Biological Assessment of

Gulf Power Scholz Electric Generating Plant

Jackson County

NPDES # FL0002283

Sampled February 18, 2015

May 2015

Biology Section

Bureau of Laboratories

Division of Environmental Assessment and Restoration

2014 FDEP Bureau of Laboratories Quality Manual

NELAC Certification No. E31780

CONTENTS

Facility Overview

Methods

Results

Conclusion

Literature Cited

Tables

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

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

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

Table 4. Measured and predicted freshwater algal growth potential (AGP)

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

EPA End Sheet

Facility Overview

The Gulf Power Company Scholz Electric Generating Plant (Plant Scholz) is a power plant in Sneads, Florida, and currently operates under a FDEP-issued NPDES permit. The NPDES permit authorizes point-source discharges from the once-through condenser cooling water (OTCW) systems and the on-site, unlined ash pond to the discharge canal and thence to the Apalachicola River, a Class III Fresh Water (see map Appendix A). The combined permitted capacity of the OTCW and ash pond is 129.6 million gallons per day (MGD). The average maximum daily flow for February 2014 to January 2015 for outfall D-001 was 62.1 MGD. The discharge of ash pond water is typically between 0.5 and 1.0 MGD, and includes low volume wastes, auxiliary equipment cooling water, coal pile runoff, yard sump runoff, and treated domestic wastewater. The plant discharges intermittently. During this survey, the flow was continuous and reported as 97.2 MGD (facility measurement).

The NPDES Permit also authorizes ash pond discharges to groundwater. This groundwater discharge commingles with the surficial aquifer groundwater, which migrates down gradient towards the Apalachicola River via diffuse groundwater flow or emerging as wet areas, puddles, or seeps within or near the floodplain of the Apalachicola River, within the vicinity of Plant Scholz. These types of seeps within or near the river's floodplain are not uncommon.

Biological assessments are prepared by FDEP staff to provide additional information for review of NPDES permit renewal applications. Biological assessments, in conjunction with NPDES permit and renewal application monitoring requirements and other information concerning the subject facility and its receiving-water body, are used to determine appropriate permit conditions. The NPDES permit was issued on September 23, 2010, and its expiration date is September 22, 2015.

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

Methods

The purpose of this investigation was to determine the discharge's effects on the biota of the receiving waters. Chemical and biological comparisons were made between a Test Site (located in the Apalachicola River beginning 115 m downstream and ending 15 m downstream of the confluence of the discharge canal with the Apalachicola River) and a Control Site (located in the Apalachicola River beginning 250 meters (m) upstream and ending 350 m upstream of the confluence of the discharge canal with the Apalachicola River). Effluent samples were taken as grab and 24-hour timed composite samples from monitoring location EFF-2. Dechlorination, if the facility is chlorinating, occurs naturally in the discharge canal. The facility was not chlorinating on the day of sampling.

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

The following were involved in this investigation: Shelley Alexander and Mark Sumner (FDEP Northwest District) and Cheryl Swanson and Blake Spencer (FDEP Central Laboratory, Tallahassee). The report was reviewed by District representatives and the Point Source Studies Review Committee (Mike Tanski, Jennifer Walters and Andrew Tintle).

Results

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

- Habitat Assessment scores were similar at the Control Site (109) and Test Site (104), which places both sites in the suboptimal category. Both sites had low substrate diversity and availability with severe silt and moderate algae smothering. Only the edges of this portion of the Apalachicola River were shallow enough to observe available habitat, and much of the habitat present along the banks was not in the flow of the effluent or the river. The USGS Gauge 02358000 APALACHICOLA RIVER AT CHATAHOOCHEE FLA recorded a height of approximately 44.5 feet at the time of sampling.
- Physical and chemical parameters and water quality samples were collected within the flow of the effluent and the river.
- The temperatures of the effluent and the Test Site were each 14.8°Celsius (C), higher than the temperature of the Control Site (12.1°C).

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

Organic Constituents (See Table 2 and Appendix F)

- The herbicide simazine was detected in the effluent grab sample. Pesticide analysis was not scheduled for the Test and Control Sites.
- 1,4-dioxane (detected between the method detection limit (MDL) and the practical quantitation limit (PQL)) and sucralose were detected in the effluent grab sample.
- In the Test and Control Site samples, the detected amounts of 1,4-dioxane (detected between the MDL and the PQL) and sucralose were similar to the amounts detected in the effluent grab sample.
- No organic constituents were detected in the field blank.

Nutrients (See Table 2 and Appendix F)

- Effluent unionized ammonia complied with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.).
- Nutrients detected in the Test and Control Site samples were similar to the amounts of each detected in the effluent grab sample.
- No nutrients were detected in the field blank.

