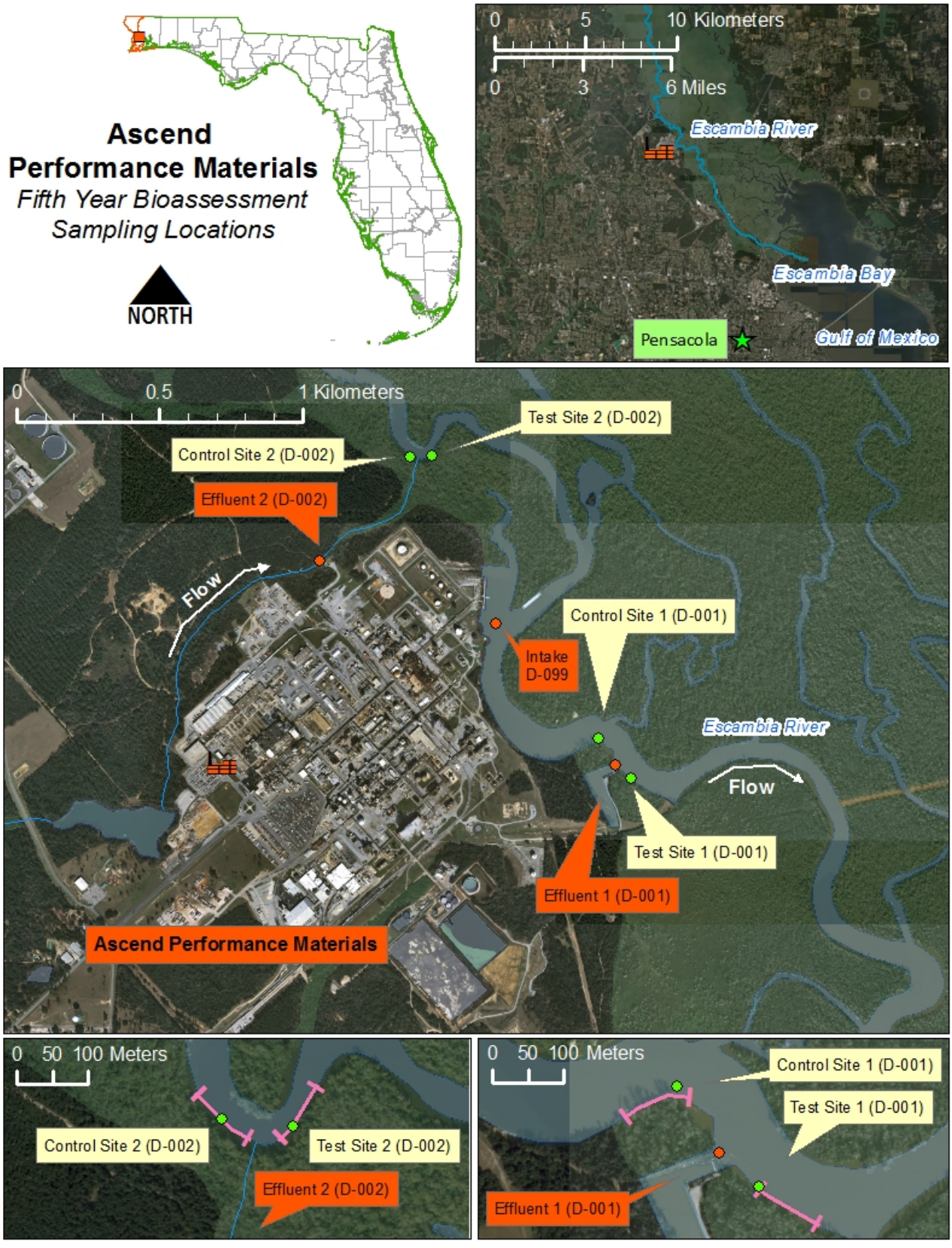
5 - Not applicable to nitrogen-limited freshwaters

Table 5. Macroinvertebrate Dipnet Samples - Qualitative.

Ascend Performance Materials	Test Site 1		Control Site 1		Test Site 2		Control Site 2	
Replicate	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2	Rep 1	Rep 2
Stream Condition Index Metrics								
Number of Total Taxa	25	27	31	32	28	24	28	28
Number of Ephemeroptera Taxa	1	1	0	1	2	2	1	2
Number of Trichoptera Taxa	2	2	4	3	4	2	2	2
Number of Clinger Taxa	2	2	3	3	4	3	1	1
Number of Long-lived Taxa	1	1	1	0	0	2	1	1
Number of Sensitive Taxa	1	2	3	1	2	1	1	1
Percent of Dominant Taxon	25.5	16.2	20.9	17.3	15.2	20.1	25.3	25.9
Percent Suspension Feeders and Filterers	2.2	5.4	5.9	6.0	0.7	1.3	7.2	8.8
Percent of Tanytarsini Individuals	0.0	0.0	3.3	6.7	0.0	0.0	0.7	0.7
Percent of Very Tolerant Individuals	28.7	14.9	16.3	22.0	21.4	21.4	24.0	29.3
Total Number of Individuals	157	148	153	150	145	154	146	147
Community Composition: Percent of total								
Dominant Taxon Name	*Polypedilum illinoense* grp. (Diptera)	*Ancylidae* (Gastropoda)	*Dasyhelea* sp. (Diptera)	*Dasyhelea* sp. (Diptera)	*Rheumatobates* sp. (Heteroptera)	*Galerucella nymphaeae* (Coleoptera)	*Galerucella nymphaeae* (Coleoptera)	*Galerucella nymphaeae* (Coleoptera)
Acariformes	0.0	0.7	0.7	0.7	0.0	0.0	0.7	0.7
Amphipoda	4.5	4.1	17.0	13.3	0.0	0.0	4.1	0.7
Bivalvia	1.9	5.4	1.3	2.0	0.0	0.7	6.2	8.8
Coleoptera	13.4	16.2	0.7	2.7	9.0	22.1	25.3	25.9
Decapoda	0.0	0.0	0.7	0.0	0.0	0.7	0.0	0.0
Diptera	51.6	38.5	42.5	44.7	42.1	35.1	22.6	15.7
Ephemeroptera	0.6	0.7	0.0	0.7	1.4	1.3	0.7	1.4
Gastropoda	8.3	17.6	17.7	22.0	10.3	13.0	27.4	28.6
Isopoda	3.8	3.4	7.8	7.3	0.7	0.0	3.4	2.7
Odonata	0.6	0.0	0.0	1.3	0.7	0.0	2.1	4.1
Oligochaeta	5.1	0.7	4.6	0.0	2.1	2.0	0.0	3.4
Trichoptera	8.9	12.8	5.2	4.7	9.7	7.8	5.5	5.4
Other	1.3	0.0	2.0	0.7	24.1	17.5	2.1	2.7
Functional Feeding Groups: Percent of total								
Burrowing Deposit Feeders	5.1	0.7	4.6	0.0	2.1	2.0	0.0	3.4
Piercers	8.9	12.2	2.6	2.7	7.6	7.1	5.5	5.4
Predators	2.9	2.0	2.9	4.7	25.5	18.5	5.1	8.8
Scavengers	2.2	2.0	7.5	5.0	0.0	0.3	0.3	0.0
Scrapers	11.5	20.6	26.8	31.3	19.0	21.1	28.1	29.9
Shredders	37.6	32.4	16.0	15.0	19.0	29.9	40.8	33.7
Surface Deposit Feeders	29.6	24.0	32.4	34.7	26.2	19.5	13.0	9.9
Suspension Feeders	2.2	5.4	5.9	6.0	0.7	1.3	7.2	8.8
Unknown	0.0	0.7	1.3	0.7	0.0	0.0	0.0	0.0

Appendix A

Map of Facility



Appendix B

Facility Summary

State of Florida

Department of Environmental Protection

Facility Introduction & Summary

PART I: Information gathered prior to sampling event

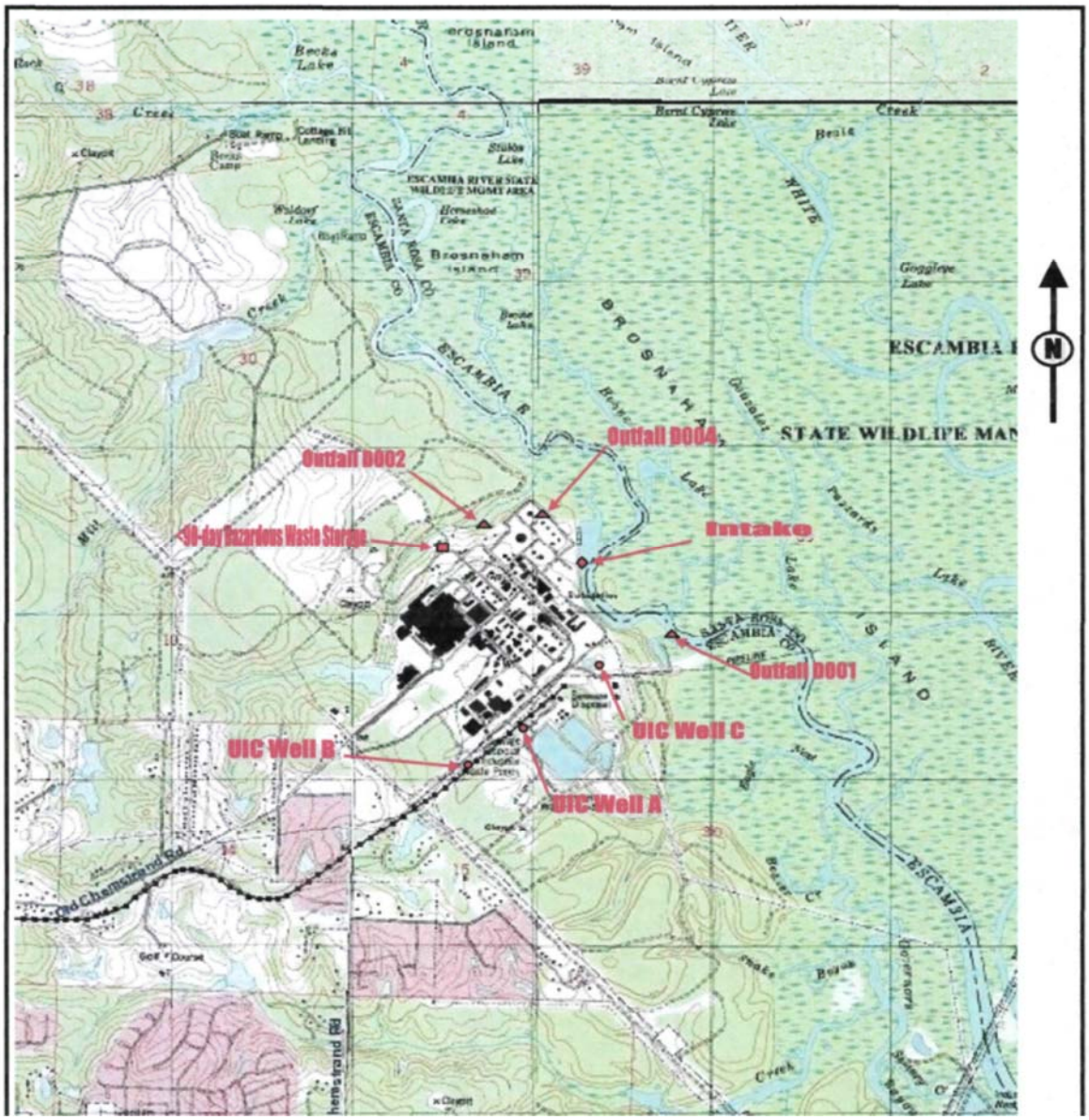
Prepared By: Shelley Alexander	**Contact Number:** 850-595-0677
Facility Name (as it appears on permit): Ascend Performance Materials	**Former Names:** Solutia, Monsanto
NPDES Permit Number: FL0002488	**Permit Expiration Date:** March 14,2016
Physical Address: 3000 Old Chemstrand Road	
District: NWD	**County:** Escambia
Function of Facility: Chemical manufacturer	
Facility Type: IW	**Permitted Capacity (MGD):** 27.7 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): SOUTH-EFF-1-41.79(05/01/2014-05/31/2015) NORTH-EFF-2-3.58(05/01/2014-05/31/2015)	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):	
Description of type of Discharge: ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	
Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): Outfall # D001/EFF-1 Pond discharge measured at Palmer-Bolis Flume Outfall # D002/EFF-2 Parshall Flume Discharge Outfall#D004/EFF-4 Diked Area Discharge Intake D099/INT-1 River Influent in Power House Internal outfall I007/INF-7 Domestic wastewater plant Influent Internal outfall I007/EFF-7 Domestic wastewater plant Effluent	
Description of Permitted Outfall(s): Outfall#D001 (South)latitude 30 35 45 N longitude 87 30 45 W, 25 MGD directly discharges to the Escambia River Outfall#D002 (North including 12 sub-outfalls) latitude 30 36 15 N longitude 87 30 45 W,	

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

Wastewater treatment includes sodium bisulfite dechlorination, oil skimming by means of permanent oil booms, sedimentation, equalization and neutralization.

Outfall#D001-South Outfall, steam condensate, non-contact cooling water, fire protection water losses, hydrostatic test water, treated and untreated production well ground water, ion exchange regeneration wastewater, potable water, river water, stormwater within dikes and stormwater runoff from areas associated with industrial activity.

Outfall#D002-North Outfall, steam condensate, non-contact cooling water, fire protection water losses, hydrostatic test water, treated and untreated production well ground water, ion exchange regeneration wastewater, potable water, river water, stormwater within dikes and stormwater runoff from areas associated with industrial activity.



