Biological Assessment of

Gulf Power Company Scholz Electric Generation Plant

Jackson County

NPDES # FL0002283

Sampled August 4, 2010

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Biology Section

Bureau of Laboratories

Division of Environmental Assessment and Restoration

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CONTENTS

Facility Overview

Methods

Results and Discussion

Conclusion

Literature Cited

Tables

Table 1	Effluent limits, Class III Freshwater Criteria, chemical and microbiological data.
Table 2	Effluent limits, Class III Freshwater Criteria and metals data.
Table 3	Measured and predicted algal growth potential (AGP)
Table 4	Periphyton composition - Qualitative
Table 5	Macroinvertebrate Hester-Dendy samples – Quantitative

Appendices

Appendix A	Map of facility
Appendix B	Facility summary
Appendix C	Explanation of measurements
Appendix D	Chain of Custody
Appendix E	Physical/Chemical and Habitat Assessment field sheets
Appendix F	Chemical analyses of effluent and receiving water
Appendix G-1	Qualitative periphyton – wet algal taxa list and number of algal units counted
Appendix G-2	Qualitative periphyton – diatom taxa list and number of diatom valves counted
Appendix H-1	Hester-Dendy macroinvertebrate samples: taxa list and average number of individuals per m2
Appendix H-2	Hester-Dendy macroinvertebrate samples: taxa list and total number of individuals counted

EPA End Sheet

Facility Overview

The Gulf Power Company Scholz Electric Generation Plant is a privately owned electric generating plant. The effluent is discharged through an on-site discharge canal into the Apalachicola River, a Class III Fresh Water (see map Appendix A). The design flow of the wastewater system is 129.6 million gallons per day (MGD). The annual average flow for August 2009 to July 2010 was 52.6 MGD. The flow measured during this survey was 129.6 MGD (Gulf Power Company Representative).

This facility is authorized to operate in compliance with Administrative Order AO014TL, issued due to a failure to meet the ground water quality standard for arsenic. The intent of this report is to assess the effect of the discharge on surface water quality. See the Facility Summary (Appendix B) for a description of the facility, summary of permit limits, and administrative order (AO) and discharge monitoring report (DMR) information.

Methods

The purpose of this investigation was to determine the discharge's effects on the biota of the receiving waters. Chemical and biological comparisons were made between a Control Site (located in the Apalachicola River beginning 30 meters upstream of the intake canal and ending 130 meters upstream from the intake canal) and a Test Site (located in the Apalachicola River beginning 115 meters downstream of the point of discharge and ending 15 meters downstream of the discharge canal). Effluent samples for all analyses were taken as grab samples from monitoring location EFF-2.

All field and laboratory biological methods followed Bureau of Laboratories and Biology Section Standard Operating Procedures (see http://www.dep.state.fl.us/labs/bars/sas/sop/index.htm for details) and met DEP quality assurance/quality control standards (see http://www.dep.state.fl.us /labs/bars/sas/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix C.

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.

The following were involved in this investigation: Corinna Clanton (FDEP Northwest District, Panama City) and 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 (Nancy Ross and Cari Butler).

Results and Discussion

Organic Constituents (See Table 1 and Appendix E)

- No organic constituents were detected in the effluent.
- No organic constituents were detected in the field blank.

Metals (See Table 2 and Appendix E)

- All metals detected in the effluent grab samples were present at levels that complied with effluent permit limits and Class III Fresh Water Quality Criteria (62-302.530 F. A. C.).
- Effluent copper (5.13 µg/L) complied with Class III Fresh Water Quality Criteria but is nearing the water quality standard (5.51 µg/L) and is an order of magnitude higher than the Control Site (0.52 µg/L) copper. The increased copper level of the effluent is reflected in the Test Site copper result (4.65 µg/L).
- All metals in Control and Test Site grab samples were either undetected or detected at levels that complied with Class III Fresh Water Quality Criteria (62-302.530 F. A. C.).
- No metals were detected in the field blank.

Physical and Chemical Parameters (See Table 1 and Appendices D, E and H)

- Habitat Assessment scores were similar at the Control Site (109) and Test Site (110), which places both sites in the Suboptimal category. Substrate diversity was low at both sites. The Control Site substrate availability was low, but it had slightly more substrate availability than the Test Site, in which substrate was almost entirely lacking. The Apalachicola River near the facility is approximately 175 meters wide. In order to accurately capture the effects of the effluent, Control Site and Test Site sampling was restricted to the left bank, facing upstream of the river (same side as the facility). In the Habitat Assessment for the Control Site, the left bank scored full points in bank stability while the Test Site scored in the marginal category for bank stability.
- Dissolved oxygen (mg/L), pH (Standard Units), and specific conductance (µmhos/cm) of the effluent complied with Class III Fresh Water Quality Criteria (62-302.530 F.A.C.) and effluent permit limits.
- The dissolved oxygen of the Control Site (4.1 mg/L) was below the minimum limit for Class III Fresh Water Quality Criterion (62-302.530 (30) F.A.C.).
- The temperature of the Test Site (33.3°C) is affected by the effluent (35.6°C) and was 2.2°C higher than the Control Site (31.1 °C).
- Chlorophyll *a* was detected in the effluent sample and the instream sites at low levels.

Microbiology (See Table 1 and Appendix E)

- Fecal coliforms were detected in the effluent and at both the Control and Test Sites at levels which complied with Class III Fresh Water Quality Criterion (62-302.530(6) F.A.C.) and facility permit limits.

Nutrients (See Table 1 and Appendix E)

- Effluent nutrient levels complied with permit limits and the Class III Fresh Water Quality Criteria (62-302.530 F.A.C.).
- All Control Site and Test Site nutrients were at similar low levels that comply with Class III Fresh Water Quality Criteria (62-302.530 F.A.C.).
- No nutrients were detected in the field blank.

Algal Growth Potential (See Table 3 and Appendix E)

- Algal growth potential (AGP) is a measure of nutrients available for algal growth (Miller et al. 1978). Raschke and Shultz (1987) determined that AGP values above 5.0 mg dry weight/L represent a “problem” threshold for fresh receiving waters, implying nutrient enrichment. The AGP value in the effluent sample (8.0 mg dry weight/L) using the freshwater species, *Pseudokirchneriella subcapitata,* was approximately 1.5 times greater than the “problem” threshold value. The analytical chemistry suggests that the effluent is phosphorus-limited.
- The Test Site (9.9 mg dry weight/L) is 2 times greater than the “problem” threshold value. The Control Site AGP value (4.7 mg dry weight/L) was just below the threshold.

Bioassessment

Periphyton (See Table 4 and Appendices I-1 and I-2)

- Periphyton communities at both the Control and Test Sites consisted mostly of diatoms. The diatom community at the Control Site was dominated by *Nitzschia* sp. Many members of the *Nitzschia* genus are considered pollution tolerant (Lowe 1974). Two Nitzschia that could be speciated at the Control Site, *Nitzschia amphibia* and *Nitzschia palea*, can live in eutrophic conditions (Lowe 1974). The dominant diatom at the Test Site was *Fragilaria capucina vaucheriae*. *Fragilaria capucina* varieties are often abundant in eutrophic reservoirs (Hoagland and Peterson, 1990). The Control Site had nearly double the percentage of blue-green algae than the Test Site.

Macroinvertebrates (See Tables 5 and 6 and Appendices J-1, J-2, K-1 and K-2)

- Quantitative macroinvertebrate data were collected from Hester-Dendy samplers at the Control and Test Sites. Due to the depth at the Test Site, the samplers were placed closer to the bank in more shallow water possibly causing them to be out of the main flow. Comparison of the Shannon-Weaver diversity scores shows reduced diversity at the Test Site which does not exceed Class III Fresh Water Quality Criterion (62-302.530 (10) F.A.C.). The Control Site had twice as many EPT taxa as the Test Site. Ephemeroptera and trichoptera were more abundant in number as well as diversity at the Control Site. Approximately 80% of the Test Site macroinvertebrates were dipterans, which are considered pollution tolerant, while the Control Site was less than 40% dipterans. Approximately 50% of the macroinvertebrates identified from the Control Site were suspension feeders, which are pollution sensitive, as opposed to only 10% suspension feeders at the Test Site.
- Qualitative macroinvertebrate data from dipnet samples were not collected for this inspection. The lack of substrate, as documented by the Habitat Assessment, at both the Control Site and the Test Site prohibited sample collection.

Conclusion

The Fifth Year Inspection of Gulf Power Company Scholz Electric Generation Plant conducted August 4, 2010 produced the following notable results.

The increased copper level and increased temperature of the effluent are reflected in the Test Site copper and temperature. The effluent was not affecting Test Site nutrients as the effluent nutrients and Test Site nutrients were similar to the Control Site. Although the Test Site AGP was almost two times greater than that of the Control Site, there is no evidence that the effluent is contributing to nutrient enrichment at the Test Site. The predicted values of the effluent and Test Site mostly overlap predicted AGP values for the Control Site. For the periphyton analysis, both instream sites were dominated by diatoms generally considered to be pollution tolerant. This indicates that the effluent is not negatively affecting the downstream periphyton community. Differences in the periphyton communities of the Control and Test Site may be due to the substrates available at each site. Snag and rock were sampled at the Control Site. Only roots were sampled at the Test Site. Analysis of the quantitative macroinvertebrate data collected from Hester-Dendy samplers shows the differences between the Control Site and Test Site may not be attributable to the effluent. Due to the potential confounding factors caused by the Hester Dendy sampler placement, further testing is needed to determine the effects of the effluent on the macroinvertebrate community.

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Table 1. Effluent limits, Class III Freshwater Criteria, chemical and microbiological data.