Analytical Water Chemistry (See Table 2 and Appendix F)

- Chlorophyll *a* (corrected) was detected at similar levels in the effluent grab, Test, and Control Site samples.
- Total residual chlorine (TRC) was not measured in the field because the facility was not chlorinating the day of sampling. TRC was not detected in the toxicity laboratory effluent composite sample.
- Carbonaceous biochemical oxygen demand (CBOD) and fluoride of the effluent grab sample, and total suspended solids (TSS) of the effluent composite sample, as well as the amounts of those analytes in the Test and Control Site samples, were detected between the respective MDLs and the PQLs for each analyte and thus complied with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.).
- Turbidity and alkalinity were detected at similar levels in the effluent grab, Test, and Control Site samples, complying with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.).
- Oils and greases were not detected in any of the samples, complying with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or permit limits.

Microbiology (See Table 2 and Appendix F)

- Fecal coliform levels detected in each sample complied with the Class III Freshwater Quality Criterion (62-302.530(6), F.A.C.).

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

- Tests were performed February 17 through February 24, 2015.
- During the chronic definitive bioassay, the effluent composite sample IC25 for the water flea, *Ceriodaphnia dubia*, and the fish, *Pimephales promelas*, were calculated as being greater than 100% effluent, and therefore complied with effluent permit limits.
- For more information or to obtain copies of the toxicity bench sheets, please contact the Biology Laboratory at 850-245-8177.

Metals (See Table 3 and Appendix F)

- Amounts of copper (detected between the MDL and the PQL), iron, lead (detected between the MDL and the PQL), and mercury in the effluent composite sample complied with the Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or effluent permit limits. Cadmium was not detected in the effluent composite sample.
- All metals in Test and Control Site grab samples were either not detected or detected at levels that complied with Class III Freshwater Quality Criteria (62-302.530, F. A. C.).
- No metals were detected in the field blank.

Algal Growth Potential (AGP) (See Table 4 and Appendix F)

- Raschke and Shultz (1987) determined that AGP values above 5.0 mg dry weight/L, which represents a "problem" threshold for fresh receiving waters, imply nutrient enrichment. The AGP value in the effluent grab, Test Site and Control Site samples using the freshwater species, *Pseudokirchneriella subcapitata,* were less than half the problem threshold value. The analytical chemistry suggests that the effluent and Test and Control Sites are phosphorus-limited.

Bioassessment

Periphyton (See Appendix C and D)

- The Rapid Periphyton Surveys (RPS) conducted at the Test Site showed no evidence of nutrient enrichment in comparison with the RPS of the Control Site. The river is wide and sampling points were only shallow enough to be reached along the river edge. Filamentous mat-forming algae were found at 5.7% of the sampled points at the Test Site, and were found at 12.5% of the sampled points at the Control Site, where the typical algal filament was slightly longer than at the Test Site. The canopy was open at both sites. Although the RPS method does not call for an algal sample of the smothering algae to be collected under these conditions (<20%), samples were collected for taxonomic identification for informational purposes only. The algae sampled was not found to be a single dominant taxon at either site.

Macroinvertebrates (See Table 5)

- Quantitative macroinvertebrate data were collected from floating Hester Dendy samplers, incubated for 28 days, within the flow of the effluent and the river at the Control and Test Sites. The Shannon-Weaver diversity score was higher at the Test Site than the Control Site (3.68 and 2.89, respectively). However, the Control Site score may be negatively biased by the collection of <300 individuals (Lande 1996). The Control Site sample was composed primarily of dipterans (80%), and the Test Site was composed primarily of dipterans (53.1%) and oligochaetes (30%). The higher percent dominance of dipterans at the Control Site may also have contributed to a lower Shannon-Weaver Diversity score. The Test and Control Site samples had pollution-sensitive trichopteran taxa present at similar percentages of the community compositions (11.3% and 13.5%, respectively).
- Stream Condition Index (SCI) sampling was not conducted primarily because the reachable major habitat was located along the edges of the river, outside the influence of the effluent. In addition, the SCI tool is not recommended for use in very low flow to stagnant water conditions, which were evidenced by moderate to severe silt and algal smothering of the major habitats.
- For more information or to obtain a copy of the taxa lists, please contact the Biology Laboratory at 850-245-8177.

Conclusion

The temperature of the Test Site was elevated over the temperature of the Control Site, and equal to the temperature of the effluent measured at EFF-2. All other parameters and analytes were similar between the effluent samples and the Test and Control Site samples. The Test Site Shannon-Weaver diversity score and number of individuals collected from Hester-Dendy samplers was higher than that of the Control Site. The effluent does not appear to be negatively impacting the receiving waters.

Literature Cited

Karr, J.R. & E.W. Chu. 1998. Restoring life in running waters: Better biological monitoring. Island Press. Covelo, California. 200 p.

Lande, R. 1996. Statistics and partitioning of species diversity, and similarity among multiple communities. Oikos 76: 5-13.

Magurran, A. E. 1988. Ecological diversity and its measurement. Princeton University Press, Princeton, New Jersey.

Miller, W. E., T. E. Maloney, and J. C. Greene. 1978. The *Selenastrum capricornutum* Printz algal assay bottle test. EPA-600/9-78-018. U. S. EPA, Cincinnati, Ohio. 126 p.