PART I: Continued

List <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under

D001 - South Outfall	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Monthly Avg.**	**Daily Max.**	**Other - specify**	**Frequency**	**Sample Type**	**Sample Point**
Flow, (MGD)	NA	NA	Report	Continuous	Recorder	EFF-1
pH, (standard units)	See Part I.A.10.		6 – 8.5	Continuous	Recorder	EFF-1
Temperature, (°F)	99.0	99.0	NA	3/week	Instantaneous	EFF-1
Total Residual Chlorine, mg/l (Item I.A.15.)	0.01	0.01	NA	7/week	Grab	EFF-1
Oil & Grease, mg/l	5.0	5.0	NA	1/week	Grab	EFF-1
Hardness, mg/l of $CaCO_3$	NA	NA	Report (mg/l)	1/month	24 hour composite	EFF-1
Total Recoverable Copper, (ug/l) see Item I.A.16.	NA	$e^{(0.8545[\ln H]-1.702)}$	NA	1/month	24 hour composite	EFF-1
Total Recoverable Nickel, (ug/l) (I.A.16.)	NA	$e^{(0.846[\ln H]+0.0584)}$	NA	1/month	24 hour composite	EFF-1
Total Recoverable Zinc, (ug/l) (I.A.16.)	NA	$e^{(0.8473[\ln H]+0.884)}$	NA	1/month	24 hour composite	EFF-1
Total Recoverable Lead, (ug/l) (I.A.16.)	NA	$e^{(1.273[\ln H]+4.705)}$	NA	1/month	24 hour composite	EFF-1
Total Recoverable Iron, (mg/l) (I.A.16.)	NA	Report	NA	1/month	24 hour composite	EFF-1
Total Recoverable Mercury, (ug/l) (I.A.16.)	NA	0.012	NA	1/year	24 hour composite	EFF-1
Whole Effluent Toxicity	See Part I.E.8.					EFF-1

D002 – North Outfall	Discharge Limitations			Monitoring Requirements		
Parameters (units)	**Monthly Avg.**	**Daily Max.**	**Other -specify**	**Frequency**	**Sample Type**	**Sample Point**
Flow, (MGD)	NA	NA	Report	Continuous	Recorder	EFF-2
pH, (standard units)	See Part I.A.10.		6 – 8.5	Continuous	Recorder	EFF-2
Temperature, (°F)	99.0	99.0	NA	3/week	Instantaneous	EFF-2
Total Residual Chlorine, mg/l	0.01	0.01	NA	7/week	Grab	EFF-2
Hardness, mg/l of $CaCO_3$	NA	NA	Report (mg/l)	1/month	24 hour composite	EFF-2
Total Recoverable Copper, (ug/l) See Item I.A.16.	NA	$e^{(0.8545[\ln H]-1.702)}$	NA	1/month	24 hour composite	EFF-2
Total Recoverable Nickel, (ug/l) See Item I.A.16.	NA	$e^{(0.846[\ln H]+0.0584)}$	NA	1/month	24 hour composite	EFF-2
Total Recoverable Lead, (ug/l) (I.A.16.)	NA	$e^{(1.273[\ln H]+4.705)}$	NA	1/month	24 hour composite	EFF-2
Total Recoverable Iron, (mg/l) (I.A.16.)	NA	Report	NA	1/month	24 hour composite	EFF-2
Total Recoverable Mercury, (ug/l) (I.A.16.)	NA	0.012	NA	1/year	24 hour composite	EFF-2
Total Recoverable Zinc, (ug/l) (I.A.16.)	NA	$e^{(0.8473[\ln H]+0.884)}$	NA	1/month	24 hour composite	EFF-2
Whole Effluent Toxicity	See Part I.E.8.					EFF-2

PART I: Continued

List <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under

During the period beginning on the issuance date and lasting through the expiration date of the permit, the permittee is authorized to monitor and report the values of the following **Escambia River Intake** parameters:

D099	**Reporting Requirements**		**Monitoring Requirements**		
Parameters (units)	**Monthly Avg.**	**Daily Max.**	**Frequency**	**Sample Type**	**Sample Point**
Flow (MGD)	Report	Report	Continuous	Recorder	INT-1
Total Recoverable Copper (ug/l)	NA	Report	1/month	24 hour composite	INT-1
Total Recoverable Nickel (ug/l)	NA	Report	1/month	24 hour composite	INT-1
Total Recoverable Lead (ug/l)	NA	Report	1/month	24 hour composite	INT-1
Total Recoverable Iron (mg/l)	NA	Report	1/month	24 hour composite	INT-1
Total Recoverable Mercury (ug/l)	NA	Report	1/month	24 hour composite	INT-1
Total Recoverable Zinc (ug/l)	NA	Report	1/month	24 hour composite	INT-1

16.
The actual limit for Copper, Nickel, Lead, Iron, Mercury and Zinc shall be the water quality standard set forth in FAC 62-302.530 for Class III fresh waters (as provided in condition I.A) or the concentration of the intake cooling water whichever is greater. If the Outfall D-001 and/or D-002 composite samples exceeds both the intake concentration and the water quality standard , a minimum of five (5) additional subsamples shall be measured from the original intake and outfall composite and a "student's t-test" shall be run on these additional subsamples comparing discharge concentrations with the intake concentrations; unless the discharge concentration exceeds the intake concentration at the 95% confidence level, the facility shall be in compliance with the limitation.

Administrative Order No.: AO085NW
During the interim period in which the Permittee is working to bring the Facility into compliance as required by this Order, the permittee shall be allowed an interim limit of "Report" for Iron for their discharge from outfalls D-001 and D-002. All other monitoring requirements in Permit #FL0002488shall remain as required by the current permit.

PART I: Continued

List <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under

Part I.A.10 The pH shall be continuously monitored and recorded once per minute to produce a pH value defined as the rolling 60-minute arithmetic average of the 1 minute data at Outfalls' D001 and D002 sample points EFF-1 and EFF-2. The final permit limit for pH is 6-8.5 s.u.

Part I.E.8 **8. Whole Effluent Toxicity Testing**

The permittee shall comply with the following requirements to evaluate chronic whole effluent toxicity of the discharge from outfalls D-001 and D-002.

(1) Effluent Limitation

b) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. [Rules 62-302.530(61) and (1)(b), F.A.C.]

c) For acute whole effluent toxicity, the 96-ho r LC50 shall not be less than 100% effluent in any test. [Rules 62- 302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.

b. Monitoring Frequency

(1) Routine toxicity tests shall be conducted once every three months, the first starting within 60 days of permit issuance and lasting for the duration of this permit.

(2) Upon completion of four consecutive, valid routine tests on samples from the same outfall that demonstrate compliance with the effluent limitation in 11.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests from the same outfall that demonstrate compliance with the effluent limitation in 11.a. above.

(3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02- 014, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
Escambia River	Class III freshwater

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

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013 or EPA-821-R-02-014, Section 8. The Permittee shall monitor a hydrograph of the Escambia River and collect the first composite sample when the hydrograph indicates water levels have been stable for at least a week.

(2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.

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

d. Test Requirements

(4) Routine Tests: All routine tests shall be conducted using a control (0% effluent) and a minimum of five test dilutions: **100%**, **50%**, **25%**, **12.5%**, and **6.25%** final effluent.

(5) a) When the effluent salinity of the first composite sample is greater than or equal to 1.0 ppt, the permittee shall conduct a 7-day survival and growth chronic toxicity tests with a mysid shrimp, **Americamysis (Mysidopsis) bahia**, Method 1007.0, and an inland silverside, **Menidia beryllina**, Method 1006.0, concurrently.

b) All test species, procedures and quality assurance criteria shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms**, 3rd Edition, EPA-821-R-02-014. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

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

1. **For the Americamysis bahia and Menidia beryllina bioassays, the effluent shall be adjusted to a salinity of** 20 parts per thousand (ppt) with artificial sea salts. The salinity of the control/dilution water (0% effluent) shall be 20 ppt. If the salinity of the effluent is greater than 20 ppt, no salinity adjustment shall be made to the effluent and the test shall be run at the effluent salinity. The salinity of the control/dilution water shall match the salinity of the effluent.

2. If the salinity of the effluent requires adjustment, a salinity adjustment control should be prepared and included with each bioassay. The salinity adjustment control is intended to identify toxicity resulting from adjusting the effluent salinity with artificial sea salts. To prepare the salinity adjustment control, dilute the control/dilution water to the salinity of the effluent and adjust the salinity of the salinity adjustment control at the same time and to the same salinity that the salinity of the effluent is adjusted using the same artificial sea salts

(3) When the effluent salinity of the first composite sample is less than 1.0 ppt, the permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.

a) All test species, procedures and quality assurance criteria shall be in accordance with **Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms**, 4th Edition , EPA-821-R-02-013. Any deviation of the bioassay procedures outlined herein shall be submitted in writing to the Department for review and approval prior to use. In the event the above method is revised, the permittee shall conduct chronic toxicity testing in accordance with the revised method.

b) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.2.3.

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): The requirements of AO055NW issued on March 15, 2011 have been satisfied.
AO085NW issued on July 24, 2013 establishing a schedule for the facility to be compliant with the effluent Iron limit at both outfalls, D-001 & D-002.

Facility Mixing Zone Details (if applicable):

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

Date	Parameter and Units	Limit	Result
6/30/2014 EFF-2	**Toxicity %**	**100**	**80**
7/30/2014 EFF-2	**pH s.u.**	**6-8.5**	**9.9**
9/07/2014 EFF-1	**pH s.u.**	**6-8.5**	**5.5**
10/12/2014 EFF-2	**pH s.u.**	**6-8.5**	**9.6**
02/17/2015 EFF-7	**TRC Daily Minimum**	**0.5 mg/L**	**0.13 mg/L**
02/20/2015 EFF-7	**TRC Daily Minimum**	**0.5 mg/L**	**0.01 mg/L**
02/26/2015 EFF-7	**TRC Daily Minimum**	**0.5 mg/L**	**0.07 mg/L**

Describe previous FYI and WQBEL study:

Describe previous or current Enforcement Actions (including WLs):
Permit/Rule or Other Reference: Permit Conditions I.A.1 (D-001) & I.A.2. (D-002): limit pH maximum values to 8.5 s.u. for a daily maximum and TRC values for the I-007 outfall are limited to a 0.5 mg/L daily minimum.

Corrective Action: For the July 2014 reported pH exceedance, a contractor inadvertently dumped a small amount of concrete into the north ditch. The ditch ultimately ends up at the north outfall and caused a one hour pH exceedance. The concrete was removed and the pH returned to normal limits. For the September 2014 reported pH exceedance, a one hour exceedance occurred with no definitive cause discovered. For the October 2014 reported pH exceedance, in preparation for maintenance on the #2 Reactor, a valve was inadvertently locked in the open position resulting in a salt release to the ground and approximately 10% of the total release reached the storm water drain which caused a one hour pH exceedance at the north outfall. For the reported February 2015 TRC exceedances two of the three events were attributed to low ambient temperatures* resulting in the sodium hypochlorite crystalizing out of solution. The solid sodium hypochlorite blinded over the active pump resulting in no flow. The cause of the third event is undetermined. Long-term corrective actions are planned to prevent this problem from recurring in the future.

***** Note**:** 02/17/2015 low was 32 °F, 02/20/2015 low was 30 °F, 02/26/2015 low was 37 °F according to National Weather Service at Pensacola Airport. http://w2.weather.gov/climate/getclimate.php?wfo=mob.

Describe any violations or problems noted in previous inspection:

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

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

PART II: Sampling Event Information

Date(s) sample collected: **6/16/2015**	**Sampler(s):** **Dana Vestal-NWD FLDEP**
Temperature (Deg C): **SOUTH-EFF-1-33.27 NORTH-EFF-2-32.72**	**pH (SU):** **SOUTH-EFF-1-7.40 NORTH-EFF-2-7.23**
Dissolved Oxygen (mg/L): **Not Applicable**	**Conductivity (umhos/cm):** **SOUTH-EFF-1-347 MS NORTH-EFF-2-146 MS**
Total Residual Chlorine (mg/L): **SOUTH-EFF-1-0.01 NORTH-EFF-2-0.01**	**Total Residual Chlorine - after Disinfection (mg/L):** **SOUTH-EFF-1-0.17 NORTH-EFF-2-0.17**
Method of Chlorination: **SODIUM HYPOCHLORITE**	**Method of De-chlorination:** **SODIUM BISULFITE**

Flow During Sample Collection for each outfall(MGD):
SOUTH-EFF-1-59.6
NORTH-EFF-2-0.9

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):
SOUTH-EFF-1-41.79 NORTH-EFF-2-3.58

Description of type of Discharge:
☒ **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:
The grab sample for Total Residual Chlorine shall be collected at approximately the time, after chlorination for the intake river water, when the highest potential concentration if chlorine is expected to discharge from Outfall D-001. The permittee is authorized to discharge from Outfall I007 (Domestic Wastewater), domestic wastewater plant effluent from the facultative lagoon to cooling Tower #2. Such Discharge shall be limited and monitored by the permittee as specified below:
Chlorine residual, mg/L Minimum daily grab is 0.5 mg/L reading for 6/16/2015 from monthly Discharge Monitoring Report was 86 mg/L.

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) Habitat Assessment

Habitat assessment is used to evaluate the physical structure and extent of disturbance in a waterbody. Eight aspects are ranked, with 20 possible points for each aspect (QA Rule SOP FT 3100). The Habitat Assessment score includes types and amounts of benthic substrates, water velocity, amount of sand or silt accumulation, extent of artificial channelization, bank stability, and riparian zone width and vegetation type. All scores are summed to yield an overall Habitat Assessment score. Habitat Assessment score ranges from 11-160 and overall habitat quality is assigned to one of four categories: Optimal (120-160 points), Suboptimal (80-119 points), Marginal (40-79 points), and Poor (11-39 points).

(6) Algal Growth Potential (AGP)

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

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

(7) Algal Phytoplankton and Periphyton Assemblages

Qualitative periphyton are sampled by taking subsamples of algae from natural substrates throughout the sample reach. Phytoplankton were sampled from the water column using a 1 L grab sample. Periphyton were subsampled and identified to the lowest practical level, usually species. Wet taxa and diatoms are identified separately. In the wet taxa analysis, soft algae are identified to the lowest practical level, and diatoms are identified only to order level (diatom). In the diatom analysis, diatoms are identified to the lowest practical level.

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

Algal Density: Algal density is estimated as number of natural units/ml for phytoplankton samples. Although algal density of a single site is highly variable and depends on a number of factors, comparison of algal density at a control site to algal density at a related test site gives a partial comparison of algal biomass at the two sites (Stevenson and Smol 2003).

Taxa richness: Taxa richness is the number of distinct algal taxa present in a sample. Extreme nutrient enrichment tends to reduce the number of different types of algae present in a sample because a few tolerant taxa tend to reproduce rapidly and constitute the majority of the cells present. However, moderate nutrient enrichment of nutrient poor waters may sometimes be correlated with increased algal taxa richness (Stevenson and Bahls 1999) as the algal community begins to respond to the increased input of nutrients.

Community Composition: Shifts in relative proportions of major groups of algae downstream of a point source, compared to upstream, control conditions, may indicate negative effects of a discharge (Stevenson and Bahls 1999) and may constitute exceedances of 62-302.530(46) F.A.C., 62-302.530(47)(a) F.A.C., 62-302.530(47)(b) F.A.C. and/or 62-302.530(61) F.A.C.

(8) Benthic Macroinvertebrate Assemblages

Benthic macroinvertebrates were collected using two methods. Quantitative samples were collected from Hester-Dendy multi-plate samplers incubated for 28 days. Qualitative collections are made using 20 dipnet sweeps (QA Rule SOP FS7420). Benthic macroinvertebrates were sorted and identified to the lowest practical taxonomic level, usually species.

Taxa richness: Taxa richness is the number of distinct macroinvertebrate taxa present in a sample. Stress, habitat destruction and pollution tend to reduce the number of different types of organisms present (Karr and Chu 1998). Decreases in taxa richness related to a facility's effluent may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C., 62-302.530(47)(b), F.A.C. and/or 62-302.530(61), F.A.C..

Percent Contribution of Dominant Taxon: Percent contribution of the dominant taxon is calculated by dividing the number of individuals in the most abundant taxa by the total number of individuals counted. Percent contribution of the dominant taxon tends to increase with increasing perturbation (Plafkin *et al*., 1989). Increases in the percent contribution of the dominant taxon related to a facility's effluent 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..

Community Composition: Shifts in proportions of major groups of organisms downstream of a point source, compared to upstream, control conditions, may indicate negative effects of a discharge (Fore et. al. 2007, Karr and Chu 1998). Shifts in community composition related to a facility's effluent may constitute exceedances of 62-302.530(46) F.A.C., 62-302.530(47)(a), F.A.C., 62-302.530(47)(b), F.A.C. and/or 62-302.530(61), F.A.C.

Functional Feeding Groups: Environmental degradation may differentially affect groups of invertebrates based on how the group feeds (e.g. predators, deposit feeders, etc.). In Florida, pollution may be responsible for reducing the numbers of filter feeders and shredders (Fore et. al. 2007). Changes in the proportions of functional feeding groups related to a facility's effluent may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C., 62-302.530(47)(b), F.A.C. and/or 62-302.530(61), F.A.C..

Shannon-Weaver Diversity Index: This index is specified in the Florida Administrative Code 62-302 as a measure of biological integrity. Low diversity scores are undesirable. Where diversity is low, only a few taxa are abundant as compared to an area where many taxa are present in equitable abundance among taxa (Magurran 1988). A difference of 25% in Shannon-Weaver diversity between results from Hester-Dendy multiplate samplers incubated for 28 days at test and control sites constitute exceedances of 62-302.530(10), F.A.C..

The Stream Condition Index (SCI): The SCI is a composite macroinvertebrate metric developed for Florida (Fore et. al. 2007). This Index was revised in 2007 using data from qualitative dipnet samples. The SCI now assigns points to ten parameters; depending on how closely each parameter approaches an expected value (QA Rule SOP LT 7200). Points are assigned according to in which bioregion (Panhandle, Northeast, or Peninsula) the sampling location exists -and summed to yield a final SCI score (range 0-100). Included in the calculation of SCI are taxa richness, number of Ephemeroptera taxa, number of Trichoptera taxa, percent contribution of the dominant taxon, number of sensitive taxa, number of clinger taxa, number of long-lived taxa, percent contribution of Tanytarsini, percent contribution of very tolerant, and the percent contribution of suspension and filter feeders. As human disturbance increases, it is expected that taxa richness, the number of Ephemeroptera taxa, Trichoptera taxa, sensitive taxa, clinger taxa, long-lived taxa, and the percent contribution of Tanytarsini and suspension and filter feeders will decrease while percent contribution of dominant taxon, and percent contribution of very tolerant taxa will increase.