Gulf Power Scholz	Class III Criteria	Effluent Limits	Effluent	Control Site	Test Site
Organic Constituents (µg/L)					
None Detected	-	-	None Detected		
Nutrients (mg/L)					
Ortho-phosphate	-	-	0.008 I	0.008 I	0.008 I
Total Phosphorus	-	-	0.026	0.025 A	0.026
Total Ammonia	-	-	0.072	0.091	0.077
Un-ionized Ammonia	≤ 0.02 s	-	≤ 0.02 c	≤ 0.02 c	≤ 0.02 c
Nitrate and Nitrite	-	-	0.38	0.29	0.37
Total Kjeldahl Nitrogen	-	-	0.38	0.33	0.33
Organic Nitrogen	-	-	0.308 c	0.239 c	0.253 c
Total Nitrogen	-	-	0.76 c	0.62 c	0.7 c
General Physical and Chemical Parameters					
Habitat Assessment	-	-	-	109	110
Dissolved Oxygen (mg/L)	≥ 5.0	-	7.3	4.1	5.3
pH (SU)	6.0 - 8.5	6.0 - 8.5	7.6	7.2	7.4
Conductivity (µmhos/cm)	≤ 1,275	-	139	142	148
Temperature (°C)	-	-	35.6	31.1	33.3
Sample Depth (m)	-	-	0.15	0.2	0.2
Total Residual Chlorine (mg/L)	≤ 0.01	≤ 0.01	-	-	-
Chlorophyll *a* (µg/L) - Corrected	-	-	3.2	3	3.8
Phaeophytin (µg/L)	-	-	1.8	1.8	1.8
Total Suspended Solids (mg/L)	-	-	8 I	5 I	8 I
Turbidity (NTU)	< 29 t	-	5.1 A	3.4	4.5
Oils and Greases § (mg/L)	≤ 5.0	≤ 5.0 s	1.4 U	-	-
Chloride (mg/L)	-	-	5.2	5.2	5.2
Fluoride (mg/L)	≤ 10.0	-	0.083 I	0.083 I	0.085 I
Sulfate (mg/L)	-	-	7.4	7	8.1
Flow (MGD)	-	Report	52.6 a	-	-
Hardness (mg $CaCO_3$)	-	Report p	54.05 c	53.76 c	54.55 c
Microbiology (Number of colony forming units/100ml)					
Fecal Coliforms ¥	≤ 400s #	≤ 800 s	58	8 B	28 B

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
c - Value is calculated
p - 24 hour time proportional composite
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
B - Results based on colony counts outside the acceptance range
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
§- Oil and Grease analysis performed by Test America Savannah
¥ - Fecal coliform analysis performed by FDEP laboratory
- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)

Table 2. Effluent limits, Class III Freshwater Criteria and metals data. Class III Criteria based on hardness are presented individually for each site based on hardness at that site.

Gulf Power Scholz	Effluent Class III Criteria	Effluent Limits	Effluent	Control Site Class III Criteria	Control Site	Test Site Class III Criteria	Test Site
Metals (µg/L unless otherwise noted)							
Aluminum	-	-	180 I	-	160 I	-	170 I
Arsenic	≤ 50	-	0.56 I	≤ 50	0.57 I	≤ 50	1.03
Cadmium	≤ 0.17 b	-	0.03 U	≤ 0.17 b	0.03 U	≤ 0.17 b	0.03 U
Calcium (mg/L)	-	-	18.1	-	17.9	-	18.3
Chromium-III	≤ 52.07 b	-	0.49 I	≤ 51.84 b	0.41 I	≤ 52.46 b	0.39 I
Copper	≤ 5.51 b	-	5.13	≤ 5.49 b	0.52 I	≤ 5.56 b	4.65
Iron	≤ 1,000	≤ 1,000 p	310	≤ 1,000	240	≤ 1,000	260
Lead	≤ 1.45 b	-	0.2 U	≤ 1.44 b	0.27 I	≤ 1.47 b	0.29 I
Magnesium (mg/L)	-	-	2.15	-	2.2	-	2.15
Nickel	≤ 31.00 b	-	0.78 I	≤ 30.85 b	0.29 I	≤ 31.24 b	0.66 I
Selenium	≤ 5.0	-	0.2 U	≤ 5.0	0.2 U	≤ 5.0	0.32 I
Silver	≤ 0.07	-	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U
Zinc	≤ 71.14 b	-	5 U	≤ 70.81 b	5 U	≤ 71.70 b	5 U

See Table 1 for calculated hardness.

b - Value is calculated based on hardness
p - 24 hour time proportional composite
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit

Table 3. Measured and predicted algal growth potential (AGP; mg dry weight/L) for orthophosphate (OP)and total phosphorus (TP) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus.

Gulf Power Scholz					
Location	AGP (measured)	Predicted AGP (OP) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	8.0	3.4 ± 0.7	11.2 ± 2.2	56.5	29.2
Control Site	4.7	3.4 ± 0.7	10.8 ± 2.2	47.6	24.8
Test Site	9.9 A	3.4 ± 0.7	11.2 ± 2.2	55.9	26.9

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

Table 4. Periphyton Composition - Qualitative.

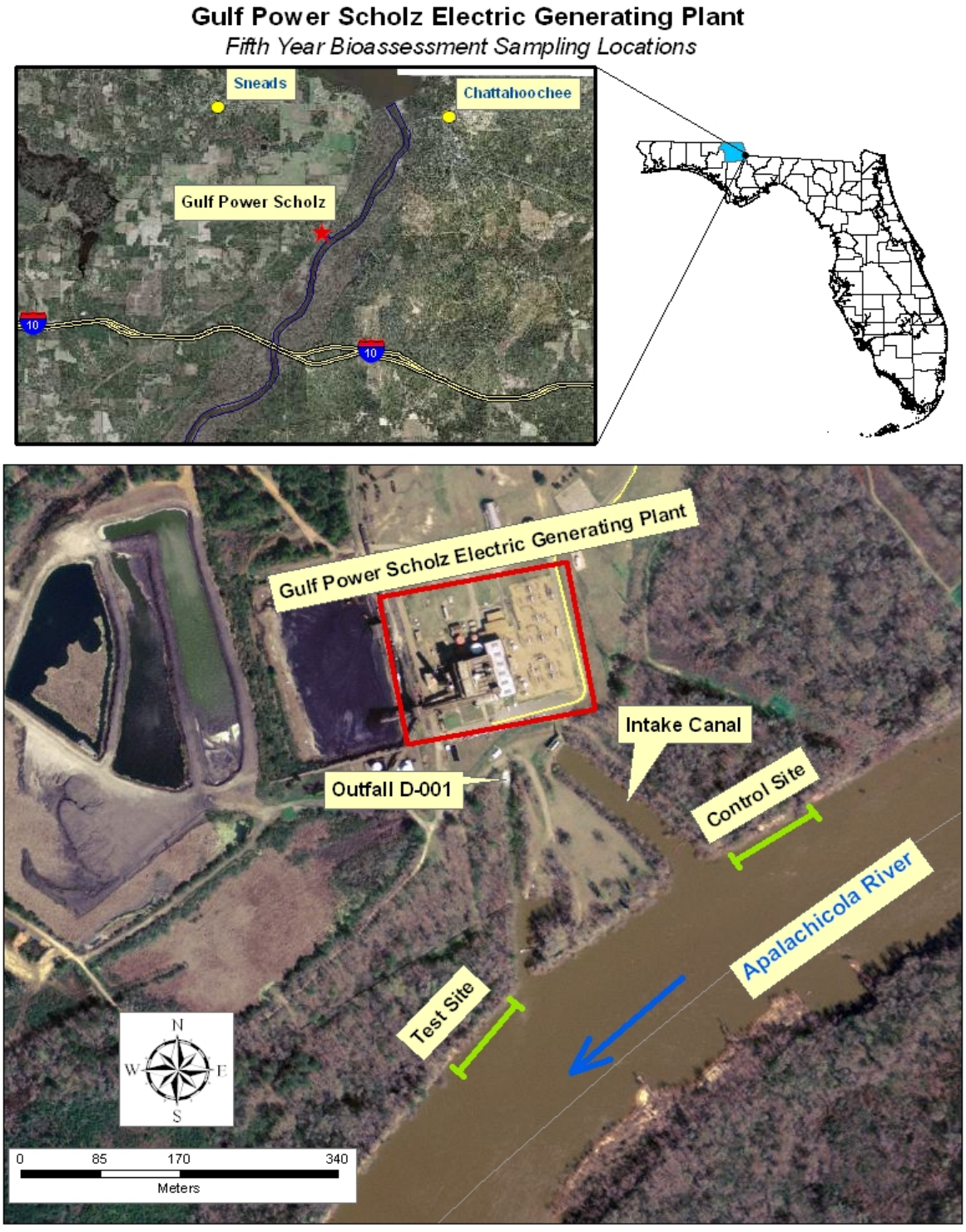
Gulf Power Scholz	Control Site	Test Site
Number of Wet Taxa	26	24
Number of Wet Algal Units Identified	304	304
Percent Dominant Wet Taxon	45.4	60.5
Dominant Wet Taxon Name	Bacillariophyta (Diatoms)	Bacillariophyta (Diatoms)
Number of Diatom Taxa	43	48
Number of Diatom Algal Units Identified	500	500
Percent Dominant Diatom Taxon	12.0	26.0
Dominant Diatom Taxon Name	*Nitzschia* sp.	*Fragilaria capucina vaucheriae*
Percentage Composition for Wet Algae		
Blue-green algae	45.1	24.0
Green algae	9.5	14.8
Diatoms	45.4	60.5
Euglenophytes	0.0	0.7

Table 5. Macroinvertebrate Hester-Dendy Samples - Quantitative.