Plafkin, J. L., M. T. Barbour, K. D. Porter, S. K. Gross and R. M. Hughes. 1989. Rapid bioassessment protocols for use in streams and rivers: Benthic macroinvertebrates and fish. U. S. EPA, Office of Water Regulations and Standards, Washington D.C., EPA 440-4-89-001

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

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

Stevenson, R. J. and J. P. Smol. 2003. Use of algae in environmental assessments, pp. 775-803, in: Freshwater algae of North America, edited by J. D. Wehr and R. G. Sheath, Academic Press, San Diego. 918 pp.

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

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

Gulf Power Scholz	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site	Field Blank
Habitat Assessment	-	-	-	-	-	104	109	-
Sample Depth	m	-	-	0.3 [1]	0.3 [1]	0.3	0.3	-
Temperature	C	-	Report	-	14.8 [1]	14.8	12.1	-
pH	SU	6.0 - 8.5	6.0 - 8.5	-	7.5 [1]	7.2	7.4	-
Specific Conductance	µmhos/cm	≤ 1,275	-	-	135 [1]	135	135	-
Dissolved Oxygen	% saturation	-	-	-	109 c [1]	100	98.2	-
Dissolved Oxygen	mg/L	-	-	-	13.97 [1]	10.10	10.54	-

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
1 –Data provided by (or calculated from data provided by) Robert Jernigan at SouthernCo.com

L - Actual value is known to be greater than value given (Appears in Appendix F)
J - Estimated value (Appears in Appendix F)
NOEC - A no observed effect concentration less than 100% effluent will constitute a violation of this permit (Appears in Appendix F)

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

Gulf Power Scholz	Units	Class III Criteria	Effluent Permit Limits	Effluent Composite	Effluent Grab	Test Site	Control Site	Field Blank
Analytical Organic and Pesticide Data								
1,4-Dioxane	µg/L	-	-	-	0.066 I	0.050 I	0.052 I	0.020 U
Simazine	µg/L	-	-	-	0.12	-	-	0.010 U
Sucralose	µg/L	-	-	-	1.4	1.3	1.3	0.010 U
Analytical Water Chemistry Data								
Ortho-phosphate	mg P/L	-	Report s	-	0.004 I	0.004 I	0.005 I	0.004 U
Total Phosphorus	mg P/L	-	Report s	-	0.030	0.028	0.030	0.002 U
Total Ammonia	mg N/L	-	Report s	-	0.007	0.011	0.012	0.002 U
Un-ionized Ammonia (calculated salinity)	-	≤ 0.02 s	-	-	< 0.02 c[1]	< 0.02 c	< 0.02 c	-
Nitrate and Nitrite	mg N/L	-	Report s	-	0.77	0.76	0.81	0.004 U
Total Kjeldahl Nitrogen	mg N/L	-	Report s	-	0.31	0.25	0.27	0.080 U
Organic Nitrogen	mg N/L	-	-	-	0.3 c	0.24 c	0.26 c	0.039 c[2]
Total Nitrogen	mg N/L	-	Report s	-	1.08 c	1.01 c	1.08 c	0.042 c[2]
Total Organic Carbon	mg C/L	-	-	-	3.1 A	3.0	3.1	0.50 U
Chlorophyll *a* - Corrected	µg/L	-	-	-	8.7	9.8	8.4	-
Phaeophytin	µg/L	-	-	-	2.7	2.9	2.3	-
CBOD, 5 day, N - inhibited	mg/L	-	-	-	1.1 I	0.60 I	1.0 I	-
Hardness	mg/L	-	Report ps	52.0	-	45.5	48.0	0.35 U
Total Residual Chlorine	-	≤ 0.01	≤ 0.01	< 0.03 QU[3]	-	-	-	-
Total Suspended Solids	mg/L	-	-	7 I	-	8 I	7 I	-
Turbidity	NTU	< 29 t	-	-	7.7 A	7.2	7.2	0.10 U
Color (true)	PCU	-	-	-	20 A	19	20	2.5 U
Alkalinity	mg CaCO3/L	≥ 20	-	-	36 A	38	41	0.65 U
Chloride	mg Cl/L	-	-	-	8.1 A	7.8	7.6 A	0.20 U
Fluoride	mg F/L	≤ 10.0	-	-	0.098 I	0.097 I	0.092 I	0.035 U
Sulfate	mg SO4/L	-	-	-	11 A	10	9.2 A	0.20 U
Oils and Greases	-	≤ 5.0	≤ 5.0	-	0.75 U	0.76 U	0.76 U	0.73 U
Microbiology								
Fecal Coliforms	cfu/100 mL	≤ 400s x	-	-	34 B	36 B	20 B	-
Toxicity (Chronic Whole Effluent, IC25, % effluent)								
Bioassay - Water flea *(Ceriodaphnia dubia)* - reproduction	-	-	≥ 100	> 100	-	-	-	-
Bioassay – Fish *(Pimephales promelas)* - biomass	-	-	≥ 100	> 100	-	-	-	-

Table 2 Qualifiers.