Scores are broken into three categories (1, 2, and 3). Sites in Category 1 are described as having higher diversity than Category 2 sites, particularly for Ephemeroptera and Trichoptera. A Category 1 site may have several more clinger and sensitive taxa, a higher proportion of Tanytarsini, and a lower percent of a dominant taxon than a site in Category 2. The site will also have a very small percentage of very tolerant individuals, if any.

Sites in Category 2 are described as having an average of 30 species with several different taxa of Ephemeroptera and Trichoptera. A Category 2 site also has several different long-lived taxa and, on average, 5 clinger and 6 sensitive taxa. There is a slight increase in dominance by a single taxon relative to sites in Category 1. Very tolerant taxa represent a small percentage of individuals but are noticeably increased as compared to sites in Category 1.

Sites in Category 3 are described as having a notable loss in taxonomic diversity, and Ephemeroptera, Trichoptera, long-lived, clinger and sensitive taxa are uncommon or rare. Filter feeders are reduced by at least 50%. The site is dominated by a tolerant taxon, and very tolerant individuals represent a large proportion of the individuals collected.

SCI 2007 categories are from Table LT 7200-2 of DEP-SOP-002/01 as referenced in Draft Quality Assurance Rule (62-160, F.A.C.), December 3, 2008. A decrease in ordinal SCI score from the Control to the Test site may be evidence of degradation related to a facility's effluent. An

SCI score in Category 3, if it is shown to be related to a facility's effluent, may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C., 62-302.530(47)(b), F.A.C., or of 62-302.530(61).

(9) Definition of Qualifiers

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

B - Results based on colony counts outside the acceptable range.

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

J - Estimated value

K - Actual value is known to be less than value given

L - Actual value is known to be greater than value given

N - Presumptive evidence of presence of material.

O - Sampled, but analysis lost or not performed.

Q - Sample held beyond normal holding time.

T - Value reported is less than the criterion of detection.

U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.

V - Analyte was detected in both sample and method blank.

X - Too few individuals to calculate SCI value.

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

Z - Colonies were too numerous to count (TNTC)

Appendix D

Chain of Custody

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-06-08-27
FYI5 Ascend Performance Materials LLC Sampling

Requester: Adrienne E. Pennington
Field Report Prepared By: Shelley Alexander
Collected By: Shelley Alexander,
Send Final Report To: Kim Allen
Sampling Agency: FLDEP

Customer: NW-DIST
Project ID: FYI5
PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend Field ID: D-002 (North)	☐ Comp ☑ Grab	Date 6/16/15 Time 10:27	Date / Time	B
	Matrix (include type e.g. Salt, Fresh, etc) / Temp (C) / pH	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	NPDES Number	
	Sample Depth ☐ m ☐ ft / ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)				
	Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Comments			

Lab ID *	Location	Comp / Grab	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend Field ID: D-001 (South)	☑ Comp ☐ Grab	Date 6/15/15 Time 0:46	Date 6/15/15 Time 11:45	C
	Matrix (include type e.g. Salt, Fresh, etc) / Temp (C) / pH	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	NPDES Number	
	Sample Depth ☐ m ☐ ft / ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)				
	Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Comments: T-5 Low level Hg 11:50 11:51			

Lab ID *	Location	Comp / Grab	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend Field ID: D-001 (South)	☐ Comp ☑ Grab	Date 6/15/15 Time 11:55	Date / Time	B
	Matrix (include type e.g. Salt, Fresh, etc) / Temp (C) / pH	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	NPDES Number	
	Sample Depth ☐ m ☐ ft / ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)				
	Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Comments			

Lab ID *	Location	Comp / Grab	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend Field ID: ~~D-001~~ (South & North-Trip)	☐ Comp ☐ Grab	Date 6/16/15 Time 12:00	Date / Time	G
	Matrix (include type e.g. Salt, Fresh, etc) / Temp (C) / pH	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	NPDES Number	
	Sample Depth ☐ m ☐ ft / ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)				
	Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Comments: BLANK			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Shelley Alexander	6/16/15 1400	FEDEX					SK	6.17.15/9:20

* Shaded areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 5

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-06-08-27
FYI5 Ascend Performance Materials LLC Sampling Investigation

Customer: NW-DIST
Project ID: FYI5
PMAS: 1143

Requester: Adrienne E. Pennington
Field Report Prepared By: N. Mulky
Collected By: Nathan Mulky / Mike King / Rich Blad
Send Final Report To: Kim Allen
Sampling Agency: FDEP

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Escambia River	☐ Comp ☑ Grab Date 6/16/15 Time 0935 (Central)	Date Time	E/F
	Field ID: North Outfall Control	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 6.64	Storet Station Number
	Matrix (include type e.g. Salt, (Fresh) etc)	Temp (C): 29.08	pH: 6.52	Sample Depth ☑ m ☐ ft: 0.2
		Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☑: 126	NPDES Number	
	Latitude: 30.60570 ☑ dd ☐ dms	Longitude: 87.25031 ☑ dd ☐ dms	Comments: [illegible] HD retrieved Total Hg = T9	

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Escambia River	☐ Comp ☑ Grab Date 6/16/15 Time 1000 (Central)	Date Time	E/F
	Field ID: North Outfall Test	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 6.66	Storet Station Number
	Matrix (include type e.g. Salt, (Fresh) etc)	Temp (C): 29.10	pH: 6.87	Sample Depth ☑ m ☐ ft: 0.2
		Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☑: 126	NPDES Number	
	Latitude: 30.60573 ☑ dd ☐ dms	Longitude: 87.24950 ☑ dd ☐ dms	Comments: [illegible] HD retrieved Total Hg = T8	

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Escambia River	☐ Comp ☑ Grab Date 6/16/15 Time 1025 (Central)	Date Time	E/F
	Field ID: South Outfall Test	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 7.04	Storet Station Number
	Matrix (include type e.g. Salt, (Fresh) etc)	Temp (C): 30.68	pH: 7.12	Sample Depth ☑ m ☐ ft: 0.2
		Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☑: 138	NPDES Number	
	Latitude: 30.59575 ☑ dd ☐ dms	Longitude: 87.24192 ☑ dd ☐ dms	Comments: 2 HD retrieved Total Hg = T6	

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Escambia River	☐ Comp ☑ Grab Date 6/16/15 Time 1050 (Central)	Date Time	E/F
	Field ID: South Outfall Control	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 6.88	Storet Station Number
	Matrix (include type e.g. Salt, (Fresh) etc)	Temp (C): 30.10	pH: 7.11	Sample Depth ☑ m ☐ ft: 0.2
		Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☑: 137	NPDES Number	
	Latitude: 30.59648 ☑ dd ☐ dms	Longitude: 87.24315 ☑ dd ☐ dms	Comments: 3 HD retrieved Total Hg = T7	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	6/16/15	Fed Ex					MJB	6/17/15 9:20

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-06-08-27
FYI5 Ascend Performance Materials LLC Sampling

Requester: Adrienne E. Pennington
Collected By: Shelly Alexander
Sampling Agency: FLDEP NWD

Field Report Prepared By: Shelly Alexander
Send Final Report To: Kim Allen

Customer: NW-DIST
Project ID: FYI5
PMAS: 1143

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	SA D- Ascend	☑ Comp ☐ Grab Date 6/15/15 Time 9:30am	Date 6/16/15 Time 9:55am	A
	Field ID D-099 Intake	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 T-1 Low level Hg		

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend	☑ Comp ☐ Grab Date 6/15/15 Time 1000 (9:30am)	Date 6/16/15 Time 9:55	A
	Field ID D-099 Intake	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 Intake metals		

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend	☐ Comp ☐ Grab Date 6/16/15 Time 10:06	Date Time	G
	Field ID D-099 Intake Blank	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 T-2 low level Hg Blank		

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Ascend	☑ Comp ☐ Grab Date 6/15/15 Time 10:25	Date 6/16/15 Time 10:25	C
	Field ID D-002 (Northoutfall)	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (include type e.g. Salt, Fresh, etc) Fresh / Temp (C) 4 / pH	Sample Depth ☐ m ☐ ft / ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude ☐ dd ☐ dms / Longitude ☐ dd ☐ dms	Comments T-4 Low level Hg		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Shelly Alexander	6/16/15 1400	FED EX					SK	6/17/15 9:20

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Appendix E

Physical/Chemical and Habitat Assessment field sheets

DEP-SOP-001/01: Form FD 9000-3 (9/19/12)

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.59575

COUNTY Escambia STORET # _____ LONGITUDE 87.24192

DATE 6/16/15 TIME 1025 SAMPLING AGENCY FDEP

SITE NAME Ascend PNL

FIELD ID/NAME South Outfall Test RECEIVING BODY OF WATER Escambia Bay

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
✓				✓	✓	✓	

Landscape Development Intensity Index (LDI):

Local Watershed Erosion (select one): ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☑ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank: >18 Right Bank: —

Hydrologic Modification Score (per FT 3101):

High Water Mark: 1.0 (m) + >1.5m (present depth) = _____ (above bed)

Artificially Impounded: ☐ Yes ☑ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect: little to no flow — 3 m wide

_____ m/s _____ m/s _____ m/s

_____ m deep _____ m deep _____ m deep

Artificially Channelized: ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe — center dredged ~~ditch~~

Canopy Cover %: ☐ Open ☑ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils: ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors: ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☑ Anaerobic ☐ Other (Specify):

Smothering of Substrates:

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☑	☐
Silt Smothering:	☐	☐	☐	☑
Algae Smothering:	☐	☑	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☑ SCI ☑ RPS ☑ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	11	5	
Undercut Banks /Roots	6.25	5	
Leaf Packs or Mat		1	
Aquatic Vegetation	1.5	5	
Rock or Shell Rubble...			
Sand/Silt.....		4	
Sand/Gravel.....			
Mud/Muck/Silt			
Other ..... NO flow 20 others			

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☐	☑	☐
Fish:	☐	☐	☑	☐
Aquatic Plants:	☐	☐	☐	☑
Iron/Sulfur Bacteria:	☐	☑	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.2	30.68	7.12	7.04	94.2	138	0.06	0.6
Mid:								☐ VOB
Bottom	3.1							SITE DEPTH
								>1.5

Meter ID: 113529 Meter Verify: Y ☑ N ☐

Water Odors: Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils: Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: see comments Exp: _____

Color: Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity: Clear ☐ Slightly Turbid ☐ Turbid ☑ Opaque ☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

WEATHER CONDITIONS / NOTES:

High Tide: 1055

Low Tide: 2227

nitric - 5076670 w3/17/16

sulfuric 5044203 2/11/16

2 HD combo received

T6 south test outfall total recovery

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM: Mike King / Frank Butera / Nathan Mulvey / Rick Abad

SIGNATURE: _____ DATE: 6/16/15

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: 21FLPNS SUBMITTING AGENCY NAME: FDEP NWFROC		STORET STATION NUMBER:	DATE (MM/DD/YY): 6/10/15	RECEIVING BODY OF WATER: Escambia Bay
REMARKS:	COUNTY: Escambia	LOCATION: Escambia River South Outfall test		FIELD ID/NAME: South Outfall test

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 5	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 4	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 (4) 3 2 1
Water Velocity 1	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 (1)
Habitat Smothering 4 Primary Score ~~13~~ 14	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 (4) 3 2 1
Secondary Habitat Components **Artificial Channelization** 18	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. (counted dredged) 20 19 (18) 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 78	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. (10) 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

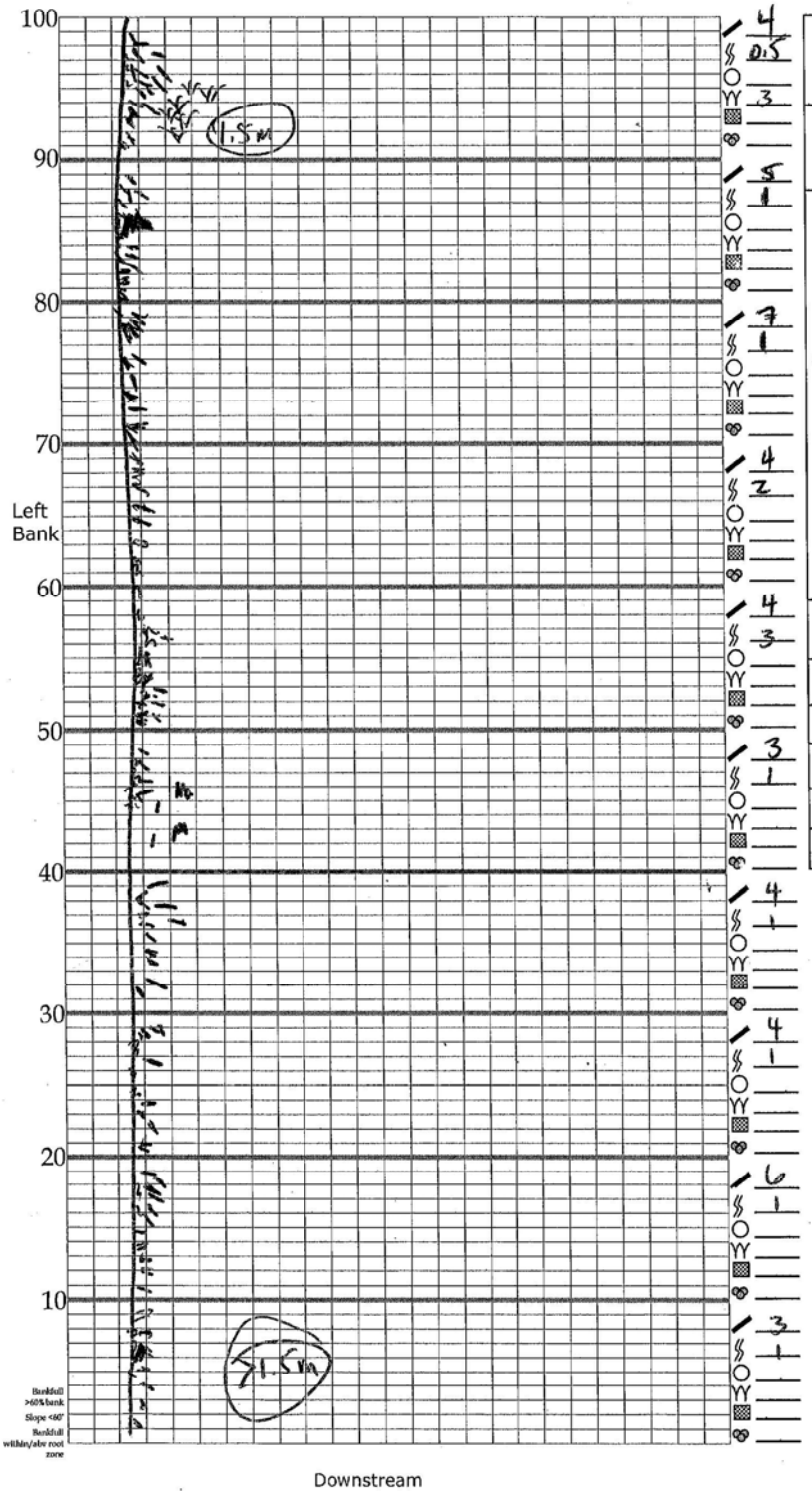
92 **TOTAL SCORE**

Date:	Analyst:	Signature:
6/17/15	Mike King	

Habitat but not counted in flow

DEP-SOP-001 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Location: South Outfall (east) Date: 6/16/15 1200 Sampler: Mecking