Gulf Power Scholz	Control Site	Test Site
Summary Statistics		
Shannon-Weaver Diversity	3.97	3.15
Number of Taxa	38	27
Number of EPT Taxa	15	8
Percent Dominant Taxon	18.9	38.8
Dominant Taxon Name	*Potamyia flava* (Trichoptera)	*Cricotopus* or *orthocladius* sp. (Diptera)
Total Number of Individuals (counted)	1,226	691
Total Number of Individuals (#/m^2)	3,244	1,831
Community Composition: Percent of total		
Amphipoda	0.2	0.2
Coleoptera	0.0	0.2
Diptera	37.3	79.6
Ephemeroptera	8.9	11.7
Gastropoda	0.1	0.0
Odonata	0.0	1.6
Oligochaeta	0.7	0.0
Plecoptera	0.0	0.0
Trichoptera	49.7	6.7
Other	3.3	0.2
Functional Feeding Groups: Percent of total		
Burrowing Deposit Feeders	0.7	0.0
Piercers	0.0	0.9
Predators	13.4	17.2
Scrapers	2.0	3.6
Shredders	12.2	21.0
Surface Deposit Feeders	24.5	48.7
Suspension Feeders	46.8	8.5
Unknown	0.6	0.2

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: Kim Allen	**Contact Number:** 595-8300 ext. 1185
Facility Name (as it appears on permit): Gulf Power Scholz Electric Generating Plant	**Former Names:**
NPDES Permit Number: FL0002283	**Permit Expiration Date:** 6/3/10
Physical Address: 1460 Gulf Power Road, Sneads, FL 32460	
District: NWD	**County:** Jackson
Function of Facility: Power Generation	
Facility Type: Power Plant	**Permitted Capacity (MGD):** 129.6
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 59.8154 mgd (average daily max for 9/1/08-10/31/09 from PCS)	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): N/A	
Description of type of Discharge: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

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

EFF-1 – At condenser outlet; EFF-2 – In discharge canal 200' downstream from the ash pond discharge prior to the confluence of the discharge canal and the Apalachicola River; OUI-3 – the point of discharge is the ash pond discharge weir; OUI-4 – the point of discharge is the water treatment outlet box

Description of Permitted Outfall(s):

D-001 – Combined Plant Discharge; I-012 – Ash Pond Discharge to Canal(formerly I-IC); I-013 – Domestic Wastewater Treatment Plant Effluent (formerly I-1A) to Ash Pond

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

Non-contact once-through condenser cooling water (OTCW) discharges with chlorination to the on-site discharge canal, and thence to the Apalachicola River, a Class III fresh water. All other industrial and domestic wastewater streams discharge into the on-site ash pond. Discharges to the on-site ash pond consist of low volume wastes (i.e. ash sluice water, water softener regeneration wastewater, boiler blowdown and air preheater wash) auxiliary equipment cooling water, coal pile runoff, yard sump runoff, and treated domestic wastewater. Domestic Wastewater receives secondary treatment in a package treatment plant prior to discharging to the ash pond. Overflow from the ash pond discharges to the on-site discharge canal, and thence to the Apalachicola River.

PART I: Continued

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

			Effluent Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
D-001										
Flow	mgd	Max				Report	Daily	Calc	EFF-2	
Temperature (intake)	F	Max				Report	4 days/week	Recorder	INT-1	
pH	SU	Max/min				8.5/6.0	Weekly	Grab	EFF-2	
Temperature (eff)	F	Max				Report	4 days/week	Recorder	EFF-1	
Oil and Grease	Mg/L	Max				5.0	Quarterly	Grab	EFF-2	
Total Residual Chlorine	Mg/L	Max				.01	Weekly	Calc	EFF-2	
Chlorination Duration	Minutes	Max				120	Weekly	Calc	EFF-2	
Total Recoverable Copper	Ug/L	Max				See condition al 1.A 3,4	Annually	24-hr time proportion al composite	EFF-2	
Total Recoverable Copper	Ug/L	Max				Report	Annually	24-hr time proportion al composite	INT-1	

Total Recoverable Cadmium	Ug/L	Max				See Conditional I.A.3,4	Annually	24-hr time proportional composite	EFF-2	
Total Recoverable Cadmium	Ug/L	Max				Report	Annually	24-hr time proportional composite	INT-1	
Total Recoverable Lead	Ug/L	Max				Report	Annually	24-hr time proportional composite	INT-1	
Total Recoverable Lead	Ug/L	Max				See Conditional I.A.3,4	Annualy	24-hr time proportional composite	EFF-2	
Total Recoverable Iron	Mg/L	Max				Report	Annually	24-hr time proportional composite	INT-1	
Total Recoverable Iron	Mg/L	Max				See Condition I.A.3,4	Annually	24 –hr time proportional composite	EFF-2	
Fecal Coliform	#/100 ml	Max				800	Quarterly	Grab	EFF-2	
Total Hardness (as CaCO3)	Mg/L	Max				See condition I.A.4	Quarterly	Grab	EFF-2	

Parameter	**Units**	**Max Daily Average**	**Max Monthly Avg**	**Other**			**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
I-012										
Flow	Mgd	Report					Weekly	Calculated	OUI-3	
TSS	Mg/L	100	30				Weekly	24-hr time proportional composite	OUI-3	
Oil and Grease	Mg/L	20	15				Every 2 weeks	Grab	OUI-3	
pH	SU			9.0 max 6.0 min			Weekly	Grab	OUI-3	
Total Recoverable Nickel	Ug/L			Report Instantaneous max			Annually	Grab	OUI-3	
I-013										
Flow	Mgd	Report	Report				Weekly	Meter	OUI-4	Flow shall be taken on the day of the highest expected flow rate for the week based on number of employee sworking.
Biochemical Oxygen Demand-5	Mgd	60	30				Quarterly	Grab	OUI-4	
TSS	Mg/L	60	30				Quarterly	Grab	OUI-4	

3. The limit for Total Recoverable Copper, Cadmium, and Lead shall be calculated using the following equations:

   $Cu < e(0.8545[\ln H]-1.702)$

   $Cd < e(0.7852[\ln H]-3.49)$

   $Pb < e(1.273[\ln H]-4.705)$

   Total hardness shall be measured at the time of the effluent sample. The "ln H" means the natural logarithm of total hardness expressed as milligrams/L of CaCO3. This equation can only be applied for hardness in the range of 25 MG/L to 400 MG/L as CaCO3. If the total hardness is below 25 MG/L, the permittee shall use 25 MG/L for total hardness in the equation and if the hardness is above 400 MG/L, the permittee shall use 400 MG/L for total hardness in the equation.

   The measured effluent value shall be recorded on the DMR in the parameter row for Copper, Cadmium, or Lead, Total Recoverable (effluent). The calculated effluent limit shall be recorded on the DMR in the parameter row for Copper, Cadmium, or Lead, Total Recoverable (calculated limit). Compliance with the effluent limitation is determined by calculating the difference between the measured effluent value and the calculated effluent limit. The compliance value shall be recorded on the DMR in the parameter row for Copper, Cadmium, or Lead, Total Recoverable (effluent minus calculated limit). If the compliance value is greater than 0.00, the permittee will be considered in violation of the limitation.

4. The actual limit shall be the water quality standard set in Rule 62-302.530, F.A.C., for Class III fresh water or the concentration of the intake cooling water, whichever is greater. If the outfall D-001 composite sample exceeds the intake concentration, and the intake concentration exceeds the water quality standard, a minimum of five (5) additional sub-samples shall be measured from the original intake and outfall composites and a "student t-test" shall be run on these additional sub-sample comparing discharge concentrations with intake concentrations; unless the discharge concentration exceeds the intake concentration at the 95% confidence level, the facility shall be in compliance with the limit.

5. Limitations and monitoring requirements for total residual chlorine are not applicable for time periods in which once- through condenser cooling water intake is not chlorinated.

PART I: Continued

Receiving Waters:	Classification (indicate whether fresh or marine):
Apalachicola River	Class III Fresh

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

None

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

AO 014TL was executed7/6/05 because of occasional monitoring well arsenic levels were detected above the groundwater standard. The AO required them to conduct a study to identify potential sources of arsenic pollution from the facility and its activities and evaluate potential ways to eliminate or control the release of arsenic from such sources to waters of the state. The AO gave them a groundwater interim limit of 50 ug/L. The report was submitted and the Groundwater Regulation Section concurred with Gulf Power's findings that the arsenic is naturally occurring and therefore Gulf Power Scholz is not subject to a groundwater arsenic limit.

Facility Mixing Zone Details (if applicable):
None

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

Date	Parameter and Units	Limit	Result
9/08 (012-1)	**Oil and Grease (mg/L)**	**20 max daily avg** **15 max monthly avg**	**37** **18.85**
12/08 (001-Q)	**Oil and Grease (mg/L)**	**5 daily max**	**7.5**

Describe previous FYI and WQBEL study:

FYI's were previously conducted in August 2003 (Report March 2004) and August 1990 (Report November 1990).

Describe previous or current Enforcement Actions (including WLs):

None

Describe any violations or problems noted in previous inspection:

None

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

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

PART II: Sampling Event Information

Date(s) sample collected: 8/4/2010	Sampler(s): Nathan Mulkey, Rick Abad, Corinna Clanton
Temperature (Deg C): 35.55	pH (SU): 7.61
Dissolved Oxygen (mg/L): 7.32	Conductivity (umhos/cm): 139
Total Residual Chlorine (mg/L):	Total Residual Chlorine - after Disinfection (mg/L):
Method of Chlorination:	Method of De-chlorination:
Flow During Sample Collection for each outfall(MGD):	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☐ Continuous ☒ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:

Appendix 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.floridadep.org/labs/sop/index.htm and/or http://www.floridadep.org/labs/qa/index.htm .