A dash (-) indicates sample/measurement was not collected or criterion/limit does not exist.
c - Value is calculated
p - 24 hour time proportioned composite
s - Single sample
t - Shall not exceed 29 NTUs above background
x - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
A - Value reported is the mean of two or more determinations
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
L - Actual value is known to be greater than value given (Appears in Appendix F)
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
IC25 - A 25% inhibition concentration of less than 100% in a chronic test may constitute exceedances of 62-302.530(20), 62-302.530(61) and/or facility permit limits.
NOEC - A no observed effect concentration less than 100% effluent will constitute a violation of this permit
1 –Data provided by (or calculated from data provided by) Robert Jernigan at SouthernCo.com
2 - Value is calculated using half the MDL value of the analyte(s) that were not detected
3 - Value measured in laboratory toxicity composite sample

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

Gulf Power Scholz	Units	Effluent Composite Class III Criteria	Effluent Permit Limits	Effluent Composite	Test Site Class III Criteria	Test Site	Control Site Class III Criteria	Control Site	Field Blank Class III Criteria	Field Blank
Hardness	-	-	Report ps	51.9 c	-	45.6 c	-	48 c	-	0.35 c
Aluminum	µg/L	-	-	215	-	311	-	306	-	5.0 U
Arsenic	µg/L	≤ 50	-	0.75 I	≤ 50	0.34 I	≤ 50	0.31 I	≤ 50	0.25 U
Cadmium	µg/L	≤ 0.167 b	≤ 0.167 bps	0.050 U	≤ 0.151 b	0.050 U	≤ 0.157 b	0.050 U	≤ 0.1 b	0.050 U
Calcium	mg/L	-	-	17.0	-	14.9	-	15.7	-	0.075 U
Chromium, Total [g]	µg/L	≤ 50.4 b	-	0.45 I	≤ 45.3 b	0.50 I	≤ 47.3 b	0.54 I	≤ 28 b	0.30 U
Copper	µg/L	≤ 5.33 b	≤ 5.33 bps	0.76 I	≤ 4.77 b	0.72 I	≤ 4.98 b	0.69 I	≤ 2.9 b	0.50 U
Iron	µg/L	≤ 1,000	≤ 1,000 p	550	≤ 1,000	540	≤ 1,000	570	≤ 1,000	30 U
Lead	µg/L	≤ 1.38 b	≤ 1.38 bps	0.22 I	≤ 1.17 b	0.22 I	≤ 1.25 b	0.22 I	≤ 0.54 b	0.20 U
Magnesium	mg/L	-	-	2.30	-	2.05	-	2.14	-	0.040 U
Mercury	ng/L	≤ 12	Report p	1.5	-	1.8	-	1.3	-	0.10 U
Nickel	µg/L	≤ 30 b	-	0.57 I	≤ 26.9 b	0.45 I	≤ 28 b	0.37 I	≤ 16 b	0.25 U
Potassium	mg/L	-	-	2.1	-	2.3	-	2.1	-	0.30 U
Selenium	µg/L	≤ 5.0	-	0.21 I	≤ 5.0	0.20 U	≤ 5.0	0.20 U	≤ 5.0	0.20 U
Silver	µg/L	≤ 0.07	-	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U	≤ 0.07	0.025 U
Sodium	mg/L	-	-	8.0	-	8.3	-	7.9	-	0.50 U
Zinc	µg/L	≤ 68.8 b	-	5.0 U	≤ 61.7 b	5.0 U	≤ 64.4 b	5.0 U	≤ 37 b	5.0 U

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

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

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

p - 24-hour time proportioned composite

s - Single sample

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

Gulf Power Scholz						
Location	**Test Species**	**AGP (measured)**	**Predicted AGP (OP) ± 20%**	**Predicted AGP (TP) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
Effluent Grab	*Pseudokirchneriella subcapitata*	2.02	1.7 ± 0.3	12.9 ± 2.6	194.3	36
Test Site	*Pseudokirchneriella subcapitata*	2.24 A	1.7 ± 0.3	12 ± 2.4	192.8	36.1
Control Site	*Pseudokirchneriella subcapitata*	1.75	2.2 ± 0.4	12.9 ± 2.6	164.4	36