		4
		0.5
		3
		5
		1
		7
		1
		4
		2
		4
		3
		3
		1
		4
		1
		4
		1
		6
		1
		3
		1

100m: Latitude 30.89574
Longitude 87.24197

0m: Latitude 30.59543
Longitude 87.24146

Substrates: Total 19 %

Snags	44	11
Roots/undercut banks	25	6.25
Leaf Packs (or mats)		
Aquatic Macrophytes	6	1.5
Rock		
Gravel		
Other		

Pools observed/expected 1/

Average width: 4 m
Average depth: 1 m

Velocity measured at: 50 meter mark

WQ & chemistry taken at 100 meter mark

Habitat smothering:

Bank stability:

Altered Riparian Buffer Width:

Plants observed & notes:

South outfall test

Form FD 9000-32 **FDEP Linear Stream Vegetation Survey (DEP SOP FS 7320)** Revised 10-11-11

Waterbody: Escambia River | Date: 6/10/15 | County: Escambia | Storet Number:

Analyst: Mike King | Signature: [redacted]

Comments:

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Cephalanthus occidentalis											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Fontinalis											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Itea virginica											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Lobelia cardinalis											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with an "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage											
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar	✓										
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salix caroliniana											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Zizaniopsis milacea											
Eutricularia	✓										
	✓										

Form FD 9000-25 **FDEP Rapid Periphyton Survey (DEP SOP FS 7230)** Revised 6/12/12

Site: South Outfall Test | County: Escambia | Date: 6/16/15 | Investigators:

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
0	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
10	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
20	1	3	
	2	N	
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
30	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
40	1	3	
	2	3	
	3	N	
	4		
	5		30
	6		
	7		
	8		
	9		
50	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
60	1	3	
	2	3	
	3	N	
	4		
	5		40
	6		
	7		
	8		
	9		
70	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
80	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
90	1	N	
	2		
	3		
	4		
	5		20
	6		
	7		
	8		
	9		
100	1	3	
	2	3	
	3	N	
	4		
	5		20
	6		
	7		
	8		
	9		

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Secchi depth: >1.0

Check accompanying data collected at same site/date.	
Algal mat sample	
Habitat Assessment	✓
Linear Veg. Survey	✓
SCI/Biorecon (circle 1)	
Water sample	✓
RQ:	

Algal Thickness Rank

N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 10 cm
6	>10 cm

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect an algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

DEP-SOP-001/01: Form FD 9000-3 (9/19/12)

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.59698

COUNTY Escambia STORET # _____ LONGITUDE 87.24315

DATE 6/16/15 TIME 1050 SAMPLING AGENCY FDEP

SITE NAME Agency FYI

FIELD ID/NAME South Outfall Control RECEIVING BODY OF WATER Escambia Bay

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
✓				✓	✓	✓	

Landscape Development Intensity Index (LDI):

Local Watershed Erosion (select one): ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☑ Moderate ☐ Heavy

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

little to no flow 4 m wide

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: >18 Right Bank: —

Hydrologic Modification Score (per FT 3101):

_____ m/s _____ m/s _____ m/s

High Water Mark: 1.0 (m) + >1.5m (above present water level) (present depth) = _____ (above bed)

Artificially Impounded ☐ Yes ☑ No

_____ m deep _____ m deep _____ m deep

Artificially Channelized: ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe dredged @ center

Canopy Cover % ☐ Open ☑ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils: ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors: ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☑ Anaerobic ☐ Other (Specify):

Smothering of Substrates

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☑	☐
Silt Smothering:	☐	☐	☐	☑
Algae Smothering:	☐	☑	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☑ SCI ☑ RPS ☑ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	8	7	
Undercut Banks /Roots	1	4	
Leaf Packs or Mat			
Aquatic Vegetation	10.5	7	
Rock or Shell Rubble			
Sand/Silt		2	
Sand/Gravel			
Mud/Muck/Silt			
Other			

No flow at 200 meters

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☐	☑	☐
Fish:	☐	☐	☑	☐
Aquatic Plants:	☐	☐	☐	☑
Iron/Sulfur Bacteria:	☐	☑	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.2	30.10	7.11	6.88	91.4	137	0.06	0.4
Mid:								☐ VOB
Bottom	6.5							SITE DEPTH >1.5

Meter ID: 113529 **Meter Verify:** Y ☑ N ☐

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: _____ Exp: _____

Color Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☑ Opaque ☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

WEATHER CONDITIONS / NOTES:

High Tide: 1055

Low Tide: 2227

T7 south control total mercury

nitric 5076070 3/17/16 3 HDcondos retrieved

sulfuric 5042053 2/11/16

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

MIKE KING / FRANK BUTERA / NATHAN MURNEY / RICK MEAD

SIGNATURE: _____ DATE: 6/16/15

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: 21FLPNS SUBMITTING AGENCY NAME: FDEP NWD EOC	STORET STATION NUMBER:	DATE (MM/DD/YY): 6/16/15	RECEIVING BODY OF WATER: Escambia Bay
REMARKS:	COUNTY: Escambia	LOCATION: Escambia River @ South outfall Control	FIELD ID/NAME: South outfall Control

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 5	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 5	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat Habitat but not counted in Flow (5) 4 3 2 1
Water Velocity 1	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 (1)
Habitat Smothering 5 Primary Score 16	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. (5) 4 3 2 1
Secondary Habitat Components **Artificial Channelization** 18	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 (18) 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 78	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. (10) 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

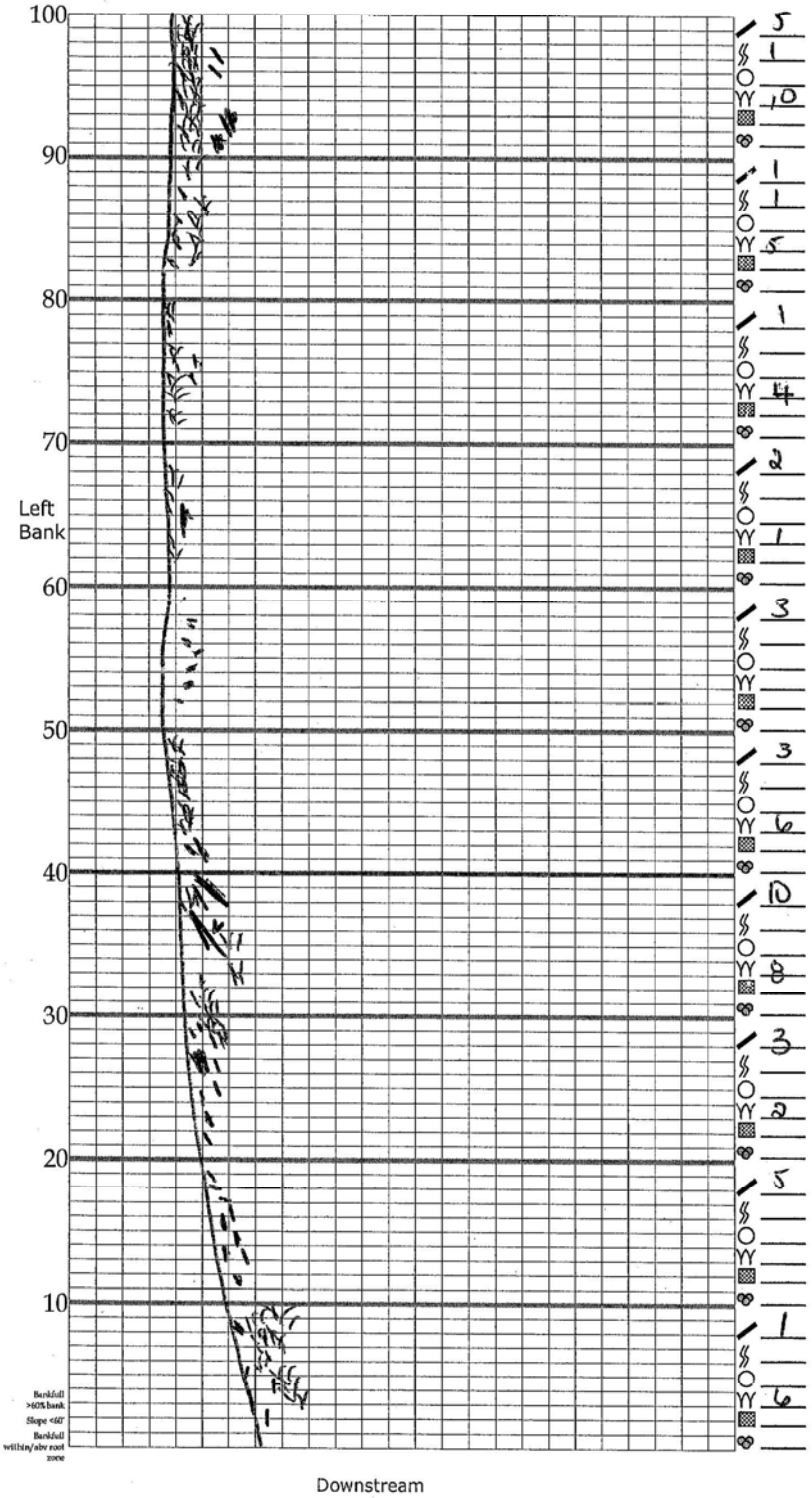
94 **TOTAL SCORE**

Date: 6/16/15	Analyst: Mike King	Signature:

Form FD 9000-5 Revision Date: December 19, 2011

DEP-SOP-001 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Location: South outfall Control ~ Date: 6/14/15 1315 Sampler: Mike King



100m: Latitude ~~30.59683~~ 30.59667
Longitude 87.24388

0m: Latitude 30.59687
Longitude 87.24312

Substrates:		Total 20 %
Snags	34	8.5
Roots/undercut banks	4	1
Leaf Packs (or mats)	~~Few~~	
Aquatic Macrophytes	42	10.5
Rock		
Gravel		
Other		
Pools observed/expected	1	

Average width: 4 m
Average depth: 1 m

Velocity measured at: 0 meter mark

WQ & chemistry taken at 70 meter mark

Habitat smothering:

Bank stability:

Altered Riparian Buffer Width:

Plants observed & notes:

Cyrilla
Red maple

Snag w/ Baracle

Form FD 9000-32 **FDEP Linear Stream Vegetation Survey (DEP SOP FS 7320)** Revised 10-11-11

Waterbody: Escambia River | Date: 6/10/15 | County: Escambia | Storet Number:

Analyst: Mike King | Signature:

Comments: South outfall control

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Cephalanthus occidentalis											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Fontinalis											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Itea virginica											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Lobelia cardinalis											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with an "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage											
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar											
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata	✓	✓				✓			✓	✓	
Potamogeton illinoensis											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia	✓	✓				✓			✓	✓	
Salix caroliniana											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Zizaniopsis milacea	✓										
Juncus Abusus	✓									✓	
Sacis Sernus	✓										
Hypericum	✓									✓	
Zambucu Candensis	✓										
Juncus Af											
Agalin w											
	✓	✓				✓				✓	

Form FD 9000-25 **FDEP Rapid Periphyton Survey (DEP SOP FS 7230)** Revised 6/12/12

Site: South outfall Control | County: Escambia | Date: 6/16/15 | Investigators: Mike King

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
0	1	2		40	1	2		80	1	2	
	2				2	3			2		
	3				3	2			3		
	4				4	3			4		
	5		20		5	2	20		5		20
	6				6	3			6		
	7				7	2			7		
	8				8				8		
	9	↓			9	↓			9	↓	
10	1	2		50	1	2		90	1	2	
	2				2				2		
	3				3				3		
	4				4				4		
	5		28		5		40		5		20
	6				6				6		
	7				7				7		
	8				8				8		
	9	↓			9	↓			9	↓	
20	1	2		60	1	3		100	1	2	
	2	3			2	3			2	2	
	3	3			3	3			3		
	4	2			4	3			4		
	5		28		5	2	20		5		28
	6				6				6		
	7				7				7		
	8				8				8		
	9	↓			9	↓			9	↓	
30	1	2		70	1	3					
	2				2	2					
	3				3						
	4				4						
	5		20		5		16				
	6				6						
	7				7						
	8				8						
	9	↓			9	↓					

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Secchi depth: >1.5 m

Check accompanying data collected at same site/date.	
Algal mat sample	
Habitat Assessment	✓
Linear Veg. Survey	✓
SCI/Biorecon (circle 1)	
Water sample	✓
RQ:	

Algal Thickness Rank

N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 10 cm
6	>10 cm

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect an algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

DEP-SOP-001/01: Form FD 9000-3 (9/19/12)

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.60573

COUNTY ~~Escambia~~ Escambia STORET # _____ LONGITUDE 87.24950

DATE 6/16/15 TIME 1000 SAMPLING AGENCY FDEP

SITE NAME Ascend FYI

FIELD ID/NAME North Outfall Test RECEIVING BODY OF WATER Escambia Bay

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category) :

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
✓				✓	✓	✓	

Landscape Development Intensity Index (LDI): _____

Local Watershed Erosion (select one) : ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution : ☐ No evidence ☐ Slight ☑ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side — Left Bank : >18 Right Bank : —

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: 1.0 (m) + >1.5 m (present depth) = _____ (above bed)

Artificially Impounded ☐ Yes ☑ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

little to no flow _____ m wide

_____ m/s _____ m/s _____ m/s

_____ m deep _____ m deep _____ m deep

Artificially Channelized : ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe dredged center

Canopy Cover % ☐ Open ☐ Heavily Shaded ☑ Lightly Shaded (11-45%) ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☑ Anaerobic ☐ Other (Specify) :

Smothering of Substrates

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☑	☐
Silt Smothering:	☐	☐	☐	☑
Algae Smothering:	☐	☑	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☑ SCI ☑ RPS ☑ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	12.5	9	
Undercut Banks /Roots	3	4	
Leaf Packs or Mat			
Aquatic Vegetation	3.75	4	
Rock or Shell Rubble...			
Sand/Silt.....			
Sand/Gravel.....	80	3	
Mud/Muck/Silt			
Other ..... No flow ~~all~~ others 20			

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☐	☑	☐
Fish:	☐	☐	☑	☐
Aquatic Plants:	☐	☐	☐	☑
Iron/Sulfur Bacteria:	☐	☑	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :	0.2	29.10	6.87	6.66	86.7	126	0.06	~~0.5~~ 0.5
Mid:								☐ VOB
Bottom	7.2							SITE DEPTH

Meter ID: 113529 **Meter Verify:** Y ☐ N ☐

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: _____ Exp: _____

Color Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐ _____

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☑ Opaque ☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

WEATHER CONDITIONS / NOTES:

High Tide 1055

Low Tide 2227

1 HD condo recovered

nitric - 5076070 3/17/16

sulfuric - 564203 3/11/16

T8 North test total mercury

☐ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM

Mike King/Nathan Mulkey/Reanna Butera/Nick Read

SIGNATURE: _____

DATE : 6/16/15

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: 21FLDNS SUBMITTING AGENCY NAME: FDEP NWFROC		STORET STATION NUMBER:	DATE (MM/DD/YY): 6/10/15	RECEIVING BODY OF WATER: Escambia River
REMARKS:	COUNTY: Escambia	LOCATION: Escambia River @ North Outfall test		FIELD ID/NAME: North outfall test

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 5	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 5	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat counted but not in flow (5) 4 3 2 1
Water Velocity 5	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 (5) 4 3 2 1
Habitat Smothering 5 Primary Score 20	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. (5) 4 3 2 1
Secondary Habitat Components **Artificial Channelization** 18	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 (18) 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 78	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. 10 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