(2) Chemical Analyses of the Effluent

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

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedance of 62-302.500(1)a and/or a violation of facility permit limits. An inhibition concentration greater than 25% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or a violation of facility permit limits. Standard reference toxicant (SRT) tests are conducted monthly to ensure quality in toxicity testing.

(4) Bacteriological Testing

High levels of fecal coliform bacteria may constitute an exceedance of 62-302.530(6) and/or a violation of facility permit limits.

(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 ± 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 exceedences 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 exceedences 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 exceedences 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 exceedences 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. and/or a violation of 62-302.530(61).

Appendix D

Chain of Custody

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2010-08-02-25
FYI inspection for Gulf Power Scholz

Requester: Cari Butler
Field Report Prepared By: N. Mulkey
Customer: NW-DIST
Project ID: FYI5
PMAS: 1143
Collected By: Nathan Mulkey / Rick Abad
Send Final Report To: Toni Edwards
Sampling Agency: FDEP

Lab ID *	Location	Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☑ Grab	8/4/10	1055	Central				A
	Field ID: Effluent	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 7.32	Storet Station Number					
	Matrix (include type e.g. Salt, Fresh, etc): Fresh	Temp (C): 35.55	pH: 7.61	Sample Depth ☑ m ☐ ft: 0.15	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm): 139	NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: station D-001						

Lab ID *	Location	Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☑ Grab	8/4/10	1115	Central				A
	Field ID: Effluent	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number					
	Matrix (include type e.g. Salt, Fresh, etc): Fresh	Temp (C)	pH	Sample Depth ☑ m ☐ ft: 0.15	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: station D-001						

Lab ID *	Location	Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☐ Grab	8/4/10	1130	Central				D
	Field ID: Field 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						

Lab ID *	Location	Comp / Grab	Collection (begin) Date	Time	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☑ Grab	8/4/10	1149	Central				A
	Field ID: Effluent (Fecal)	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number					
	Matrix (include type e.g. Salt, Fresh, etc): Fresh	Temp (C)	pH	Sample Depth ☑ m ☐ ft: 0.15	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: Fecal Coliform station D-001						

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* Shaded Areas for Lab use only. 1410

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 4

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2010-08-02-25
FYI inspection for Gulf Power Scholz

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

Requester: Cari Butler
Collected By: J. Weger, T. Bisk
Sampling Agency: FDEP Bio Lab

Field Report Prepared By: J. Weger
Send Final Report To: Toni Edwards

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab Date 08/04/10 Time 10:05 am Eastern Central	Date Time Eastern Central	A,B C-peri
	Field ID: Control Site	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 4.11	Storet Station Number
	Matrix (include type e.g. Salt Fresh, etc)	Temp (C) 31.11	pH 7.23	Sample Depth ☒ m ☐ ft 0.2m; 142; ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm); NPDES Number
	Latitude 30° 40' 2.5" ☐ dd ☒ dms	Longitude 84° 53' 1.0" ☐ dd ☒ dms	Comments: water samples + periphyton	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab Date 08/04/10 Time 11:30 am Eastern Central	Date Time Eastern Central	A,B C-peri
	Field ID: Test Site	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L) 5.35	Storet Station Number
	Matrix (include type e.g. Salt Fresh etc)	Temp (C) 33.31	pH 7.35	Sample Depth ☒ m ☐ ft 0.2m; 148; ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm); NPDES Number
	Latitude 30° 39' 57.9" ☐ dd ☒ dms	Longitude 84° 53' 13.8" ☐ dd ☒ dms	Comments: water samples + periphyton	

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

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

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* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

2 ortho PG 3:30 PM 8/4/10

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2010-08-02-25
FYI inspection for Gulf Power Scholz

Requester: Cari Butler
Field Report Prepared By: J. Weger
Collected By: J. Weger, T. Risk
Send Final Report To: Toni Edwards
Sampling Agency: FDEP Bio Lab

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

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 9:55 am	Date Time	C
	Field ID: Control - Rep 1 A	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 143
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 9:55 am	Date Time	C
	Field ID: Control - Rep 2 A	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 143
	Latitude: 30° 40' 2.5" ☐ dd ☐ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 9:55 am	Date Time	C
	Field ID: Control - Rep 3A	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 143
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		NPDES Number:

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 9:55 am	Date Time	C
	Field ID: Control - Rep 4A	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 143
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		NPDES Number:

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** 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-2010-08-02-25
FYI inspection for Gulf Power Scholz

Requester: Cari Butler
Field Report Prepared By: J. Weger

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

Collected By: J. Weger, T. Risk
Send Final Report To: Toni Edwards

Sampling Agency: FDEP Bio Lab

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern / Central	Collection (end) Eastern / Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 10:01 am	Date Time	C
	Field ID: Control - Rep 1 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☒ Sp Conductance (umho/cm): 142	NPDES Number:
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern / Central	Collection (end) Eastern / Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 10:01 am	Date Time	C
	Field ID: Control - Rep 2 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☐ m ☐ ft	Salinity (PPTh) ☒ Sp Conductance (umho/cm): 142	NPDES Number:
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern / Central	Collection (end) Eastern / Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 10:01 am	Date Time	C
	Field ID: Control - Rep 3 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☒ Sp Conductance (umho/cm): 142	NPDES Number:
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern / Central	Collection (end) Eastern / Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	Date 08/04/10 Time 10:01 am	Date Time	C
	Field ID: Control - Rep 4 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 4.11	Storet Station Number:	
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 31.11	pH: 7.23	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh) ☒ Sp Conductance (umho/cm): 142	NPDES Number:
	Latitude: 30° 40' 2.5" ☐ dd ☒ dms	Longitude: 84° 53' 1.0" ☐ dd ☒ dms	Comments: Hester Dendy		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
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** 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-2010-08-02-25
FYI inspection for Gulf Power Scholz

Requester: Cari Butler
Field Report Prepared By: J. Weger

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

Collected By: J. Weger, T. Risk
Send Final Report To: Toni Edwards

Sampling Agency: FDEP Bio Lab

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab Date 08/04/10 Time 11:05am Eastern/Central	Date Time Eastern/Central	
	Field ID: Test - Rep 1 A	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): ~~4.6~~ 5.35	Storet Station Number: C
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 33.31	pH: 7.35	Sample Depth: ☒ m ☐ ft 0.2
		Salinity (PPTh)	Sp Conductance (umho/cm): 148	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab Date 08/04/10 Time 11:05am Eastern/Central	Date Time Eastern/Central	
	Field ID: Test - Rep 2 A	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 5.35	Storet Station Number: C
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 33.31	pH: 7.35	Sample Depth: ☒ m ☐ ft 0.2
		Salinity (PPTh)	Sp Conductance (umho/cm): 148	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab Date 08/04/10 Time 11:05am Eastern/Central	Date Time Eastern/Central	
	Field ID: Test - Rep 3 A	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 5.35	Storet Station Number: C
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 33.31	pH: 7.35	Sample Depth: ☒ m ☐ ft 0.2
		Salinity (PPTh)	Sp Conductance (umho/cm): 148	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☐ Grab Date 08/04/10 Time 11:05am Eastern/Central	Date Time Eastern/Central	
	Field ID: Test - Rep 4 A	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 5.35	Storet Station Number: C
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 33.31	pH: 7.35	Sample Depth: ☒ m ☐ ft 0.2
		Salinity (PPTh)	Sp Conductance (umho/cm): 148	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	08/04/10	hand delivery	Tahmoures Ebrahimi	14:50 08-04-10				

* 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-2010-08-02-25
FYI inspection for Gulf Power Scholz

Requester: Cari Butler
Field Report Prepared By: J. Weger

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

Collected By: J. Weger, T. Risk
Send Final Report To: Toni Edwards

Sampling Agency: FDEP Bio Lab

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	08/04/10 11:15am		
	Field ID: Test - Rep 1 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 5.25	Storet Station Number:	C
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 33.31	pH: 7.35	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh): 148 ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	08/04/10 11:15am		
	Field ID: Test - Rep 2 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 5.25	Storet Station Number:	C
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 33.31	pH: 7.35	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh): 148 ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	08/04/10 11:15am		
	Field ID: Test - Rep 3 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 5.25	Storet Station Number:	C
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 33.31	pH: 7.35	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh): 148 ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Gulf Power Scholz	☐ Comp ☒ Grab	08/04/10 11:15am		
	Field ID: Test - Rep 4 B	Tot Res Chlorine (mg/L):	Diss Oxygen (mg/L): 5.25	Storet Station Number:	C
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 33.31	pH: 7.35	Sample Depth: 0.2 ☒ m ☐ ft	Salinity (PPTh): 148 ☒ Sp Conductance (umho/cm)	NPDES Number
	Latitude: 30° 39' 57.2" ☐ dd ☒ dms	Longitude: 84° 53' 12.2" ☐ dd ☒ dms	Comments: Hester Dendy		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
JWeger	08/04/10	hand delivery	Tahmoures Ghiasi	08-04-10 14:50				

* 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

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID : CONTROL ORG ID : _____
COUNTY : Jackson STORET # : _____
DATE : 08/04/10 TIME : 10:05am

Latitude : 30 (degrees) 40 (minutes) 7.5 (seconds) | Longitude : 84 (degrees) 53 (minutes) 1.0 (seconds)

SITE NAME : Gulf Power Scholz SAMPLE COMPLETE ? _____
FIELD ID/NAME : Control Site RECEIVING BODY OF WATER : ~~Apalachicola River~~ IR

CONTROL - UPSTREAM

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)

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 : >18m Right Bank : >18m
High Water Mark: (m) + (above present water level) (present depth) = (above bed)
Artificially Impounded ☒ Yes ☐ No
Typical Width (m) Depth (m)/Velocity (m/sec) Transect _____ 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
Canopy Cover % : ☒ Open ☐ Lightly Shaded (11-45%) ☐ Heavily Shaded ☐ Moderate Shaded (46-80%)