Pseudokirchneriella subcapitata - freshwater species

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

Table 5. Macroinvertebrate Hester-Dendy samples - quantitative

Gulf Power Scholz	Test Site	Control Site
Summary Statistics		
Shannon-Weaver Diversity	3.68	2.89 [4]
Number of Taxa	32	24
Number of EPT Taxa	9	7
Percent Dominant Taxon	19.3	46.0
Dominant Taxon Name	*Cricotopus bicinctus* (Diptera)	*Nanocladius distinctus* (Diptera)
Total Number of Individuals (counted)	524	275 [4]
Total Number of Individuals (#/m^2)	1,039	547
Community Composition: Percent of total		
Amphipoda	0.6	0.4
Coleoptera	0.2	0.4
Diptera	53.1	80.6
Ephemeroptera	2.9	1.5
Odonata	0.2	0.0
Oligochaeta	31.9	3.7
Plecoptera	0.0	0.0
Trichoptera	11.3	13.5
Other	0.0	0.0
Functional Feeding Groups: Percent of total		
Burrowing Deposit Feeders	31.9	3.7
Piercers	9.0	0.4
Predators	0.8	0.4
Scrapers	1.1	0.6
Shredders	17.9	14.0
Surface Deposit Feeders	36.8	67.5
Suspension Feeders	2.8	13.6

4 - Shannon Weaver Diversity scores calculated on samples with < 300 individuals have the potential for negative bias (lower diversity scores compared to sites with more individuals) (Lande 1996).

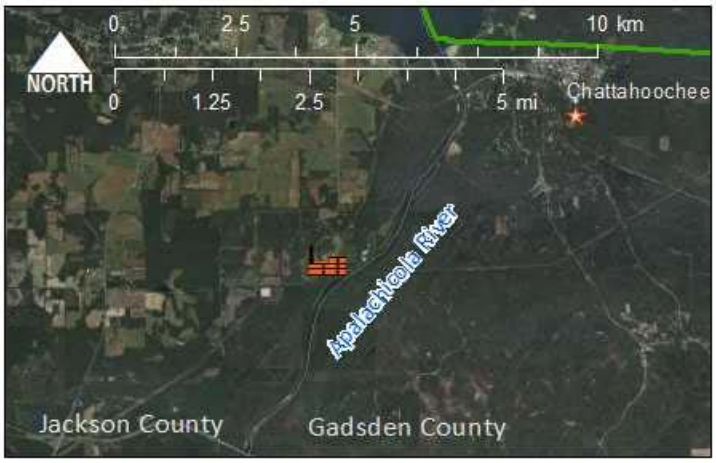
Appendix A

Map of Facility

Gulf Power Company - Scholz Electric Generating Plant

Fifth Year Bioassessment Sampling Locations







Appendix B

Facility Summary

State of Florida

Department of Environmental Protection

Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Shelley Alexander	**Contact Number:** 850-595-0677
Facility Name (as it appears on permit): Gulf Power Scholz Electric Generating Plant	**Former Names:**
NPDES Permit Number: **FL0002283**	**Permit Expiration Date:** **9/22/2015**
Physical Address: 1460 Gulf Power Road Sneads, FL 32460	
District: NWD	**County:** Jackson
Function of Facility: Power Plant	
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): **70.2 mgd (average daily max for 12/01/2013-12/31/2014)**	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA	
Description of type of Discharge: ☐ **Continuous** ☒ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify**	

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

EFF-2	In the discharge canal 200 feet downstream from the ash pond discharge prior to the confluence of the discharge canal and the Apalachicola River.
INT-I	At the condenser inlet.
EFF-1	At condenser outlet.

OUI-3 The point of discharge at the ash pond discharge weir.

OUI-4 The point of discharge at the wastewater treatment outlet box.

Description of Permitted Outfall(s):

Outfall D-00l (COMBINED PLANT DISCHARGE) to Apalachicola River
I-012 (ASH POND DISCHARGE) to discharge canal.
I-013 (DOMESTIC WASTEWATER TREATMENT PLANT EFFLUENT) to the 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 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 (LVW) (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 <u>current</u> Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under
(Leave cell blank if not applicable)

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/ Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Flow	MGD	Max	Report	Daily Maximum	Daily; 24 hours	Calculated	EFF-2	
Temperature (F), Water (Intake)	Deg F	Max Max	Report Report	Daily Maximum Monthly Average	4 Days/Week	Meter	INT-1	
Temperature (F), Water (Discharge)	Deg F	Max Max	Report Report	Daily Maximum Monthly Average	4 Days/Week	Meter	EFF-1	See l.A.6
pH	s.u.	Min Max	6.0 8.5	Daily Minimum Daily Maximum	Weekly	Grab	EFF-2	See 1.A.12
Oil and Grease	mg/L	Max Max	5.0 5.0	Daily Maximum Monthly Average	Quarterly	Grab	EFF-2	
Chlorine, Total Residual	mg/L	Max Max	0.01 0.01	Daily Maximum Monthly Average	Weekly	Multiple Grabs[1]	EFF-2	See l.A.7
Chlorination Duration	mm	Max	120	Daily Maximum	Weekly	Calculated	EFF-2	
Copper, Total Recoverable	ug/L	Max		Single Sample	Annually	24-hr TPC	EFF-2, INT-1	See l.A.4 and l.A.5
Cadmium, Total Recoverable	ug/L	Max		Single Sample	Annually	24-hr TPC	EFF-2, INT-1	See l.A.4 and 1.A.5
Lead, Total Recoverable	ug/L	Max		Single Sample	Annually	24-hr TPC	EFF-2, INT-1	See 1.A.4 and l.A.5
Iron, Total Recoverable	mg/L	Max Max	1.0 1.0	Daily Maximum Monthly Average	Annually	24-hr TPC	EFF-2, INT-1	See l.A.5
Mercury, Total Recoverable	ug/L	Max	Report	Daily Maximum	Annually	24-hr TPC	EFF-2, INT-1	
Hardness, Total (as CaC03)	mg/L	Max	Report	Single Sample	Annually	24-hr TPC	EFF-2	See 1.A.4
Nitrogen, Ammonia, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See l.A.12
Nitrogen, Kjeldahl, Total (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See l.A.12
Nitrite plus Nitrate, Total 1 det. (as N)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See 1.A.12
Nitrogen, Total	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See l.A.12
Phosphorus, Total (as P)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See l.A.12
Phosphate, Ortho (as P04)	mg/L	Max	Report	Single Sample	Quarterly	Grab	EFF-2	See l.A.12
Chronic Whole Effluent Toxicity, 7-Day IC25	percent	Min	100	Single Sample	Quarterly[2]	24-hr TPC	EFF-2	See 1.A.13