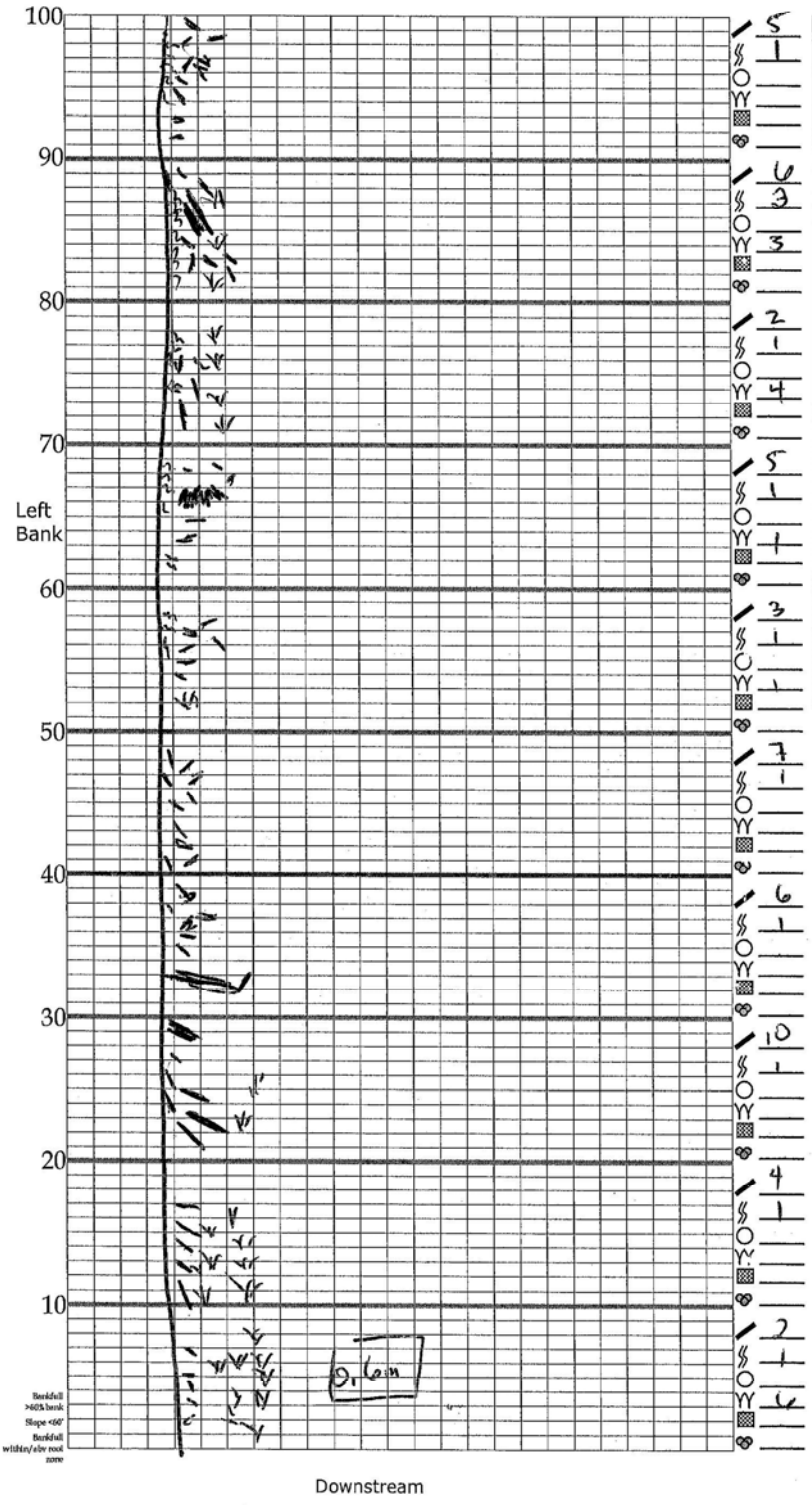
98 **TOTAL SCORE**

Date: 6/11/15	Analyst: Mike King	Signature:

Form FD 9000-5 Revision Date: December 19, 2011

DEP-SOP-001 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Location: North Outfall test Date: 6/16/15 1400 Sampler: mike king



100m: Latitude	30.60561		
Longitude	87.24952		
0m: Latitude	~~30.60567~~ 30.60638		
Longitude	~~87.~~ 87.24910		
Substrates:		Total	19.25%
Snags	50		12.5
Roots/undercut banks	12		3
Leaf Packs (or mats)			
Aquatic Macrophytes	15		3.75
Rock			
Gravel			
Other			
Pools observed/expected	/		
Average width: 3 m Average depth: 1 m			
Velocity measured at: 50 meter mark			
WQ & chemistry taken at 70 meter mark			
Habitat smothering:			
Bank stability:			
Altered Riparian Buffer Width:			

Plants observed & notes:

North outfall test

Form FD 9000-32 **FDEP Linear Stream Vegetation Survey (DEP SOP FS 7320)** Revised 10-11-11

Waterbody: Escambia River | Date: 10/16/15 | County: Escambia | Storet Number:

Analyst: Mike King | Signature:

Comments: North outfall test

Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Cephalanthus occidentalis											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Fontinalis											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Itea virginica											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Lobelia cardinalis											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with an "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage											
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar	✓	✓	✓	✓							
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontedaria cordata											
Potamogeton illinoensis											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salix caroliniana											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Zizaniopsis milacea											
Unknown							✓	✓			
	✓	✓	✓	✓			✓	✓			

Form FD 9000-25 **FDEP Rapid Periphyton Survey (DEP SOP FS 7230)** Revised 6/12/12

Site: North Outfall test | County: Escambia | Date: 6/16/15 | Investigators: Mike King

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
0	1	3 N	
	2	3	
	3	N 3	
	4	3	
	5	3	20
	6	3	
	7		
	8		
	9	↓	
10	1	3	
	2	3	
	3	N	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
20	1	3	
	2	3	
	3	N	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
30	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
40	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
50	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	80
	6	↓	
	7	↓	
	8	↓	
	9	↓	
60	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
70	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
80	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	30
	6	↓	
	7	↓	
	8	↓	
	9	↓	
90	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	20
	6	↓	
	7	↓	
	8	↓	
	9	↓	
100	1	N	
	2	↓	
	3	↓	
	4	↓	
	5	↓	40
	6	↓	
	7	↓	
	8	↓	
	9	↓	

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Secchi depth: > 1.5 m

Check accompanying data collected at same site/date.

Algal mat sample	
Habitat Assessment	✓
Linear Veg. Survey	✓
SCI/Biorecon (circle 1)	
Water sample	✓
RQ:	

Algal Thickness Rank

N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 10 cm
6	>10 cm

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect an algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

DEP-SOP-001/01: Form FD 9000-3 (9/19/12)

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID _____ ORG ID 21FLPNS LATITUDE 30.60570

COUNTY Escambia STORET # _____ LONGITUDE 87.25031

DATE 6/4/15 TIME 0935 SAMPLING AGENCY FDEP

SITE NAME Agency FDE

FIELD ID/NAME North Outfall Control RECEIVING BODY OF WATER Escambia Bay

RIPARIAN ZONE / STREAM FEATURES

PREDOMINANT LAND-USE IN WATERSHED (specify relative percent in each category):

Forest/Natural	Silviculture	Field/Pasture	Agricultural	Residential	Commercial	Industry	Other (Specify)
✓				✓	✓	✓	

Landscape Development Intensity Index (LDI): _____

Local Watershed Erosion (select one): ☐ None ☐ Slight ☑ Moderate ☐ Heavy

Local Watershed NPS Pollution: ☐ No evidence ☐ Slight ☑ Moderate ☐ Heavy

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: >18 Right Bank: —

Hydrologic Modification Score (per FT 3101): _____

High Water Mark: 1.0 (m) + >1.5m (above present water level / present depth) = _____ (above bed)

Artificially Impounded ☐ Yes ☑ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect

little to no flow _____ m wide

_____ m/s _____ m/s _____ m/s

_____ m deep _____ m deep _____ m deep

Artificially Channelized: ☑ No ☐ Some recovery ☐ Mostly recovered, more sinuous ☐ Recent, severe dredged C center

Canopy Cover % ☐ Open ☑ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

SEDIMENT / SUBSTRATE

Sediment Oils ☑ Absent ☐ Slight ☐ Moderate ☐ Profuse

Sediment Odors ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☑ Anaerobic ☐ Other (Specify):

Smothering of Substrates

	None	Slight	Moderate	Severe
Sand Smothering:	☐	☐	☑	☐
Silt Smothering:	☐	☐	☐	☑
Algae Smothering:	☐	☑	☐	☐

SUBSTRATE TYPE

Assessment Tool: ☑ SCI ☐ RPS ☑ LVS ☐ LCI ☐ BioRecon

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)	9	4	
Undercut Banks /Roots	3	4	
Leaf Packs or Mat			
Aquatic Vegetation	24	10	
Rock or Shell Rubble...			
Sand/Silt.....	65	2	
Sand/Gravel.....			
Mud/Muck/Silt			
Other			

20 ~~DH~~ others ~~20~~ 10 flow

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton:	☐	☐	☑	☐
Fish:	☐	☐	☑	☐
Aquatic Plants:	☐	☐	☐	☑
Iron/Sulfur Bacteria:	☐	☑	☐	☐

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	D.O. (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.2	29.08	6.52	6.64	86.6	126	0.06	~~0.5~~ 0.5
Mid:								☐ VOB
Bottom	9.2							SITE DEPTH >1.5m

Meter ID: 113529 Meter Verify: Y ☑ N ☐

Water Odors Normal ☑ Petroleum ☐ Sewage ☐ Chemical ☐ Other ☐

Water Surface Oils Normal ☑ Sheen ☐ Globs ☐ Slick ☐ Other ☐

Water Sample Taken? ☑ Yes ☐ No

Sample Preserved? ☑ Yes ☐ No

Lot Number: _____ Exp: _____

Color Tannic ☑ Green (Algae) ☐ Clear ☐ Other (Specify) ☐

Algae Sample Taken? ☐ Yes ☑ No

Sample Preserved? ☐ Yes ☐ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☑ Opaque ☐

System Type: Stream ☑ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☐ _____

WEATHER CONDITIONS / NOTES:

No H.P. recovered

T9 north control total mercury

nitric - 5076070 3/17/16 sulfuric - 504203 3/11/16

☑ The antecedent hydrologic conditions have been met to my best knowledge.

SAMPLING TEAM Mike King / Nathan Mulkey / FRANK BUTORAC / RICK ABBD

SIGNATURE: _____ DATE: 6/16/15

DEP-SOP-001/01: Form FD 9000-5
STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION
STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: 21 FLPNS SUBMITTING AGENCY NAME: FDEP NWRCC	STORET STATION NUMBER:	DATE (MM/DD/YY): 6/16/15	RECEIVING BODY OF WATER: Escambia Bay
REMARKS:	COUNTY: Escambia	LOCATION: Escambia River North outfall Control	FIELD ID/NAME: North outfall control

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 5	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 6	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 (6) Habitat counted but not in flow	Less than 5% major productive habitat 5 4 3 2 1
Water Velocity 5	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 (5) 4 3 2 1
Habitat Smothering 5 Primary Score 21	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 8 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. (5) 4 3 2 1
Secondary Habitat Components **Artificial Channelization** 18	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. 20 19 (18) 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. 5 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 78	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. (10) 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

99 **TOTAL SCORE**

Date: 6/16/15	Analyst: Mike King	Signature:

Form FD 9000-5 Revision Date: December 19, 2011

Form FD 9000-32 **FDEP Linear Stream Vegetation Survey (DEP SOP FS 7320)** Revised 10-11-11

Waterbody: Escambia River | Date: 6/16/15 | County: Escambia | Storet Number:

Analyst: Mike Kirby | Signature:

Comments: North outfall control

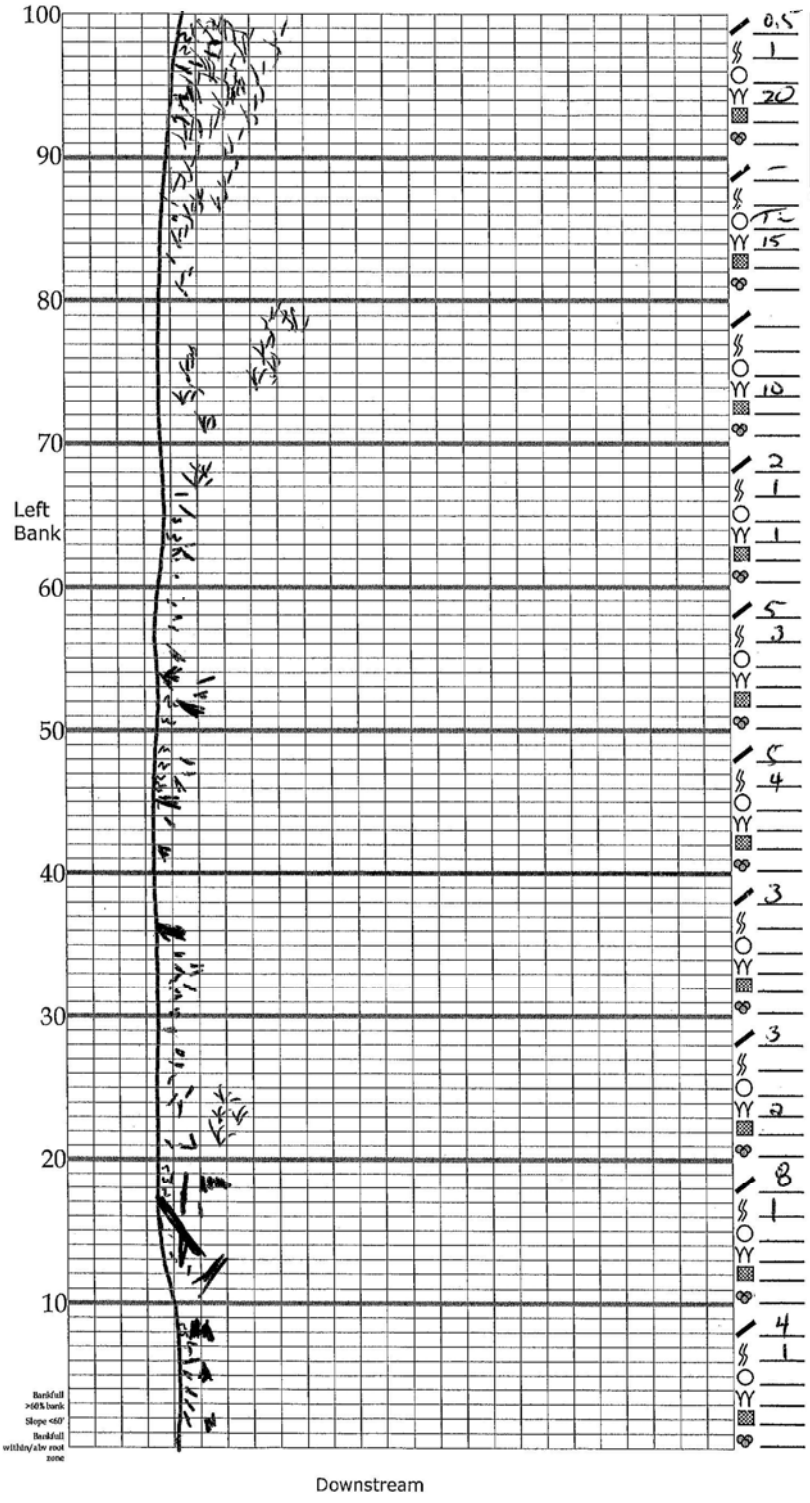
Instructions: Note taxa growing in the water with a checkmark if present, "D" if dominant, and "C" if codominant (dominance only if 1 m^2 of taxa present). Note in the boxes below if no dominant are selected, and note total macrophyte abundance rank for each section. Only the most common taxa are listed, so use blank spaces for additional taxa names.