CONTROL DOWNSTREAM

SEDIMENT / SUBSTRATE

~~Sediment Oils~~ ☐ Absent ☐ Slight ☐ Moderate ☐ Profuse
~~Sediment Odors~~ ☐ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Anaerobic ☐ Other (Specify) :
Sediment Deposition ☐ Sludge Sand Smothering : None Slight Moderate Severe Silt Smothering : None Slight Moderate Severe ☐ Other (Specify) :

SUBSTRATE TYPE
Assessment Tool: ☐ SCI ☐ BioRecon ☐ LCI ☐ LVI

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			5
Undercut Banks / Roots			
Leaf Packs or Mat			
Aquatic Vegetation			
Rock or Shell Rubble..			5
Sand.....			
Mud / Muck / Silt			
Other			
Other			

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O (MG/L)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :	0.2m	31.11	7.23	4.11	142	—	
Mid-Depth :	1.5m	31.13	7.26	4.08	142	—	☐ VOB
Bottom :							

Water Surface Oils : ☒ None ☐ Sheen ☐ Globs ☐ Slick
Water Odors : ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Other (Specify) :
Water Sample Taken ? ☒ Yes ☐ No
Algae Sample Taken ? ☒ Yes ☐ No
Clarity ☐ Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque
SYSTEM TYPE ☐ Stream ☐ Lake ☐ Wetland ☐ Estuary ☒ Other (Specify) RIVER
Color ☒ Tannic ☐ Green (Algae) ☒ Clear ☐ Other (Specify) :

WEATHER CONDITIONS / NOTES : Hester Dendy's were tangled.
Cit B - 9:55am
C-A - 10:01am
Samples - 10:05am
☒ The antecedent hydrologic conditions have been met to my best knowledge.
Water samples preserved ? ☒ Yes ☐ pH<2 ☐ No Algae samples preserved ? ☐ Yes ☐ No

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton :	☐	☐	☐	☒
Fish :	☐	☐	☐	☒
Aquatic Macrophytes :	☒	☐	☐	☐
Iron/Sulfur Bacteria :	☒	☐	☐	☐

SAMPLING TEAM : JR JW **SIGNATURE :** _____ **DATE :** 08/04/10

Revision Date: September 5, 2008

DEP-SOP-001/01: Form FD 9000-5

STATE OF FLORIDA, DEPARTMENT OF ENVIRONMENTAL PROTECTION

STREAM/RIVER HABITAT ASSESSMENT FIELD SHEET

SUBMITTING AGENCY CODE: / SUBMITTING AGENCY NAME:	STORET STATION NUMBER:	DATE (MM/DD/YY): 8/4/10	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: Jackson	LOCATION: Gulf Power Scholz Control	FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity 5	Four or more productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 7	Greater than 30% productive habitat present at site 20 19 18 17 16	16% to 30% productive habitat, by aerial extent 15 14 13 12 11	6% to 15% productive habitat 10 9 8 (7) 6	Less than 5% productive habitat 5 4 3 2 1
Water Velocity 17	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec 20 19 18 (17) 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec 5 4 3 2 1
Habitat Smothering 13 Primary Score 42	Adequate number of pools (1-2 per 12 times width) and <25% of habitats affected by sand or silt accumulation. 20 19 18 17 16	Adequate number of pools (1-2 per 12 times width) and >25% of habitats affected by sand or silt accumulation. 15 14 (13) 12 11	Does not have required number of pools (1-2 per 12 times width) and/or has shallow pools (<2 times prevailing depth). 10 9 8 7 6	Pools are absent. Most habitats affected by sand or silt accumulation. 5 4 3 2 1
Secondary Habitat Components Artificial Channelization 16	Good sinuosity. No evidence of dredging or artificial straightening. No spoil banks. Diversity of depths. 20 19 18 17 (16)	Good sinuosity within old channelized area and a diversity of depths. Evidence of dredging in the past (>10 yrs) but mostly recovered. 15 14 13 12 11	Some sinuosity developed within channelized area or some diversity of depth, but typically no pools (>2 times prevailing depth) present. 10 9 8 7 6	Straightened with spoil banks. Box-cut, monotypic depth. 5 4 3 2 1
Bank Stability Right Bank 3 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60°. 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 still 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 9 Left Bank 9 Secondary Score 67	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants, trees, understory shrubs, or non-woody macrophytes). 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

109 **TOTAL SCORE**

Date: 8/4/10	Analyst: TODD	Signature: TODD RISK

DEP-SOP-001/01: Form FD 9000-3

PHYSICAL/CHEMICAL CHARACTERIZATION FIELD SHEET

SAMPLE ID : TEST
ORG ID :
COUNTY : Jackson
STORET # :
DATE : 08/04/10
TIME : 11:30

Latitude : 30 (degrees) 39 (minutes) 57.2 (seconds)
Longitude : 84 (degrees) 53 (minutes) 12.9 (seconds)

SITE NAME : Gulf Power Scholz
SAMPLE COMPLETE ? ____
FIELD ID/NAME : Test Site
RECEIVING BODY OF WATER : ~~Apalachicola River~~ TR

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)

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 : >18

High Water Mark: (m) + (above present water level) (present depth) = (above bed)

Artificially Impounded ☒ Yes ☐ No

Typical Width (m) Depth (m)/Velocity (m/sec) Transect
~150 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

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

Test Upstream

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse

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

Sediment Deposition ☒ Sludge
Sand Smothering : None Slight Moderate Severe
Silt Smothering : None Slight Moderate Severe (circled)
☐ Other (Specify) :

SUBSTRATE TYPE
Assessment Tool: ☐ SCI ☐ BioRecon ☐ LCI ☐ LVI

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

WATER QUALITY

	Depth (M)	Temp. (°C)	pH (SU)	D.O. (MG/L)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top :	0.2	33.31	7.35	5.25	148	—	
Mid-Depth :	1.5	33.09	7.33	4.61	143	—	☐ VOB
Bottom :							

Water Surface Oils : ☒ None ☐ Sheen ☐ Globs ☐ Slick

Water Odors : ☒ Normal ☐ Sewage ☐ Petroleum ☐ Chemical ☐ Other (Specify) :

Water Sample Taken ? ☒ Yes ☐ No

Algae Sample Taken ? ☒ Yes ☐ No

SYSTEM TYPE ☐ Stream ☐ Lake ☐ Wetland ☐ Estuary ☒ Other (Specify) : Large River

Clarity ☐ Clear ☒ Slightly Turbid ☐ Turbid ☐ Opaque

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

Test Downstream

WEATHER CONDITIONS / NOTES :
T-1 : 11:05 am
T-2 : 11:15 am
Samples: 11:20 am
☐ The antecedent hydrologic conditions have been met to my best knowledge.
Water samples preserved ? ☐ Yes ☐ pH<2 ☐ No Algae samples preserved ? ☐ Yes ☐ No

ABUNDANCE

	Absent	Rare	Common	Abundant
Periphyton :	☐	☐	☐	☒
Fish :	☐	☐	☐	☒
Aquatic Macrophytes :	☒	☐	☐	☐
Iron/Sulfur Bacteria :	☒	☐	☐	☐

SAMPLING TEAM : TR JW
SIGNATURE :
DATE : 08/04/10

Revision Date: September 5, 2008

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

SUBMITTING AGENCY CODE: SUBMITTING AGENCY NAME:	STORET STATION NUMBER:	DATE (MM/DD/YY):	RECEIVING BODY OF WATER:
REMARKS:	COUNTY: Jackson	LOCATION: Gulf Power Scholz Test Site	FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components Substrate Diversity 5	Four or more productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two productive habitats present. Less than desirable habitat, frequently disturbed or removed 10 9 8 7 6	One or less productive habitat. Lack of habitat is obvious, substrates unstable or smothered (5) 4 3 2 1
Substrate Availability 1	Greater than 30% productive habitat present at site 20 19 18 17 16	16% to 30% productive habitat, by aerial extent 15 14 13 12 11	6% to 15% productive habitat 10 9 8 7 6	Less than 5% productive habitat 5 4 3 2 (1)
Water Velocity 17	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec 20 19 18 (17) 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec 5 4 3 2 1
Habitat Smothering 13 Primary Score 36	Adequate number of pools (1-2 per 12 times width) and <25% of habitats affected by sand or silt accumulation. 20 19 18 17 16	Adequate number of pools (1-2 per 12 times width) and >25% of habitats affected by sand or silt accumulation. 15 14 (13) 12 11	Does not have required number of pools (1-2 per 12 times width) and/or has shallow pools (<2 times prevailing depth). 10 9 8 7 6	Pools are absent. Most habitats affected by sand or silt accumulation. 5 4 3 2 1
Secondary Habitat Components Artificial Channelization 20	Good sinuosity. No evidence of dredging or artificial straightening. No spoil banks. Diversity of depths. (20) 19 18 17 16	Good sinuosity within old channelized area and a diversity of depths. Evidence of dredging in the past (>10 yrs) but mostly recovered. 15 14 13 12 11	Some sinuosity developed within channelized area or some diversity of depth, but typically no pools (>2 times prevailing depth) present. 10 9 8 7 6	Straightened with spoil banks. Box-cut, monotypic depth. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 5	Bankfull > 60% of bank height. Slope of bank ≤ 60°. 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 still 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 9 Left Bank 10 Secondary Score 74	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants, trees, understory shrubs, or non-woody macrophytes). 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