The limit for "Copper, Total Recoverable, Cadmium, Total Recoverable, and Lead, Total Recoverable" shall be calculated using the following equation(s):

$Cu = e^{(0.8545(\ln H)-1.702)}$
$Cd = e^{(0.7409(\ln H)-4.719)}$
$Pb = e^{(1.273(\ln H)-4.705)}$

Total hardness shall be measured at the time of the effluent sample. The "In H" means the natural logarithm of total hardness expressed as mg/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is <25 mg/L and set at 400 mg/L if actual hardness is >400 mg/L.

The measured effluent value shall be recorded on the DMR in the parameter row for "Copper, Total Recoverable, Cadmium, Total Recoverable, and Lead, Total Recoverable (effluent)." The calculated effluent limit shall be recorded on the DMR in the parameter row for "Copper, Total Recoverable, Cadmium, Total Recoverable, and Lead, Total Recoverable (calculated limit)." Compliance with the effluent limitation is determined by calculating the difference between the measured effluent value and the calculated. The compliance value shall be recorded on the DMR in the parameter row for "Copper, Total Recoverable, Cadmium, Total Recoverable, and Lead, Total Recoverable (effluent minus calculated limit)." The compliance value shall not exceed 0.00. *[62-302.530(23), 62-302.530(15), and 62-302.530(39)}*

5. 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.

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.):

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

    a. Effluent Limitation
       (1) In any routine or additional follow-up test for chronic whole effluent toxicity, the 25 percent inhibition concentration (IC25) shall not be less than 100% effluent. *[Rules 62-302.530(61) and 62-4.241(1)(b), F.A.C.]*
       (2) For acute whole effluent toxicity, the 96-hour LC50 shall not be less than 100% effluent in any test. *[Rules 62-302.500(1)(a)4. and 62-4.241(1)(a), F.A.C.]*

    b. Monitoring Frequency
       (1) Routine toxicity tests shall be conducted once every three months, the first starting within 60 days of the issuance date of this permit and lasting for the duration of this permit.
       (2) Upon completion of four consecutive, valid routine tests that demonstrate compliance with the effluent limitation in 13.a.(1) above, the permittee may submit a written request to the Department for a reduction in monitoring frequency to once every six months. The request shall include a summary of the data and the complete bioassay laboratory reports for each test used to demonstrate compliance. The Department shall act on the request within 45 days of receipt. Reductions in monitoring shall only become effective upon the Department's written confirmation that the facility has completed four consecutive valid routine tests that demonstrate compliance with the effluent limitation in 13.a.(1) above.
       (3) If a test within the sequence of the four is deemed invalid based on the acceptance criteria in EPA-821-R-02-013, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive valid tests for the purpose of evaluating the reduction of monitoring frequency.

    c. Sampling Requirements
       (1) For each routine test or additional follow-up test conducted, a total of three 24-hour composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-013, Section 8.
       (2) The first sample shall be used to initiate the test. The remaining two samples shall be collected according to the protocol and used as renewal solutions on Day 3 (48 hours) and Day 5 (96 hours) of the test.
       (3) Samples for routine and additional follow-up tests shall not be collected on the same day.

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

(2) The permittee shall conduct a daphnid, **Ceriodaphnia dubia**, Survival and Reproduction Test and a fathead minnow, **Pimephales promelas**, Larval Survival and Growth Test, concurrently.

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

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

e. Quality Assurance Requirements

(1) A standard reference toxicant (SRT) quality assurance (QA) chronic toxicity test shall be conducted with each species used in the required toxicity tests either concurrently or initiated no more than 30 days before the date of each routine or additional follow-up test conducted. Additionally, the SRT test must be conducted concurrently if the test organisms are obtained from outside the test laboratory unless the test organism supplier provides control chart data from at least the last five monthly chronic toxicity tests using the same reference toxicant and test conditions. If the organism supplier provides the required SRT data, the organism supplier's SRT data and the test laboratory's monthly SRT-QA data shall be included in the reports for each companion routine or additional follow-up test required.