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Alternanthera philoxeroides											
Bacopa caroliniana											
Bacopa monneri											
Bidens mitis											
Boehmeria cylindrica											
Centella asiatica											
Cephalanthus occidentalis											
Ceratophyllum demersum											
Chara											
Cicuta maculata											
Cladium jamaicense											
Colocasia esculenta											
Crinum americanum											
Diodia virginiana											
Eichhornia crassipes											
Eleocharis (wispy viviparous)											
Fontinalis											
Hydrilla verticillata											
Hydrocotle											
Hygrophila polysperma											
Hymenocallis											
Itea virginica											
Lachnanthes caroliniana											
Landoltia punctata											
Lemna											
Limnophila sessiflora											
Lobelia cardinalis											
Ludwigia leptocarpa											
Ludwigia palustris											
Ludwigia peruviana											
Ludwigia repens											
Luziola fluitans											
If no Dominant or Co-Dominant were selected, indicate with an "X"											
Indicate % cover macrophytes per section											
0-5% Macrophyte Coverage											
>5 and ≤10% Macrophyte Coverage											
>10 and ≤25% Macrophyte Coverage											
>25 and ≤50% Macrophyte Coverage											
> 50% Macrophyte Coverage											

HERBACEOUS SPECIES	Meter Mark 0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	Specimen collected (check)
Micranthemum glomeratum											
Micranthemum umbrosum											
Myriophyllum aquaticum											
Najas guadelupensis											
Nuphar			✓			✓	✓	✓	✓		
Orontium aquaticum											
Panicum hemitomon											
Panicum repens											
Panicum rigidulum											
Pistia stratioides											
Polygonum glabra											
Polygonum hydropiperoides											
Polygonum punctatum											
Pontederia cordata									✓	✓	
Potamogeton illinoensis											
Sacciolepis striata											
Sagittaria kurziana											
Sagittaria lancifolia											
Sagittaria latifolia											
Salix caroliniana											
Salvinia minima											
Samolus parviflora											
Saururus cernuus											
Scirpus											
Sparganium americanum											
Typha											
Vallisneria americana											
Zizania aquatica											
Zizaniopsis milacea											
unknown						✓	✓			✓	
			✓			✓	✓	✓			
									✓	✓	

DEP-SOP-001 Form FD 9000-4
Stream/River Habitat Sketch Sheet

Location: North outfall control Date: 6/16/15 1530 Sampler: MIKE KING



100m: Latitude 30.60618
Longitude 87.25089

0m: Latitude 30.60554
Longitude 87.25019

Substrates:		Total 34/35%
Snags	30.5	7.6
Roots/undercut banks	11	2.75
Leaf Packs (or mats)		
Aquatic Macrophytes	48/400	24
Rock		
Gravel		
Other		
Pools observed/expected	1	

Average width: 3 m
Average depth: 1.0 m

Velocity measured at: 100 meter mark

WQ & chemistry taken at 50 meter mark

Habitat smothering:

Bank stability:

Altered Riparian Buffer Width:

Plants observed & notes:

Form FD 9000-25 **FDEP Rapid Periphyton Survey (DEP SOP FS 7230)** Revised 6/12/12

Site: North outfall Control | County: Escambia | Date: 6/16/15 | Investigators: mike kirby

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover	Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N - 6)	Canopy Cover
0	1	N		40	1	3		80	1	3	
	2				2	3			2	3	
	3				3	N			3	N	
	4				4				4		
	5		20		5		36		5		20
	6				6				6		
	7				7				7		
	8				8				8		
	9	↓			9	↓			9	↓	
10	1	N		50	1	3		90	1	3	
	2				2	N			2		
	3				3				3		
	4				4				4		
	5		30		5		20		5		0
	6				6				6		
	7				7				7		
	8				8				8		
	9	↓			9	↓			9	↓	
20	1	N		60	1	3		100	1	3	
	2				2	3			2		
	3				3	3			3		
	4				4	N			4		
	5		36		5		36		5		0
	6				6				6		
	7				7				7		
	8				8				8		
	9	↓			9	↓			9	↓	
30	1	N		70	1	N					
	2				2						
	3				3						
	4				4						
	5		40		5		32				
	6				6						
	7				7						
	8				8						
	9	↓			9	↓					

# points ranked 4-6	0
total points assessed	99
% points ranked 4-6	0

Secchi depth: >1.5 m

Check accompanying data collected at same site/date.	
Algal mat sample	
Habitat Assessment	✓
~~Linear~~ Veg. Survey	✓
(SCI)/Biorecon (circle 1)	
Water sample	✓
RQ:	

Algal Thickness Rank

N	rough, no algae; slimy; algae to 1 mm
3	>1mm - 6 mm
4	>6 - 20 mm
5	>20 mm - 10 cm
6	>10 cm

Record "N" for points deeper than the Secchi depth; algae are presumed absent. Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. Note if thickness estimated for deep points which can be seen but not reached.

Record canopy cover as the number of small densiometer quadrants (out of 96) that HAVE canopy cover. Measure facing upstream at point 4, 5, or 6.

Collect an algal mat sample following DEP SOP FS 7240 if the percentage of total sampled points with a thickness rank of 4, 5, or 6 is >20%.

Appendix F

Chemical analysis of effluent and receiving water

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/15/15 10:40	Effluent D-001	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	100	NOEC		
06/15/15 10:40	Effluent D-001	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100 L	IC25		
06/15/15 10:40	Effluent D-001	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
06/15/15 10:40	Effluent D-001	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
06/16/15 12:45	Effluent D-001	Nutrients	Temperature	33.27	C		
06/16/15 12:45	Effluent D-001	Nutrients	pH	7.4			
06/16/15 12:45	Effluent D-001	Nutrients	Specific Conductance	347	umhos/cm		
06/16/15 12:45	Effluent D-001	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.53 I	mg/L	0.2	2
06/16/15 12:45	Effluent D-001	Metals	Hardness	37.4	mg/L	0.35	1.4
06/16/15 12:45	Effluent D-001	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 12:45	Effluent D-001	Metals	Potassium	1.4	mg/L	0.3	1.2
06/16/15 12:45	Effluent D-001	Metals	Lead	0.28 I	ug/L	0.2	0.8
06/16/15 12:45	Effluent D-001	Metals	Zinc	7.2 I	ug/L	5	20
06/16/15 12:45	Effluent D-001	Metals	Calcium	12.1	mg/L	0.075	0.3
06/16/15 12:45	Effluent D-001	Metals	Copper	9.77	ug/L	0.5	1
06/16/15 12:45	Effluent D-001	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 12:45	Effluent D-001	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 12:45	Effluent D-001	Metals	Mercury	3.4	ng/L	0.1	0.4
06/16/15 12:45	Effluent D-001	Metals	Aluminum	177	ug/L	5	20
06/16/15 12:45	Effluent D-001	Metals	Arsenic	0.65 I	ug/L	0.25	1
06/16/15 12:45	Effluent D-001	Metals	Nickel	0.79 I	ug/L	0.25	1
06/16/15 12:45	Effluent D-001	Metals	Sodium	26.2	mg/L	0.5	2
06/16/15 12:45	Effluent D-001	Metals	Chromium	0.66 I	ug/L	0.3	1.2
06/16/15 12:45	Effluent D-001	Metals	Iron	1.12E+03	ug/L	30	120
06/16/15 12:45	Effluent D-001	Metals	Magnesium	1.74	mg/L	0.04	0.16
06/16/15 12:45	Effluent D-001	Nutrients	TSS	3 I	mg/L	2	10
06/16/15 12:55	Effluent D-001	AGP/LN	Algal Growth Potential	17.2	mg DryWt/L	0.3	0.9
06/16/15 12:55	Effluent D-001	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	4.6	ug/L	0.55	1.7
06/16/15 12:55	Effluent D-001	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.2	ug/L	0.4	1.2
06/16/15 12:55	Effluent D-001	Nutrients	Total-P	0.044	mg P/L	0.002	0.005
06/16/15 12:55	Effluent D-001	Nutrients	NO2NO3-N	0.35	mg N/L	0.004	0.01
06/16/15 12:55	Effluent D-001	Nutrients	Color (true)	47 A	PCU	2.5	6
06/16/15 12:55	Effluent D-001	Nutrients	Chloride	9.8	mg Cl/L	0.2	0.5
06/16/15 12:55	Effluent D-001	Nutrients	O-Phosphate-P	0.02	mg P/L	0.004	0.01

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 12:55	Effluent D-001	Nutrients	Sulfate	9.7	mg SO4/L	0.2	0.5
06/16/15 12:55	Effluent D-001	Nutrients	Fluoride	0.044 I	mg F/L	0.035	0.1
06/16/15 12:55	Effluent D-001	Nutrients	Organic Carbon	4	mg C/L	0.5	1
06/16/15 12:55	Effluent D-001	Nutrients	Ammonia-N	0.015	mg N/L	0.002	0.005
06/16/15 12:55	Effluent D-001	Nutrients	Alkalinity	35	mg CaCO3/L	0.65	2.5
06/16/15 12:55	Effluent D-001	Nutrients	Turbidity	7.6	NTU	0.1	0.1
06/16/15 12:55	Effluent D-001	Nutrients	Kjeldahl Nitrogen	0.3	mg N/L	0.08	0.2
06/16/15 12:55	Effluent D-001	Overflow	HEM	1.9 U	mg/L	1.9	6.7
06/16/15 12:55	Effluent D-001	Pesticides	Atrazine Desisopropyl	0.0098 UJ	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Diazinon	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Ethion	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Hexazinone	0.030 U	ug/L	0.03	0.12
06/16/15 12:55	Effluent D-001	Pesticides	Malathion	0.0098 UJ	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Demeton	0.024 U	ug/L	0.024	0.094
06/16/15 12:55	Effluent D-001	Pesticides	Fonofos	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Atrazine	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Atrazine Desethyl	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Chlorpyrifos Ethyl	0.0098 UJ	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Ethoprop	0.0049 UJ	ug/L	0.0049	0.02
06/16/15 12:55	Effluent D-001	Pesticides	Metalaxyl	0.039 U	ug/L	0.039	0.16
06/16/15 12:55	Effluent D-001	Pesticides	Metolachlor	0.059 U	ug/L	0.059	0.24
06/16/15 12:55	Effluent D-001	Pesticides	Alachlor	0.059 U	ug/L	0.059	0.24
06/16/15 12:55	Effluent D-001	Pesticides	Butylate	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Disulfoton	0.0049 UJ	ug/L	0.0049	0.02
06/16/15 12:55	Effluent D-001	Pesticides	Prometon	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Sucralose	0.067	ug/L	0.01	0.05
06/16/15 12:55	Effluent D-001	Pesticides	Ametryn	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Mevinphos	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Phorate	0.0049 UJ	ug/L	0.0049	0.02
06/16/15 12:55	Effluent D-001	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Fenamiphos	0.030 U	ug/L	0.03	0.12
06/16/15 12:55	Effluent D-001	Pesticides	Norflurazon	0.030 U	ug/L	0.03	0.12
06/16/15 12:55	Effluent D-001	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Naled	0.039 U	ug/L	0.039	0.16
06/16/15 12:55	Effluent D-001	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.079
06/16/15 12:55	Effluent D-001	Pesticides	Simazine	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Bromacil	0.039 U	ug/L	0.039	0.16

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 12:55	Effluent D-001	Pesticides	Chlorpyrifos Methyl	0.0098 UJ	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Pesticides	Parathion Methyl	0.0098 U	ug/L	0.0098	0.039
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Hexachlorobenzene	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.6
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,4-Dimethylphenol	9.5 U	ug/L	9.5	38
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Di-n-octyl phthalate	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2-Chloronaphthalene	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Naphthalene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Phenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	57
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2-Nitrophenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Isophorone	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.6
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	1,4-Dioxane	0.021 I	ug/L	0.02	0.1
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,4-Dichlorophenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2-Chlorophenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzidine	95 U	ug/L	95	380
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Di-n-butyl phthalate	0.95 U	ug/L	0.95	3.8

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Diethyl phthalate	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Pentachlorophenol	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	57
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.6
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.6
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.6
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Butyl benzyl phthalate	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.76
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Dimethyl phthalate	0.95 U	ug/L	0.95	3.8
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	11
06/16/15 12:55	Effluent D-001	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95 U	ug/L	0.95	3.8
06/16/15 11:25	Test Site (D-001)	AGP/LN	Algal Growth Potential	19.1	mg DryWt/L	0.3	0.9
06/16/15 11:25	Test Site (D-001)	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.1 I	mg/L	0.2	2
06/16/15 11:25	Test Site (D-001)	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8	ug/L	0.4	1.2
06/16/15 11:25	Test Site (D-001)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	11	ug/L	0.55	1.7
06/16/15 11:25	Test Site (D-001)	Metals	Hardness	38.4	mg/L	0.35	1.4
06/16/15 11:25	Test Site (D-001)	Metals	Aluminum	228	ug/L	5	20
06/16/15 11:25	Test Site (D-001)	Metals	Mercury	2	ng/L	0.1	0.4
06/16/15 11:25	Test Site (D-001)	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 11:25	Test Site (D-001)	Metals	Chromium	0.59 I	ug/L	0.3	1.2
06/16/15 11:25	Test Site (D-001)	Metals	Nickel	0.58 I	ug/L	0.25	1
06/16/15 11:25	Test Site (D-001)	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 11:25	Test Site (D-001)	Metals	Arsenic	0.66 I	ug/L	0.25	1
06/16/15 11:25	Test Site (D-001)	Metals	Lead	0.29 I	ug/L	0.2	0.8
06/16/15 11:25	Test Site (D-001)	Metals	Copper	5.63	ug/L	0.5	1
06/16/15 11:25	Test Site (D-001)	Metals	Magnesium	1.72	mg/L	0.04	0.16
06/16/15 11:25	Test Site (D-001)	Metals	Selenium	0.21 I	ug/L	0.2	0.8
06/16/15 11:25	Test Site (D-001)	Metals	Calcium	12.6	mg/L	0.075	0.3
06/16/15 11:25	Test Site (D-001)	Metals	Zinc	5.0 U	ug/L	5	20
06/16/15 11:25	Test Site (D-001)	Metals	Potassium	1.2	mg/L	0.3	1.2
06/16/15 11:25	Test Site (D-001)	Metals	Sodium	11.7	mg/L	0.5	2

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:25	Test Site (D-001)	Metals	Iron	1.05E+03	ug/L	30	120
06/16/15 11:25	Test Site (D-001)	Nutrients	TSS	5 I	mg/L	2	10
06/16/15 11:25	Test Site (D-001)	Nutrients	Organic Carbon	4.1	mg C/L	0.5	1
06/16/15 11:25	Test Site (D-001)	Nutrients	Total-P	0.044	mg P/L	0.002	0.005
06/16/15 11:25	Test Site (D-001)	Nutrients	NO2NO3-N	0.35	mg N/L	0.004	0.01
06/16/15 11:25	Test Site (D-001)	Nutrients	Ammonia-N	0.01	mg N/L	0.002	0.005
06/16/15 11:25	Test Site (D-001)	Nutrients	Color (true)	45	PCU	2.5	6
06/16/15 11:25	Test Site (D-001)	Nutrients	Kjeldahl Nitrogen	0.28	mg N/L	0.08	0.2
06/16/15 11:25	Test Site (D-001)	Nutrients	O-Phosphate-P	0.011	mg P/L	0.004	0.01
06/16/15 11:25	Test Site (D-001)	Nutrients	Sulfate	10	mg SO4/L	0.2	0.5
06/16/15 11:25	Test Site (D-001)	Nutrients	Turbidity	7	NTU	0.1	0.1
06/16/15 11:25	Test Site (D-001)	Nutrients	Alkalinity	36	mg CaCO3/L	0.65	2.5
06/16/15 11:25	Test Site (D-001)	Nutrients	Chloride	11	mg Cl/L	0.2	0.5
06/16/15 11:25	Test Site (D-001)	Nutrients	Fluoride	0.048 I	mg F/L	0.035	0.1
06/16/15 11:25	Test Site (D-001)	Overflow	HEM	2.0 U	mg/L	2	7
06/16/15 11:25	Test Site (D-001)	Pesticides	Sucralose	0.072	ug/L	0.01	0.05
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,4-Dimethylphenol	9.9 U	ug/L	9.9	40
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,6-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	59
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,4-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2-Chloronaphthalene	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2-Chlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Di-n-octyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,4-Dichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2-Nitrophenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.79