110 **TOTAL SCORE**

Date: 8/4/10	Analyst: TODD RISK	Signature: TODD

Form FD 9000-5 Revision Date: June 6, 2008

Appendix F

Chemical analysis of effluent and receiving water

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 11:55	Effluent	AGP/LN	Algal Growth Potential	8		mg DryWt/L	0.3	0.9
8/4/2010 11:55	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3.2		ug/L	0.55	1.7
8/4/2010 11:55	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8		ug/L	0.4	1.2
8/4/2010 11:55	Effluent	Field Parameter	Dissolved Oxygen	7.32		mg/L		
8/4/2010 11:55	Effluent	Field Parameter	pH	7.61				
8/4/2010 11:55	Effluent	Field Parameter	Sample Depth	0.15		m		
8/4/2010 11:55	Effluent	Field Parameter	Specific Conductance	139		umhos/cm		
8/4/2010 11:55	Effluent	Field Parameter	Temperature	35.55		C		
8/4/2010 12:15	Effluent	Metals	Aluminum	180	I	ug/L	60	240
8/4/2010 12:15	Effluent	Metals	Arsenic	0.56	I	ug/L	0.25	1
8/4/2010 12:15	Effluent	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
8/4/2010 12:15	Effluent	Metals	Calcium	18.1		mg/L	0.075	0.3
8/4/2010 12:15	Effluent	Metals	Chromium	0.49	I	ug/L	0.3	1.2
8/4/2010 12:15	Effluent	Metals	Copper	5.13		ug/L	0.5	1
8/4/2010 12:15	Effluent	Metals	Iron	310		ug/L	30	120
8/4/2010 12:15	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Metals	Magnesium	2.15		mg/L	0.04	0.16
8/4/2010 12:15	Effluent	Metals	Nickel	0.78	I	ug/L	0.25	1
8/4/2010 12:15	Effluent	Metals	Selenium	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
8/4/2010 12:15	Effluent	Metals	Sodium	7.4		mg/L	0.5	2
8/4/2010 12:15	Effluent	Metals	Zinc	5	U	ug/L	5	20
8/4/2010 12:49	Effluent	Microbiology	Fecal Coliforms-Membrane Filter	58		#/100 mL	2	2
8/4/2010 11:55	Effluent	Nutrients	Alkalinity	51		mg CaCO3/L	0.65	2.5
8/4/2010 12:15	Effluent	Nutrients	Ammonia-N	0.072		mg N/L	0.01	0.02
8/4/2010 11:55	Effluent	Nutrients	Chloride	5.2		mg Cl/L	0.2	0.5
8/4/2010 12:15	Effluent	Nutrients	Color (true)	10		PCU	5	5
8/4/2010 11:55	Effluent	Nutrients	Fluoride	0.083	I	mg F/L	0.035	0.1
8/4/2010 12:15	Effluent	Nutrients	Kjeldahl Nitrogen	0.38		mg N/L	0.08	0.2
8/4/2010 12:15	Effluent	Nutrients	NO2NO3-N	0.38		mg N/L	0.004	0.01
8/4/2010 12:15	Effluent	Nutrients	O-Phosphate-P	0.008	I	mg P/L	0.004	0.01
8/4/2010 12:15	Effluent	Nutrients	Organic Carbon	2.6	I	mg C/L	1	5
8/4/2010 11:55	Effluent	Nutrients	Sulfate	7.4		mg SO4/L	0.2	0.5
8/4/2010 12:15	Effluent	Nutrients	Total-P	0.026		mg P/L	0.004	0.01
8/4/2010 11:55	Effluent	Nutrients	TSS	8	I	mg/L	4	16
8/4/2010 11:55	Effluent	Nutrients	Turbidity	5.1	A	NTU	0.1	0.1
8/4/2010 11:55	Effluent	Overflow	Oil and Grease	1.4	U	mg/L	1.4	5

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 12:15	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
8/4/2010 12:15	Effluent	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	DDT-p,p'	0.03	UJ	ug/L	0.03	0.12
8/4/2010 12:15	Effluent	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Endrin	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
8/4/2010 12:15	Effluent	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
8/4/2010 12:15	Effluent	Pesticides	Hexazinone	0.1	UJ	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
8/4/2010 12:15	Effluent	Pesticides	Metalaxyl	0.25	UJ	ug/L	0.25	1
8/4/2010 12:15	Effluent	Pesticides	Methoxychlor	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Metolachlor	0.5	UJ	ug/L	0.5	2
8/4/2010 12:15	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
8/4/2010 12:15	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
8/4/2010 12:15	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
8/4/2010 12:15	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 12:15	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
8/4/2010 12:15	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
8/4/2010 12:15	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
8/4/2010 12:15	Effluent	Pesticides	Toxaphene	0.75	U	ug/L	0.75	3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	11	U	ug/L	11	43
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	16	U	ug/L	16	65
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2-Chlorophenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	2-Nitrophenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	43	UJ	ug/L	43	170
8/4/2010 12:15	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.2	U	ug/L	2.2	8.6
8/4/2010 12:15	Effluent	Priority Organic Pollutants	4-Nitrophenol	16	U	ug/L	16	65
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Acenaphthene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Acenaphthylene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Anthracene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzidine	110	U	ug/L	110	430
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	16	U	ug/L	16	65
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	5.4	U	ug/L	5.4	22
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Chrysene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Diethyl phthalate	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Dimethyl phthalate	11	U	ug/L	11	43

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	5.4	U	ug/L	5.4	22
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Fluoranthene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Fluorene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Hexachlorobenzene	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Hexachloroethane	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Isophorone	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Naphthalene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Nitrobenzene	2.2	U	ug/L	2.2	8.6
8/4/2010 12:15	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2	U	ug/L	2.2	8.6
8/4/2010 12:15	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.2	U	ug/L	2.2	8.6
8/4/2010 12:15	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Pentachlorophenol	3.2	U	ug/L	3.2	13
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Phenanthrene	0.22	U	ug/L	0.22	0.86
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Phenol	1.1	U	ug/L	1.1	4.3
8/4/2010 12:15	Effluent	Priority Organic Pollutants	Pyrene	0.22	U	ug/L	0.22	0.86
8/4/2010 10:05	Control Site	AGP/LN	Algal Growth Potential	4.69		mg DryWt/L	0.3	0.9
8/4/2010 10:05	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3		ug/L	0.55	1.7
8/4/2010 10:05	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8		ug/L	0.4	1.2
8/4/2010 10:05	Control Site	Field Parameter	Dissolved Oxygen	4.11		mg/L		
8/4/2010 10:05	Control Site	Field Parameter	pH	7.23				
8/4/2010 10:05	Control Site	Field Parameter	Sample Depth	0.2		m		
8/4/2010 10:05	Control Site	Field Parameter	Specific Conductance	142		umhos/cm		
8/4/2010 10:05	Control Site	Field Parameter	Temperature	31.11		C		
8/4/2010 10:05	Control Site	Metals	Aluminum	160	I	ug/L	60	240
8/4/2010 10:05	Control Site	Metals	Arsenic	0.57	I	ug/L	0.25	1
8/4/2010 10:05	Control Site	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
8/4/2010 10:05	Control Site	Metals	Calcium	17.9		mg/L	0.075	0.3
8/4/2010 10:05	Control Site	Metals	Chromium	0.41	I	ug/L	0.3	1.2
8/4/2010 10:05	Control Site	Metals	Copper	0.52	I	ug/L	0.5	1
8/4/2010 10:05	Control Site	Metals	Iron	240		ug/L	30	120
8/4/2010 10:05	Control Site	Metals	Lead	0.27	I	ug/L	0.2	0.8
8/4/2010 10:05	Control Site	Metals	Magnesium	2.2		mg/L	0.04	0.16
8/4/2010 10:05	Control Site	Metals	Nickel	0.29	I	ug/L	0.25	1
8/4/2010 10:05	Control Site	Metals	Selenium	0.2	U	ug/L	0.2	0.8
8/4/2010 10:05	Control Site	Metals	Silver	0.025	U	ug/L	0.025	0.1