(2) If the mortality in the control (0% effluent) exceeds 20% for either species in any test or does not meet "test acceptability criteria", the test for that species (including the control) shall be invalidated and the test repeated. Test acceptability criteria for each species are defined in EPA-821-R-02-013, Section 13.12 (**Ceriodaphnia dubia**) and Section 11.11 (**Pimephales promelas**). The repeat test shall begin within 21 days after the last day of the invalid test.

(3) If 100% mortality occurs in all effluent concentrations for either test species prior to the end of any test and the control mortality is less than 20% at that time, the test (including the control) for that species shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below

shall be terminated with the conclusion that the test fails and constitutes non-compliance.

(4) Routine and additional follow-up tests shall be evaluated for acceptability based on the observed dose-response relationship as required by EPA-821-R-02-013, Section 10.2.6., and the evaluation shall be included with the bioassay laboratory reports.

f. Reporting Requirements

(1) Results from all required tests shall be reported on the Discharge Monitoring Report (DMR) as follows:

(a) Routine and Additional Follow-up Test Results: The calculated IC25 for each test species shall be entered on the DMR.

(2) A bioassay laboratory report for each routine test shall be prepared according to EPA-821-R-02-013, Section 10, Report Preparation and Test Review, and mailed to the Department at the address below within 30 days after the last day of the test.

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

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

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

(6) All bioassay laboratory reports shall be sent to:
Florida Department of Environmental Protection
Northwest District Office
160 Governmental Center
Pensacola, Florida 32502-5794

g. Test Failures

(1) A test fails when the test results do not meet the limits in 13.a.(1).

(2) Additional Follow-up Tests:

(a) If a routine test does not meet the chronic toxicity limitation in 13.a.(1) above, the permittee shall notify the Department at the address above within 21 days after the last day of the failed routine test and conduct two additional follow-up tests on each species that failed the test in accordance with 13.d.

(b) The first test shall be initiated within 28 days after the last day of the failed routine test. The remaining additional follow-up tests shall be conducted weekly thereafter until a total of two valid additional follow-up tests are completed.
(c) The first additional follow-up test shall be conducted using a control (0% effluent) and a minimum of five dilutions: 100%, 50%, 25%, 12.5%, and 6.25% effluent. The permittee may modify the dilution series in the second additional follow-up test to more accurately bracket the toxicity such that at least two dilutions above and two dilutions below the target concentration and a control (0% effluent) are run. All test results shall be analyzed according to the procedures in EPA-821-R-02-013.

(3) In the event of three valid test failures (whether routine or additional follow-up tests) within a 12-month period, the permittee shall notify the Department within 21 days after the last day of the third test failure.
(a) The permittee shall submit a plan for correction of the effluent toxicity within 60 days after the last day of the third test failure.
(b) The Department shall review and approve the plan before initiation.
(c) The plan shall be initiated within 30 days following the Department's written approval of the plan.
(d) Progress reports shall be submitted quarterly to the Department at the address above.
(e) During the implementation of the plan, the permittee shall conduct quarterly routine whole effluent toxicity tests in accordance with 13.d. Additional follow-up tests are not required while the plan is in progress. Following completion or termination of the plan, the frequency of monitoring for routine and additional follow-up tests shall return to the schedule established in 13.b.(1). If a routine test is invalid according to the acceptance criteria in EPA-821-R-02-013, a repeat test shall be initiated within 21 days after the last day of the invalid routine test.
(f) Upon completion of four consecutive quarterly valid routine tests that demonstrate compliance with the effluent limitation in 13.a.(1) above, the permittee may submit a written request to the Department to terminate the plan. The plan shall be terminated upon written verification by the Department that the facility has passed at least four consecutive quarterly valid routine whole effluent toxicity tests. If a test within the sequence of the four is deemed invalid, but is replaced by a repeat valid test initiated within 21 days after the last day of the invalid test, the invalid test will not be counted against the requirement for four consecutive quarterly valid routine tests for the purpose of terminating the plan.

(4) If chronic toxicity test results indicate greater than 50% mortality within 96 hours in an effluent concentration equal to or less than the effluent concentration specified as the acute toxicity limit in 13.(a)(2), the Department may revise this permit to require acute definitive whole effluent toxicity testing.

(5) The additional follow-up testing and the plan do not preclude the Department taking enforcement action for acute or chronic whole effluent toxicity failures.

[62-4.241, 62-620.620(3)]

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
None

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

Describe previous FYI and WQBEL study:
A Level I WQBEL was performed for the permit issued 9/23/10 and was based on historical discharge monitoring data, available inspection reports, and the effluent characterization provided with the application.

Describe previous or current Enforcement Actions (including WLs):
None

Describe any violations or problems noted in previous inspection: Previous FYI inspection conclusion conducted on August 4, 2010:

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.