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	7.9
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Di-n-butyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	7.9
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	59
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzidine	99 U	ug/L	99	400
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Diethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Dimethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Hexachlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Isophorone	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	7.9
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Pentachlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	7.9
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Butyl benzyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Phenol	0.99 U	ug/L	0.99	4
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	7.9
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:25	Test Site (D-001)	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
06/16/15 11:25	Test Site (D-001)	Nutrients	Temperature	30.68	C		
06/16/15 11:25	Test Site (D-001)	Nutrients	Dissolved Oxygen	7.04	mg/L		
06/16/15 11:25	Test Site (D-001)	Nutrients	Specific Conductance	138	umhos/cm		
06/16/15 11:25	Test Site (D-001)	Nutrients	pH	7.12			
06/16/15 11:25	Test Site (D-001)	Nutrients	Sample Depth	0.2	m		
06/16/15 11:50	Control Site (D-001)	AGP/LN	Algal Growth Potential	18.3	mg DryWt/L	0.3	0.9

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:50	Control Site (D-001)	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.2 A	ug/L	0.4	1.2
06/16/15 11:50	Control Site (D-001)	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.92 I	mg/L	0.2	2
06/16/15 11:50	Control Site (D-001)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	7.6 A	ug/L	0.55	1.7
06/16/15 11:50	Control Site (D-001)	Metals	Zinc	5.4 I	ug/L	5	20
06/16/15 11:50	Control Site (D-001)	Metals	Arsenic	0.68 I	ug/L	0.25	1
06/16/15 11:50	Control Site (D-001)	Metals	Iron	1.05E+03	ug/L	30	120
06/16/15 11:50	Control Site (D-001)	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 11:50	Control Site (D-001)	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 11:50	Control Site (D-001)	Metals	Mercury	2.1	ng/L	0.1	0.4
06/16/15 11:50	Control Site (D-001)	Metals	Sodium	11.3	mg/L	0.5	2
06/16/15 11:50	Control Site (D-001)	Metals	Copper	2.8	ug/L	0.5	1
06/16/15 11:50	Control Site (D-001)	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 11:50	Control Site (D-001)	Metals	Hardness	38.7	mg/L	0.35	1.4
06/16/15 11:50	Control Site (D-001)	Metals	Potassium	1.2	mg/L	0.3	1.2
06/16/15 11:50	Control Site (D-001)	Metals	Lead	0.46 I	ug/L	0.2	0.8
06/16/15 11:50	Control Site (D-001)	Metals	Chromium	0.62 I	ug/L	0.3	1.2
06/16/15 11:50	Control Site (D-001)	Metals	Calcium	12.7	mg/L	0.075	0.3
06/16/15 11:50	Control Site (D-001)	Metals	Aluminum	216	ug/L	5	20
06/16/15 11:50	Control Site (D-001)	Metals	Nickel	0.59 I	ug/L	0.25	1
06/16/15 11:50	Control Site (D-001)	Metals	Magnesium	1.7	mg/L	0.04	0.16
06/16/15 11:50	Control Site (D-001)	Nutrients	Kjeldahl Nitrogen	0.29	mg N/L	0.08	0.2
06/16/15 11:50	Control Site (D-001)	Nutrients	O-Phosphate-P	0.012	mg P/L	0.004	0.01
06/16/15 11:50	Control Site (D-001)	Nutrients	Color (true)	45	PCU	2.5	6
06/16/15 11:50	Control Site (D-001)	Nutrients	Turbidity	7.5	NTU	0.1	0.1
06/16/15 11:50	Control Site (D-001)	Nutrients	Sulfate	9.9	mg SO4/L	0.2	0.5
06/16/15 11:50	Control Site (D-001)	Nutrients	Total-P	0.041	mg P/L	0.002	0.005
06/16/15 11:50	Control Site (D-001)	Nutrients	Alkalinity	36	mg CaCO3/L	0.65	2.5
06/16/15 11:50	Control Site (D-001)	Nutrients	Chloride	11	mg Cl/L	0.2	0.5
06/16/15 11:50	Control Site (D-001)	Nutrients	Fluoride	0.047 I	mg F/L	0.035	0.1
06/16/15 11:50	Control Site (D-001)	Nutrients	Ammonia-N	0.015	mg N/L	0.002	0.005
06/16/15 11:50	Control Site (D-001)	Nutrients	TSS	6 I	mg/L	2	10
06/16/15 11:50	Control Site (D-001)	Nutrients	NO2NO3-N	0.36	mg N/L	0.004	0.01
06/16/15 11:50	Control Site (D-001)	Nutrients	Organic Carbon	4.1	mg C/L	0.5	1
06/16/15 11:50	Control Site (D-001)	Overflow	HEM	1.9 U	mg/L	1.9	6.7
06/16/15 11:50	Control Site (D-001)	Pesticides	Sucralose	0.068	ug/L	0.01	0.05
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,4-Dimethylphenol	9.9 U	ug/L	9.9	40

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	7.9
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Butyl benzyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Isophorone	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	7.9
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Phenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Pentachlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,4-Dichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Diethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,4-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2-Chloronaphthalene	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	7.9
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Hexachlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	7.9
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,6-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	59
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzidine	99 U	ug/L	99	400
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Di-n-octyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Dimethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2-Chlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	7.9
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Di-n-butyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	59
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	2-Nitrophenol	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.79
06/16/15 11:50	Control Site (D-001)	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.99 U	ug/L	0.99	4
06/16/15 11:50	Control Site (D-001)	Nutrients	Sample Depth	0.2	m		
06/16/15 11:50	Control Site (D-001)	Nutrients	Specific Conductance	137	umhos/cm		
06/16/15 11:50	Control Site (D-001)	Nutrients	Dissolved Oxygen	6.88	mg/L		
06/16/15 11:50	Control Site (D-001)	Nutrients	pH	7.11			
06/16/15 11:50	Control Site (D-001)	Nutrients	Temperature	30.1	C		
06/16/15 11:27	Effluent D-002	Nutrients	Temperature	32.72	C		
06/16/15 11:27	Effluent D-002	Nutrients	Specific Conductance	146	umhos/cm		
06/16/15 11:27	Effluent D-002	Nutrients	pH	7.23			
06/16/15 11:27	Effluent D-002	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.63 I	mg/L	0.2	2
06/16/15 11:27	Effluent D-002	Metals	Potassium	1.2 I	mg/L	0.3	1.2
06/16/15 11:27	Effluent D-002	Metals	Copper	6.18	ug/L	0.5	1
06/16/15 11:27	Effluent D-002	Metals	Zinc	9.8 I	ug/L	5	20
06/16/15 11:27	Effluent D-002	Metals	Iron	1.09E+03	ug/L	30	120
06/16/15 11:27	Effluent D-002	Metals	Calcium	11.8	mg/L	0.075	0.3
06/16/15 11:27	Effluent D-002	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 11:27	Effluent D-002	Metals	Nickel	0.61 I	ug/L	0.25	1
06/16/15 11:27	Effluent D-002	Metals	Arsenic	0.68 I	ug/L	0.25	1
06/16/15 11:27	Effluent D-002	Metals	Magnesium	1.61	mg/L	0.04	0.16
06/16/15 11:27	Effluent D-002	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 11:27	Effluent D-002	Metals	Lead	1.28	ug/L	0.2	0.8
06/16/15 11:27	Effluent D-002	Metals	Hardness	36.2	mg/L	0.35	1.4
06/16/15 11:27	Effluent D-002	Metals	Sodium	11.7	mg/L	0.5	2
06/16/15 11:27	Effluent D-002	Metals	Aluminum	156	ug/L	5	20
06/16/15 11:27	Effluent D-002	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 11:27	Effluent D-002	Metals	Chromium	0.58 I	ug/L	0.3	1.2

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:27	Effluent D-002	Nutrients	TSS	2 I	mg/L	2	10
06/16/15 11:25	Effluent D-002	Metals	Mercury	2.2	ng/L	0.1	0.4
06/16/15 11:25	Effluent D-002	Nutrients	Temperature	4	C		
06/16/15 11:27	Effluent D-002	AGP/LN	Algal Growth Potential	23.6 A	mg DryWt/L	0.3	0.9
06/16/15 11:27	Effluent D-002	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.9	ug/L	0.4	1.2
06/16/15 11:27	Effluent D-002	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	2.1	ug/L	0.55	1.7
06/16/15 11:27	Effluent D-002	Nutrients	Fluoride	0.038 I	mg F/L	0.035	0.1
06/16/15 11:27	Effluent D-002	Nutrients	Kjeldahl Nitrogen	0.22	mg N/L	0.08	0.2
06/16/15 11:27	Effluent D-002	Nutrients	Turbidity	5.0 A	NTU	0.1	0.1
06/16/15 11:27	Effluent D-002	Nutrients	Total-P	0.73	mg P/L	0.005	0.05
06/16/15 11:27	Effluent D-002	Nutrients	O-Phosphate-P	0.36	mg P/L	0.008	0.02
06/16/15 11:27	Effluent D-002	Nutrients	Chloride	8.2	mg Cl/L	0.2	0.5
06/16/15 11:27	Effluent D-002	Nutrients	Organic Carbon	2.6	mg C/L	0.5	1
06/16/15 11:27	Effluent D-002	Nutrients	Ammonia-N	0.021	mg N/L	0.002	0.005
06/16/15 11:27	Effluent D-002	Nutrients	Alkalinity	24	mg CaCO3/L	0.65	2.5
06/16/15 11:27	Effluent D-002	Nutrients	Sulfate	8.5	mg SO4/L	0.2	0.5
06/16/15 11:27	Effluent D-002	Nutrients	NO2NO3-N	0.36	mg N/L	0.004	0.01
06/16/15 11:27	Effluent D-002	Nutrients	Color (true)	30	PCU	2.5	6
06/16/15 11:27	Effluent D-002	Overflow	HEM	2.2 U	mg/L	2.2	7.7
06/16/15 11:27	Effluent D-002	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Pesticides	Chlorpyrifos Methyl	0.010 UJ	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Ethoprop	0.0050 UJ	ug/L	0.005	0.02
06/16/15 11:27	Effluent D-002	Pesticides	Metalaxyl	0.040 U	ug/L	0.04	0.16
06/16/15 11:27	Effluent D-002	Pesticides	Metolachlor	0.060 U	ug/L	0.06	0.24
06/16/15 11:27	Effluent D-002	Pesticides	Phorate	0.0050 UJ	ug/L	0.005	0.02
06/16/15 11:27	Effluent D-002	Pesticides	Fenamiphos	0.030 U	ug/L	0.03	0.12
06/16/15 11:27	Effluent D-002	Pesticides	Norflurazon	0.030 U	ug/L	0.03	0.12
06/16/15 11:27	Effluent D-002	Pesticides	Diazinon	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Sucralose	0.039 I	ug/L	0.01	0.05
06/16/15 11:27	Effluent D-002	Pesticides	Ametryn	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Naled	0.040 U	ug/L	0.04	0.16
06/16/15 11:27	Effluent D-002	Pesticides	Simazine	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Alachlor	0.060 U	ug/L	0.06	0.24
06/16/15 11:27	Effluent D-002	Pesticides	Fonofos	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Atrazine Desethyl	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Atrazine Desisopropyl	0.010 UJ	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Demeton	0.024 U	ug/L	0.024	0.096

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:27	Effluent D-002	Pesticides	Ethion	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Hexazinone	0.030 U	ug/L	0.03	0.12
06/16/15 11:27	Effluent D-002	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Pesticides	Atrazine	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Butylate	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Pesticides	Disulfoton	0.0050 UJ	ug/L	0.005	0.02
06/16/15 11:27	Effluent D-002	Pesticides	Malathion	0.010 UJ	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Prometon	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Pesticides	Bromacil	0.040 U	ug/L	0.04	0.16
06/16/15 11:27	Effluent D-002	Pesticides	Chlorpyrifos Ethyl	0.010 UJ	ug/L	0.01	0.04
06/16/15 11:27	Effluent D-002	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.08
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Fluoranthene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzo(a)pyrene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzo(a)anthracene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,4-Dinitrophenol	16 U	ug/L	16	62
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	4-Nitrophenol	16 U	ug/L	16	62
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Acenaphthene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Anthracene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzo(b)fluoranthene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Hexachloroethane	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.1 U	ug/L	2.1	8.3
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Naphthalene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	420
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.1 U	ug/L	2.1	8.3
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.21 U	ug/L	0.21	0.83

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	N-Nitrosodimethylamine	2.1 U	ug/L	2.1	8.3
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Pyrene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	42
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Nitrobenzene	2.1 U	ug/L	2.1	8.3
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Chrysene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.1 U	ug/L	2.1	8.3
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Diethyl phthalate	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Hexachlorobutadiene	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	3,3'-Dichlorobenzidine	42 U	ug/L	42	170
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.1 U	ug/L	3.1	12
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Acenaphthylene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Benzo(k)fluoranthene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Di-n-butyl phthalate	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Fluorene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Pentachlorophenol	1.0 U	ug/L	1	4.2
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	Phenanthrene	0.21 U	ug/L	0.21	0.83
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	1,4-Dioxane	2.3	ug/L	0.02	0.1
06/16/15 11:27	Effluent D-002	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4.2
06/15/15 10:25	Effluent D-002	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	25	NOEC		
06/15/15 10:25	Effluent D-002	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100 L	IC25		
06/15/15 10:25	Effluent D-002	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
06/15/15 10:25	Effluent D-002	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
06/16/15 11:00	Test Site (D-002)	AGP/LN	Algal Growth Potential	18.6	mg DryWt/L	0.3	0.9
06/16/15 11:00	Test Site (D-002)	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.83 I	mg/L	0.2	2
06/16/15 11:00	Test Site (D-002)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	8.3	ug/L	0.55	1.7
06/16/15 11:00	Test Site (D-002)	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8	ug/L	0.4	1.2
06/16/15 11:00	Test Site (D-002)	Metals	Potassium	1.2 I	mg/L	0.3	1.2

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:00	Test Site (D-002)	Metals	Arsenic	0.62 I	ug/L	0.25	1
06/16/15 11:00	Test Site (D-002)	Metals	Calcium	12.9	mg/L	0.075	0.3
06/16/15 11:00	Test Site (D-002)	Metals	Mercury	1.7	ng/L	0.1	0.4
06/16/15 11:00	Test Site (D-002)	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 11:00	Test Site (D-002)	Metals	Aluminum	165	ug/L	5	20
06/16/15 11:00	Test Site (D-002)	Metals	Hardness	38.5	mg/L	0.35	1.4
06/16/15 11:00	Test Site (D-002)	Metals	Copper	0.50 U	ug/L	0.5	1
06/16/15 11:00	Test Site (D-002)	Metals	Zinc	5.0 U	ug/L	5	20
06/16/15 11:00	Test Site (D-002)	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 11:00	Test Site (D-002)	Metals	Chromium	0.50 I	ug/L	0.3	1.2
06/16/15 11:00	Test Site (D-002)	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 11:00	Test Site (D-002)	Metals	Magnesium	1.52	mg/L	0.04	0.16
06/16/15 11:00	Test Site (D-002)	Metals	Nickel	0.55 I	ug/L	0.25	1
06/16/15 11:00	Test Site (D-002)	Metals	Sodium	9.6	mg/L	0.5	2
06/16/15 11:00	Test Site (D-002)	Metals	Lead	0.25 I	ug/L	0.2	0.8
06/16/15 11:00	Test Site (D-002)	Metals	Iron	980	ug/L	30	120
06/16/15 11:00	Test Site (D-002)	Nutrients	Total-P	0.043	mg P/L	0.002	0.005
06/16/15 11:00	Test Site (D-002)	Nutrients	TSS	4 I	mg/L	2	10
06/16/15 11:00	Test Site (D-002)	Nutrients	Fluoride	0.044 I	mg F/L	0.035	0.1
06/16/15 11:00	Test Site (D-002)	Nutrients	Chloride	8	mg Cl/L	0.2	0.5
06/16/15 11:00	Test Site (D-002)	Nutrients	Turbidity	7	NTU	0.1	0.1
06/16/15 11:00	Test Site (D-002)	Nutrients	Color (true)	44	PCU	2.5	6
06/16/15 11:00	Test Site (D-002)	Nutrients	NO2NO3-N	0.37	mg N/L	0.004	0.01
06/16/15 11:00	Test Site (D-002)	Nutrients	Sulfate	9.1	mg SO4/L	0.2	0.5
06/16/15 11:00	Test Site (D-002)	Nutrients	O-Phosphate-P	0.012	mg P/L	0.004	0.01
06/16/15 11:00	Test Site (D-002)	Nutrients	Organic Carbon	4	mg C/L	0.5	1
06/16/15 11:00	Test Site (D-002)	Nutrients	Ammonia-N	0.009	mg N/L	0.002	0.005
06/16/15 11:00	Test Site (D-002)	Nutrients	Alkalinity	35	mg CaCO3/L	0.65	2.5
06/16/15 11:00	Test Site (D-002)	Nutrients	Kjeldahl Nitrogen	0.31	mg N/L	0.08	0.2
06/16/15 11:00	Test Site (D-002)	Overflow	HEM	1.9 U	mg/L	1.9	6.6
06/16/15 11:00	Test Site (D-002)	Pesticides	Sucralose	0.085	ug/L	0.01	0.05
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,4-Dimethylphenol	9.9 U	ug/L	9.9	40
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Diethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Isophorone	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2-Chlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzidine	99 U	ug/L	99	400
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	59
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,4-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	7.9
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2-Nitrophenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Pentachlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2-Chloronaphthalene	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	59
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Di-n-octyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	7.9
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	7.9
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Di-n-butyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	7.9
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Phenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,4-Dichlorophenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	2,6-Dinitrotoluene	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.79