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 10:05	Control Site	Metals	Sodium	7.5		mg/L	0.5	2
8/4/2010 10:05	Control Site	Metals	Zinc	5	U	ug/L	5	20
8/4/2010 10:05	Control Site	Microbiology	Fecal Coliforms-Membrane Filter	8	B	#/100 mL	2	2
8/4/2010 10:05	Control Site	Nutrients	Alkalinity	51		mg CaCO3/L	0.65	2.5
8/4/2010 10:05	Control Site	Nutrients	Ammonia-N	0.091		mg N/L	0.01	0.02
8/4/2010 10:05	Control Site	Nutrients	Chloride	5.2		mg Cl/L	0.2	0.5
8/4/2010 10:05	Control Site	Nutrients	Color (true)	10		PCU	5	5
8/4/2010 10:05	Control Site	Nutrients	Fluoride	0.083	I	mg F/L	0.035	0.1
8/4/2010 10:05	Control Site	Nutrients	Kjeldahl Nitrogen	0.33		mg N/L	0.08	0.2
8/4/2010 10:05	Control Site	Nutrients	NO2NO3-N	0.29		mg N/L	0.004	0.01
8/4/2010 10:05	Control Site	Nutrients	O-Phosphate-P	0.008	I	mg P/L	0.004	0.01
8/4/2010 10:05	Control Site	Nutrients	Organic Carbon	2.6	I	mg C/L	1	5
8/4/2010 10:05	Control Site	Nutrients	Sulfate	7		mg SO4/L	0.2	0.5
8/4/2010 10:05	Control Site	Nutrients	Total-P	0.025	A	mg P/L	0.004	0.01
8/4/2010 10:05	Control Site	Nutrients	TSS	5	I	mg/L	4	16
8/4/2010 10:05	Control Site	Nutrients	Turbidity	3.4		NTU	0.1	0.1
8/4/2010 11:20	Test Site	AGP/LN	Algal Growth Potential	9.91	A	mg DryWt/L	0.3	0.9
8/4/2010 11:20	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	3.8		ug/L	0.55	1.7
8/4/2010 11:20	Test Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.8		ug/L	0.4	1.2
8/4/2010 11:20	Test Site	Field Parameter	Dissolved Oxygen	5.25		mg/L		
8/4/2010 11:20	Test Site	Field Parameter	pH	7.35				
8/4/2010 11:20	Test Site	Field Parameter	Sample Depth	0.2		m		
8/4/2010 11:20	Test Site	Field Parameter	Specific Conductance	148		umhos/cm		
8/4/2010 11:20	Test Site	Field Parameter	Temperature	33.31		C		
8/4/2010 11:20	Test Site	Metals	Aluminum	170	I	ug/L	60	240
8/4/2010 11:20	Test Site	Metals	Arsenic	1.03		ug/L	0.25	1
8/4/2010 11:20	Test Site	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
8/4/2010 11:20	Test Site	Metals	Calcium	18.3		mg/L	0.075	0.3
8/4/2010 11:20	Test Site	Metals	Chromium	0.39	I	ug/L	0.3	1.2
8/4/2010 11:20	Test Site	Metals	Copper	4.65		ug/L	0.5	1
8/4/2010 11:20	Test Site	Metals	Iron	260		ug/L	30	120
8/4/2010 11:20	Test Site	Metals	Lead	0.29	I	ug/L	0.2	0.8
8/4/2010 11:20	Test Site	Metals	Magnesium	2.15		mg/L	0.04	0.16
8/4/2010 11:20	Test Site	Metals	Nickel	0.66	I	ug/L	0.25	1
8/4/2010 11:20	Test Site	Metals	Selenium	0.32	I	ug/L	0.2	0.8
8/4/2010 11:20	Test Site	Metals	Silver	0.025	U	ug/L	0.025	0.1
8/4/2010 11:20	Test Site	Metals	Sodium	7.4		mg/L	0.5	2
8/4/2010 11:20	Test Site	Metals	Zinc	5	U	ug/L	5	20
8/4/2010 11:20	Test Site	Microbiology	Fecal Coliforms-Membrane Filter	28	B	#/100 mL	2	2

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 11:20	Test Site	Nutrients	Alkalinity	52		mg CaCO3/L	0.65	2.5
8/4/2010 11:20	Test Site	Nutrients	Ammonia-N	0.077		mg N/L	0.01	0.02
8/4/2010 11:20	Test Site	Nutrients	Chloride	5.2		mg Cl/L	0.2	0.5
8/4/2010 11:20	Test Site	Nutrients	Color (true)	5	U	PCU	5	5
8/4/2010 11:20	Test Site	Nutrients	Fluoride	0.085	I	mg F/L	0.035	0.1
8/4/2010 11:20	Test Site	Nutrients	Kjeldahl Nitrogen	0.33		mg N/L	0.08	0.2
8/4/2010 11:20	Test Site	Nutrients	NO2NO3-N	0.37		mg N/L	0.004	0.01
8/4/2010 11:20	Test Site	Nutrients	O-Phosphate-P	0.008	I	mg P/L	0.004	0.01
8/4/2010 11:20	Test Site	Nutrients	Organic Carbon	2.6	I	mg C/L	1	5
8/4/2010 11:20	Test Site	Nutrients	Sulfate	8.1		mg SO4/L	0.2	0.5
8/4/2010 11:20	Test Site	Nutrients	Total-P	0.026		mg P/L	0.004	0.01
8/4/2010 11:20	Test Site	Nutrients	TSS	8	I	mg/L	4	16
8/4/2010 11:20	Test Site	Nutrients	Turbidity	4.5		NTU	0.1	0.1
8/4/2010 12:30	Field Blank	Metals	Aluminum	60	U	ug/L	60	240
8/4/2010 12:30	Field Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
8/4/2010 12:30	Field Blank	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
8/4/2010 12:30	Field Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
8/4/2010 12:30	Field Blank	Metals	Chromium	0.3	U	ug/L	0.3	1.2
8/4/2010 12:30	Field Blank	Metals	Copper	0.5	U	ug/L	0.5	1
8/4/2010 12:30	Field Blank	Metals	Iron	30	U	ug/L	30	120
8/4/2010 12:30	Field Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
8/4/2010 12:30	Field Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
8/4/2010 12:30	Field Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
8/4/2010 12:30	Field Blank	Metals	Sodium	0.5	U	mg/L	0.5	2
8/4/2010 12:30	Field Blank	Metals	Zinc	5	U	ug/L	5	20
8/4/2010 12:30	Field Blank	Nutrients	Alkalinity	0.65	U	mg CaCO3/L	0.65	2.5
8/4/2010 12:30	Field Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
8/4/2010 12:30	Field Blank	Nutrients	Chloride	0.2	U	mg Cl/L	0.2	0.5
8/4/2010 12:30	Field Blank	Nutrients	Color (true)	5	U	PCU	5	5
8/4/2010 12:30	Field Blank	Nutrients	Fluoride	0.035	U	mg F/L	0.035	0.1
8/4/2010 12:30	Field Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
8/4/2010 12:30	Field Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
8/4/2010 12:30	Field Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
8/4/2010 12:30	Field Blank	Nutrients	Organic Carbon	1	U	mg C/L	1	5
8/4/2010 12:30	Field Blank	Nutrients	Sulfate	0.2	U	mg SO4/L	0.2	0.5
8/4/2010 12:30	Field Blank	Nutrients	Total-P	0.004	U	mg P/L	0.004	0.01
8/4/2010 12:30	Field Blank	Nutrients	Turbidity	0.1	U	NTU	0.1	0.1

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 12:30	Field Blank	Overflow	Oil and Grease	1.4	U	mg/L	1.4	5
8/4/2010 12:30	Field Blank	Pesticides	Alachlor	0.61	U	ug/L	0.61	2.4
8/4/2010 12:30	Field Blank	Pesticides	Aldrin	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Alpha-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Ametryn	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Atrazine	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Beta-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Chlordane	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	DDD-p,p'	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	DDE-p,p'	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	DDT-p,p'	0.031	UJ	ug/L	0.031	0.12
8/4/2010 12:30	Field Blank	Pesticides	Delta-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Diazinon	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Dieldrin	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Endosulfan I	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Endosulfan II	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Endosulfan Sulfate	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Endrin	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Endrin Aldehyde	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Ethion	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	Gamma-BHC	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Heptachlor	0.01	U	ug/L	0.01	0.04
8/4/2010 12:30	Field Blank	Pesticides	Heptachlor Epoxide	0.02	U	ug/L	0.02	0.08
8/4/2010 12:30	Field Blank	Pesticides	Hexazinone	0.1	UJ	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
8/4/2010 12:30	Field Blank	Pesticides	Metalaxyl	0.26	UJ	ug/L	0.26	1
8/4/2010 12:30	Field Blank	Pesticides	Methoxychlor	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Metolachlor	0.51	UJ	ug/L	0.51	2
8/4/2010 12:30	Field Blank	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
8/4/2010 12:30	Field Blank	Pesticides	Naled	0.82	U	ug/L	0.82	3.3

Date_Sampled	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
8/4/2010 12:30	Field Blank	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
8/4/2010 12:30	Field Blank	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
8/4/2010 12:30	Field Blank	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
8/4/2010 12:30	Field Blank	Pesticides	Phorate	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
8/4/2010 12:30	Field Blank	Pesticides	Simazine	0.051	U	ug/L	0.051	0.2
8/4/2010 12:30	Field Blank	Pesticides	Toxaphene	0.77	U	ug/L	0.77	3.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	10	U	ug/L	10	41
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	61
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2-Chlorophenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	2-Nitrophenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	41	UJ	ug/L	41	160
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	8.2
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	61
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Acenaphthene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Anthracene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzidine	100	U	ug/L	100	410
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	61
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	5.1	U	ug/L	5.1	20
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Chrysene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.2	U	ug/L	0.2	0.82

Date Sampled	UDL	SCH Group	Component	Value	Qualifier	Units Word Result	MDL	PQL
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Diethyl phthalate	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	10	U	ug/L	10	41
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	5.1	U	ug/L	5.1	20
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Fluoranthene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Fluorene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Hexachloroethane	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Isophorone	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Naphthalene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	8.2
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	8.2
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	8.2
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Pentachlorophenol	3.1	U	ug/L	3.1	12
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Phenanthrene	0.2	U	ug/L	0.2	0.82
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Phenol	1	U	ug/L	1	4.1
8/4/2010 12:30	Field Blank	Priority Organic Pollutants	Pyrene	0.2	U	ug/L	0.2	0.82

Appendix G-1

Wet ID taxa list and number of algal units counted to a target of 300 natural units for qualitative natural periphyton collections made from Gulf Power Scholz Electric Generating Plant on 08/04/10.

	Control Site	Test Site
Bacillariophyta		
Bacillariophyta	138	184
Chlorophyceae		
Ankistrodesmus sp.	1	-
Ankistrodesmus falcatus	1	-
Apatococcus lobatus	6	6
Characium ambiguum	1	-
Chlamydomonas sp.	1	-
Chlorella sp.	3	3
Chlorogonium sp.	1	-
Microspora floccosa	1	-
Oedogonium sp.	2	17
Pediastrum simplex	-	1
Scenedesmus bijuga	6	2
Scenedesmus quadricauda	1	-
Spirogyra sp.	-	1
Staurastrum sp.	5	8
Staurastrum leptocladum cornutum	-	1
Staurastrum manfeldtii manfeldtii	-	6
Cyanophyceae		
Aphanocapsa elachista	-	1
Chamaesiphon sp.	6	-
Cyanobium parvum	3	5
Cyanothece aeruginosa	-	1
Jaaginema sp.	53	18
Komvophoron schmidlei	3	6
Lyngbya aestuarii	3	-
Lyngbya martensiana	2	-
Lyngbya taylori	-	1
Microchaete tenera	1	-
Oscillatoria limosa	1	1
Oscillatoria nigra	14	5
Oscillatoria tenuis	3	6
Planktolyngbya sp.	14	6
Planktothrix sp.	5	3
Planktothrix agardhii	-	2
Pseudanabaena sp.	11	3
Synechocystis sp.	18	15
Euglenophyceae		
Euglena sp.	-	2

Appendix G-2

Diatom taxa list and number of valves counted to a target of 500 valves for qualitative periphyton collected from Gulf Power Scholz Electric Generating Plant on 08/04/10.

	Control Site	Test Site
Bacillariophyta		
Bacillariophyceae		
Achnanthidium exiguum	3	-
Achnanthidium microcephalum	-	1
Achnanthidium minutissimum	2	-
Amphora sp.	1	-
Amphora montana	-	2
Bacillaria paxillifer	-	1
Caloneis sp.	-	3
Capartogramma crucicula	4	-
Chamaepinnularia sp.	-	1
Cocconeis placentula	-	2
Cymbella sp.	6	-
Cymbella turgidula	3	-
Diadesmis confervacea	-	3
Encyonema minutum	2	1
Encyonema silesiacum	4	3
Eunotia sp.	-	21
Geissleria sp.	-	3
Geissleria acceptata	39	2
Gomphonema sp.	20	8
Gomphonema affine	1	3
Gomphonema clevei	2	3
Gomphonema gracile	-	3
Gomphonema parvulum	31	37
Gyrosigma sp.	5	2
Hippodonta sp.	2	-
Luticola sp.	-	13
Luticola mutica	-	5
Navicula sp.	31	10
Navicula bouillantensis	2	-
Navicula cryptocephala	-	3
Navicula germainii	3	-
Navicula minima	3	-
Navicula muraliformis	3	-
Navicula rostellata	3	-
Navicula symmetrica	-	2
Navicula viridulacalcis	1	-
Naviculaceae	11	3
Nitzschia sp.	60	11
Nitzschia amphibia	41	8
Nitzschia clausii	-	2
Nitzschia filiformis	-	19

Appendix G-2 (continued)

	Control Site	Test Site
Nitzschia palea	37	10
Nupela sp.	8	7
Nupela neotropica	7	-
Planothidium sp.	-	1
Planothidium frequentissimum	1	-
Planothidium rostratum	28	4
Psammothidium sacculum	21	2
Rossithidium pusillium	4	1
Sellaphora sp.	-	12
Sellaphora pupula	6	-
Sellaphora seminulum	9	-
Surirella sp.	-	1
Coscinodiscophyceae		
Aulacoseira sp.	38	53
Aulacoseira granulata	-	1
Cyclotella sp.	3	-
Cyclotella atomus	-	1
Discostella pseudostelligera	22	61
Discostella stelligera	1	1
Melosira sp.	-	3
Thalassiosira sp.	1	-
Thalassiosira weissflogii	-	3
Fragilariophyceae		
Fragilaria capucina vaucheriae	21	130
Fragilariaceae	1	4
Synedra acus radians	-	5
Synedra ulna	5	23
Tabularia fasciculata	4	2

Appendix H-1

Benthic macroinvertebrates collapsed taxa list and density (average number of individuals/m^2 rounded to the nearest individual, n = 3 samples) from Hester-Dendy artificial substrates incubated for 28 days upstream and downstream of the Gulf Power Scholz Electric Generating Plant and collected on 08/04/10. See SOP LT 7100 sect. 4.2.1 for method on collapsing taxa.

	Control Site	Test Site
Annelida		
Hirudinea		
Helobdella triserialis	-	3
Placobdella sp.	19	-
Oligochaeta		
Nais communis complex	17	-
Pristina aequiseta	4	-
Arthropoda		
Crustacea		
Amphipoda		
Crangonyx sp.	-	3
Hyalella azteca	5	-
Insecta		
Coleoptera		
Stenelmis sp.	-	3
Diptera		
Ablabesmyia rhamphe grp.	126	343
Chaoborus sp.	27	-
Coelotanypus sp.	-	14
Cricotopus bicinctus	84	-
Cricotopus or orthocladius	149	711
Cryptochironomus sp.	14	33
Dicrotendipes lucifer	11	22
Dicrotendipes modestus	3	-
Dicrotendipes neomodestus	101	141
Hemerodromia sp.	11	-
Nanocladius sp.	11	-
Palpomyia/bezzia grp.	55	48
Pentaneura inconspicua	11	3
Polypedilum flavum	461	11
Polypedilum halterale grp.	-	8
Polypedilum illinoense grp.	28	-
Polypedilum scalaenum grp.	20	33
Stenochironomus sp.	-	6
Tanytarsus sp. E Epler	-	8
Tanytarsus sp. P Epler	-	6
Thienemannimyia grp.	78	-
Tribelos fuscicornis	17	69

Appendix H-1 (continued)

	Control Site	Test Site
Ephemeroptera		
Baetis intercalaris	3	-
Caenis sp.	103	106
Maccaffertium mexicanum integrum	15	-
Stenacron interpunctatum	4	21
Tricorythodes albilineatus	164	87
Megaloptera		
Corydalus cornutus	87	-
Odonata		
Argia tibialis	-	29
Trichoptera		
Ceraclea maculata	19	-
Cheumatopsyche	427	6
Cyrnellus fraternus	10	23
Hydropsyche incommoda	304	-
Hydroptila sp.	-	17
Neureclipsis crepuscularis	107	55
Neureclipsis melco	105	22
Oecetis georgia	10	-
Oecetis persimilis	15	-
Oxyethira sp.	3	-
Potamyia flava	613	-
Mollusca		
Gastropoda		
Physa sp.	3	-

Appendix H-2

Benthic macroinvertebrates taxa list and counts (number of individuals counted) collected from Hester-Dendy artificial substrates (n= 3 samples) incubated upstream and downstream of the Gulf Power Scholz Electric Generating Plant for 28 days and collected on 08/04/10.

	Control Site	Test Site
Annelida		
Hirudinea		
Helobdella triserialis	-	1
Placobdella sp.	3	-
Undetermined	4	-
Oligochaeta		
Naididae	3	-
Nais communis complex	4	-
Pristina aequiseta	1	-
Arthropoda		
Crustacea		
Amphipoda		
Crangonyx sp.	-	1
Hyalella azteca	2	-
Insecta		
Coleoptera		
Stenelmis sp.	-	1
Diptera		
Ablabesmyia sp.	-	1
Ablabesmyia rhamphe grp.	45	123
Chaoborus sp.	10	-
Chironomidae	25	23
Coelotanypus sp.	-	5
Cricotopus sp.	26	-
Cricotopus bicinctus	4	-
Cricotopus or orthocladius sp.	53	257
Cryptochironomus sp.	5	12
Dicrotendipes lucifer	4	8
Dicrotendipes modestus	1	-
Dicrotendipes neomodestus	36	51
Hemerodromia sp.	4	-
Nanocladius sp.	4	-
Palpomyia/Bezzia grp.	21	18
Pentaneura inconspicua	4	1
Polypedilum flavum	164	4
Polypedilum halterale grp.	-	3
Polypedilum illinoense grp.	10	-
Polypedilum scalaenum grp.	7	12
Stenochironomus sp.	-	2
Tanytarsus sp. E Epler	-	3
Tanytarsus sp. P Epler	-	2

Appendix H-2 (continued)

	Control Site	Test Site
Thienemannimyia grp.	28	-
Tribelos fuscicornis sp.	6	25
Ephemeroptera		
Baetis intercalaris	1	-
Caenis sp.	39	40
Heptageniidae	2	3
Maccaffertium sp.	2	-
Maccaffertium mexicanum integrum	2	-
Stenacron sp.	-	2
Stenacron interpunctatum	1	3
Tricorythodes albilineatus	62	33
Megaloptera		
Corydalidae	2	-
Corydalus cornutus	31	-
Odonata		
Argia sp.	-	6
Argia tibialis	-	4
Coenagrionidae	-	1
Trichoptera		
Ceraclea maculata	7	-
Cheumatopsyche	145	1
Cyrnellus fraternus	3	7
Hydropsyche sp.	71	-
Hydropsyche incommoda	32	-
Hydropsychidae	40	1
Hydroptila sp.	-	6
Neureclipsis sp.	-	3
Neureclipsis crepuscularis	33	15
Neureclipsis melco	32	6
Oecetis sp.	4	-
Oecetis georgia	2	-
Oecetis persimilis	3	-
Oxyethira sp.	1	-
Polycentropodidae	14	5
Potamyia flava	208	-
Undetermined Tricoptera	14	2
Mollusca		
Gastropoda		
Physa sp.	1	-

EPA Endsheet

The Priority Pollutants Analysis of the Gulf Power Company Scholz Electric Generation Plant effluent sampled on August 4, 1010, NPDES #FL0002283

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

Transaction Code				NPDES NUMBER										YR/MO/DA						Insp Type		Inspector		Fac Type	
1	N	2	5	3	F	L	0	0	0	2	2	8	3	11	12	1	0	0	8	0	4	#	X	#	S	#	1

Remarks

#

Biological Analyses of the Gulf Power Company Scholz Electric Generation Plant effluent sampled on August 4, 2010, NPDES #FL0002283

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

Transaction Code				NPDES NUMBER										YR/MO/DA						Insp Type		Inspector		Fac Type	
1	N	2	5	3	F	L	0	0	0	2	2	8	3	11	12	1	0	0	8	0	4	#	S	#	S	#	1

Remarks