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.79
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Dimethyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	7.9
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Butyl benzyl phthalate	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Hexachlorobenzene	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
06/16/15 11:00	Test Site (D-002)	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.99 U	ug/L	0.99	4
06/16/15 11:00	Test Site (D-002)	Nutrients	Temperature	29.1	C		
06/16/15 11:00	Test Site (D-002)	Nutrients	Specific Conductance	126	umhos/cm		
06/16/15 11:00	Test Site (D-002)	Nutrients	Sample Depth	0.2	m		
06/16/15 11:00	Test Site (D-002)	Nutrients	Dissolved Oxygen	6.66	mg/L		
06/16/15 11:00	Test Site (D-002)	Nutrients	pH	6.87			
06/16/15 10:35	Control Site (D-002)	AGP/LN	Algal Growth Potential	17.8	mg DryWt/L	0.3	0.9
06/16/15 10:35	Control Site (D-002)	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.9	ug/L	0.4	1.2
06/16/15 10:35	Control Site (D-002)	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	7.3	ug/L	0.55	1.7
06/16/15 10:35	Control Site (D-002)	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.0 I	mg/L	0.2	2
06/16/15 10:35	Control Site (D-002)	Metals	Copper	0.50 U	ug/L	0.5	1
06/16/15 10:35	Control Site (D-002)	Metals	Mercury	2	ng/L	0.1	0.4
06/16/15 10:35	Control Site (D-002)	Metals	Iron	990	ug/L	30	120
06/16/15 10:35	Control Site (D-002)	Metals	Nickel	0.61 I	ug/L	0.25	1
06/16/15 10:35	Control Site (D-002)	Metals	Sodium	9.6	mg/L	0.5	2
06/16/15 10:35	Control Site (D-002)	Metals	Aluminum	202	ug/L	5	20
06/16/15 10:35	Control Site (D-002)	Metals	Chromium	0.67 I	ug/L	0.3	1.2
06/16/15 10:35	Control Site (D-002)	Metals	Lead	0.26 I	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Metals	Arsenic	0.63 I	ug/L	0.25	1
06/16/15 10:35	Control Site (D-002)	Metals	Potassium	1.2 I	mg/L	0.3	1.2
06/16/15 10:35	Control Site (D-002)	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 10:35	Control Site (D-002)	Metals	Selenium	0.20 I	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Metals	Magnesium	1.51	mg/L	0.04	0.16
06/16/15 10:35	Control Site (D-002)	Metals	Zinc	5.0 U	ug/L	5	20
06/16/15 10:35	Control Site (D-002)	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 10:35	Control Site (D-002)	Metals	Hardness	37.9	mg/L	0.35	1.4
06/16/15 10:35	Control Site (D-002)	Metals	Calcium	12.7	mg/L	0.075	0.3
06/16/15 10:35	Control Site (D-002)	Nutrients	Fluoride	0.044 I	mg F/L	0.035	0.1
06/16/15 10:35	Control Site (D-002)	Nutrients	TSS	4 I	mg/L	2	10
06/16/15 10:35	Control Site (D-002)	Nutrients	Kjeldahl Nitrogen	0.27	mg N/L	0.08	0.2

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 10:35	Control Site (D-002)	Nutrients	Chloride	8.1	mg Cl/L	0.2	0.5
06/16/15 10:35	Control Site (D-002)	Nutrients	Color (true)	45 A	PCU	2.5	6
06/16/15 10:35	Control Site (D-002)	Nutrients	NO2NO3-N	0.37	mg N/L	0.004	0.01
06/16/15 10:35	Control Site (D-002)	Nutrients	O-Phosphate-P	0.012	mg P/L	0.004	0.01
06/16/15 10:35	Control Site (D-002)	Nutrients	Alkalinity	35	mg CaCO3/L	0.65	2.5
06/16/15 10:35	Control Site (D-002)	Nutrients	Sulfate	9.1	mg SO4/L	0.2	0.5
06/16/15 10:35	Control Site (D-002)	Nutrients	Total-P	0.04	mg P/L	0.002	0.005
06/16/15 10:35	Control Site (D-002)	Nutrients	Turbidity	7.2	NTU	0.1	0.1
06/16/15 10:35	Control Site (D-002)	Nutrients	Ammonia-N	0.011	mg N/L	0.002	0.005
06/16/15 10:35	Control Site (D-002)	Nutrients	Organic Carbon	4	mg C/L	0.5	1
06/16/15 10:35	Control Site (D-002)	Overflow	HEM	2.1 U	mg/L	2.1	7.3
06/16/15 10:35	Control Site (D-002)	Pesticides	Sucralose	0.086	ug/L	0.01	0.05
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Anthracene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzo(a)anthracene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzo(a)pyrene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Dimethyl phthalate	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.0 U	ug/L	2	8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Phenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,6-Dinitrotoluene	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40 U	ug/L	40	160
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Chrysene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Diethyl phthalate	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Nitrobenzene	2.0 U	ug/L	2	8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	N-Nitrosodimethylamine	2.0 U	ug/L	2	8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Hexachlorobutadiene	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Di-n-butyl phthalate	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.0 U	ug/L	2	8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,4-Dinitrotoluene	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2-Chlorophenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2-Nitrophenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	2.0 U	ug/L	2	8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Fluorene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Isophorone	1.0 U	ug/L	1	4

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Fluoranthene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Hexachlorobenzene	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Pentachlorophenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Phenanthrene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2-Chloronaphthalene	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzo(k)fluoranthene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Naphthalene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	60
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	60
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Acenaphthylene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzidine	100 U	ug/L	100	400
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Di-n-octyl phthalate	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,4-Dichlorophenol	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	2,4-Dimethylphenol	10 U	ug/L	10	40
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Acenaphthene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Benzo(b)fluoranthene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Butyl benzyl phthalate	1.0 U	ug/L	1	4
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Hexachloroethane	3.0 U	ug/L	3	12
06/16/15 10:35	Control Site (D-002)	Priority Organic Pollutants	Pyrene	0.20 U	ug/L	0.2	0.8
06/16/15 10:35	Control Site (D-002)	Nutrients	Sample Depth	0.2	m		
06/16/15 10:35	Control Site (D-002)	Nutrients	pH	6.52			
06/16/15 10:35	Control Site (D-002)	Nutrients	Dissolved Oxygen	6.64	mg/L		
06/16/15 10:35	Control Site (D-002)	Nutrients	Temperature	29.08	C		
06/16/15 10:35	Control Site (D-002)	Nutrients	Specific Conductance	126	umhos/cm		
06/16/15 11:06	D-099 Metals	Metals	Hardness	36.7	mg/L	0.35	1.4
06/16/15 11:06	D-099 Metals	Metals	Aluminum	145	ug/L	5	20
06/16/15 11:06	D-099 Metals	Metals	Magnesium	1.62	mg/L	0.04	0.16
06/16/15 11:06	D-099 Metals	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 11:06	D-099 Metals	Metals	Zinc	44	ug/L	5	20

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 11:06	D-099 Metals	Metals	Potassium	1.2	mg/L	0.3	1.2
06/16/15 11:06	D-099 Metals	Metals	Iron	1.72E+03	ug/L	30	120
06/16/15 11:06	D-099 Metals	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 11:06	D-099 Metals	Metals	Mercury	0.10 U	ng/L	0.1	0.4
06/16/15 11:06	D-099 Metals	Metals	Calcium	12	mg/L	0.075	0.3
06/16/15 11:06	D-099 Metals	Metals	Lead	1.34	ug/L	0.2	0.8
06/16/15 11:06	D-099 Metals	Metals	Copper	26.9	ug/L	0.5	1
06/16/15 11:06	D-099 Metals	Metals	Sodium	11.2	mg/L	0.5	2
06/16/15 11:06	D-099 Metals	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 11:06	D-099 Metals	Metals	Nickel	1.67	ug/L	0.25	1
06/16/15 11:06	D-099 Metals	Metals	Chromium	0.81 I	ug/L	0.3	1.2
06/16/15 11:06	D-099 Metals	Metals	Arsenic	0.62 I	ug/L	0.25	1
06/16/15 13:00	Field Blank	Metals	Aluminum	5.0 U	ug/L	5	20
06/16/15 13:00	Field Blank	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
06/16/15 13:00	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
06/16/15 13:00	Field Blank	Metals	Silver	0.025 U	ug/L	0.025	0.1
06/16/15 13:00	Field Blank	Metals	Chromium	0.30 U	ug/L	0.3	1.2
06/16/15 13:00	Field Blank	Metals	Copper	0.50 U	ug/L	0.5	1
06/16/15 13:00	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
06/16/15 13:00	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
06/16/15 13:00	Field Blank	Metals	Zinc	5.0 U	ug/L	5	20
06/16/15 13:00	Field Blank	Metals	Lead	0.20 U	ug/L	0.2	0.8
06/16/15 13:00	Field Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
06/16/15 13:00	Field Blank	Metals	Hardness	0.35 U	mg/L	0.35	1.4
06/16/15 13:00	Field Blank	Metals	Iron	30 U	ug/L	30	120
06/16/15 13:00	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
06/16/15 13:00	Field Blank	Metals	Arsenic	0.25 U	ug/L	0.25	1
06/16/15 13:00	Field Blank	Metals	Nickel	0.25 U	ug/L	0.25	1
06/16/15 13:00	Field Blank	Nutrients	Ammonia-N	0.003 I	mg N/L	0.002	0.005
06/16/15 13:00	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
06/16/15 13:00	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
06/16/15 13:00	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
06/16/15 13:00	Field Blank	Nutrients	Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
06/16/15 13:00	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
06/16/15 13:00	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
06/16/15 13:00	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
06/16/15 13:00	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
06/16/15 13:00	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01

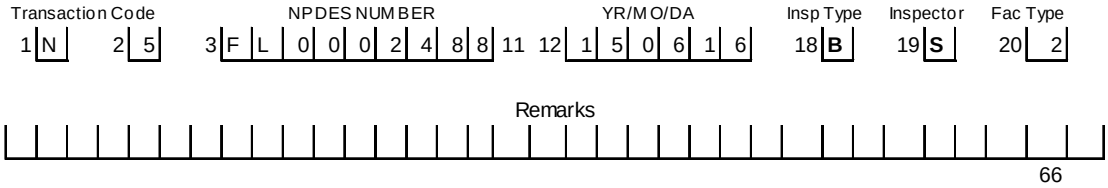
Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 13:00	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
06/16/15 13:00	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
06/16/15 13:00	Field Blank	Overflow	HEM	1.8 U	mg/L	1.8	6.6
06/16/15 13:00	Field Blank	Pesticides	Parathion Methyl	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Fenamiphos	0.028 U	ug/L	0.028	0.11
06/16/15 13:00	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.0094 UJ	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Azinphos Methyl	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Hexazinone	0.028 U	ug/L	0.028	0.11
06/16/15 13:00	Field Blank	Pesticides	Demeton	0.023 U	ug/L	0.023	0.091
06/16/15 13:00	Field Blank	Pesticides	Chlorpyrifos Methyl	0.0094 UJ	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Norflurazon	0.028 U	ug/L	0.028	0.11
06/16/15 13:00	Field Blank	Pesticides	Naled	0.038 U	ug/L	0.038	0.15
06/16/15 13:00	Field Blank	Pesticides	Metribuzin	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Metolachlor	0.057 U	ug/L	0.057	0.23
06/16/15 13:00	Field Blank	Pesticides	Metalaxyl	0.038 U	ug/L	0.038	0.15
06/16/15 13:00	Field Blank	Pesticides	Ethion	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Butylate	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Atrazine Desisopropyl	0.0094 UJ	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Simazine	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Ethoprop	0.0047 UJ	ug/L	0.0047	0.019
06/16/15 13:00	Field Blank	Pesticides	Prometryn	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.05
06/16/15 13:00	Field Blank	Pesticides	Phorate	0.0047 UJ	ug/L	0.0047	0.019
06/16/15 13:00	Field Blank	Pesticides	Prometon	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Malathion	0.0094 UJ	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Fonofos	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Atrazine Desethyl	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Alachlor	0.057 U	ug/L	0.057	0.23
06/16/15 13:00	Field Blank	Pesticides	Parathion Ethyl	0.019 U	ug/L	0.019	0.076
06/16/15 13:00	Field Blank	Pesticides	Mevinphos	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Diazinon	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Bromacil	0.038 U	ug/L	0.038	0.15
06/16/15 13:00	Field Blank	Pesticides	Atrazine	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Ametryn	0.0094 U	ug/L	0.0094	0.038
06/16/15 13:00	Field Blank	Pesticides	Disulfoton	0.0047 UJ	ug/L	0.0047	0.019
06/16/15 13:00	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.78

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzidine	97 U	ug/L	97	390
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.7 U	ug/L	9.7	39
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Naphthalene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15 U	ug/L	15	58
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39 U	ug/L	39	160
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Isophorone	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.8
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
06/16/15 13:00	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.8
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Diethyl phthalate	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.97 U	ug/L	0.97	3.9

Date Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
06/16/15 13:00	Field Blank	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.8
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.8
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Phenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.97 U	ug/L	0.97	3.9
06/16/15 13:00	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15 U	ug/L	15	58
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.78
06/16/15 13:00	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.8

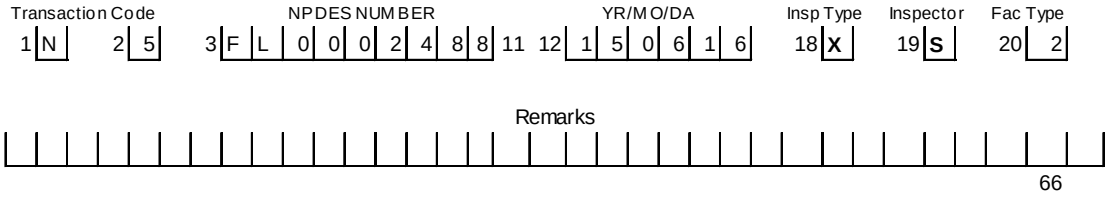
The Bioassay of the Ascend Performance Materials effluent sampled on June 16, 2015, NPDES #FL0002488

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



The Priority Pollutants Analysis of the Ascend Performance Materials effluent sampled on June 16, 2015, NPDES #FL0002488

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



Biological Analyses of the Ascend Performance Materials effluent sampled on June 16, 2015, NPDES #FL0002488

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