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: **2/18/2015**	**Sampler(s):** **Shelley Alexander, Mark Sumner, Kevin Holler and Corrina Clanton**
Temperature (Deg C): **14.8**	**pH (SU):** **7.5**
Dissolved Oxygen (mg/L): **13.97**	**Conductivity (umhos/cm):** **0.135**
Total Residual Chlorine (mg/L): **N/A**	**Total Residual Chlorine - after Disinfection (mg/L):** **N/A**
Method of Chlorination: **N/A**	**Method of De-chlorination:** **N/A**
Flow During Sample Collection for each outfall(MGD): **97.2**	
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): **70.2 mgd (average daily max for 12/01/2013-12/31/2014)**	
Describe Discharge during Sampling Event: **☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify**	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here:	

Appendix C

Explanation of Measurements

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

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

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

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

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

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

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

(7) Algal Phytoplankton and Periphyton Assemblages
The Rapid Periphyton Survey (RPS) is a rapid method to document the extent and estimate the thickness of attached algae (periphyton) in a stream or river and gather taxonomic information associated with the dominant algae. Samplers indicate presence/absence and thickness of algal mat at up to 99 points along a 100 m reach. Thicker algal growth and excessive dominance by one taxon may be indicative of nutrient enrichment and may cause habitat smothering.

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

(8) Benthic Macroinvertebrate Assemblages
Benthic macroinvertebrates were collected using one method. Quantitative samples were collected from Hester-Dendy multi-plate samplers incubated for 28 days.

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

Percent Contribution of Dominant Taxon: Percent contribution of the dominant taxon is calculated by dividing the number of individuals in the most abundant taxa by the total number of individuals counted. Percent contribution of the dominant taxon tends to increase with increasing perturbation (Plafkin *et al*., 1989). Increases in the percent contribution of the dominant taxon related to a facility's effluent may constitute exceedances of 62-302.530(46), F.A.C., 62-302.530(47)(a), F.A.C. and/or 62-302.530(47)(b), F.A.C..

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

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

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

(9) Definition of Qualifiers

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

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

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

J - Estimated value

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

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

N - Presumptive evidence of presence of material.

O - Sampled, but analysis lost or not performed.

Q - Sample held beyond normal holding time.

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

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

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

X - Too few individuals to calculate SCI value.

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

Z - Colonies were too numerous to count (TNTC)

Appendix D

Chain of Custody

Florida Department of Environmental Protection

Event ID *

Central Laboratory Sample Submittal Form

Request Number: RQ-2015-02-09-20
FYI Gulf Power Scholz Steam Sampling Inspection

Requester: Adrienne E. Pennington
Field Report Prepared By:

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

Collected By:
Send Final Report To: Kim Allen

Sampling Agency:

Lab ID *	Location: Gulf Power Scholtz Steam Plant		☑ Comp ☐ Grab	Collection (comp begin or grab) Eastern Date 2/15 Time 12:15 (Central)	Composite end Eastern Date 2/16 Time 11:15 (Central)		Bottle Group(s)**
	Field ID: D-001 (Plant discharge)			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 11.93	Storet Station Number	B
	Matrix (include type e.g. Salt, Fresh, etc): Fresh	Temp (C): 15.62 pH: 7.66	Sample Depth ☐ m ☑ ft: 1	0.155	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm)	NPDES Number	2 bottles
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: toxicity				
Lab ID *	Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Date Time Central	Composite end Eastern Date Time Central		Bottle Group(s)**
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C) pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments				
Lab ID *	Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Date Time Central	Composite end Eastern Date Time Central		Bottle Group(s)**
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C) pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments				
Lab ID *	Location		☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Date Time Central	Composite end Eastern Date Time Central		Bottle Group(s)**
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C) pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments				

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	2/16 13:52						[signature]	2/16/15, 1352

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 5

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-02-09-20
FYI Gulf Power Scholz Steam Sampling Inspection

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

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

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

Lab ID *	Location	Collection (comp begin or grab) Eastern	Composite end Eastern	Bottle Group(s)**
	GULF POWER Scholtz	☑ Comp ☐ Grab Date 2/17/15 Time 10.45 Central	Date 2/18/15 Time 09.45 Central	B
	Field ID: D-001	Tot Res Chlorine (mg/L): –	Diss Oxygen (mg/L): 13.97	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): Fresh; Temp (C): ; pH:	Sample Depth ☐ m ☑ ft: 1	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 0.135	NPDES Number:
	Latitude ☐ dd ☐ dms:	Longitude ☐ dd ☐ dms:	Comments: ID: 0121-T4 (	

Lab ID *	Location	Collection (comp begin or grab) Eastern	Composite end Eastern	Bottle Group(s)**
	GULF POWER Scholtz	☐ Comp ☑ Grab Date 2-18-15 Time 11:58 Central	Date Time Central	A
	Field ID: D-001	Tot Res Chlorine (mg/L): –	Diss Oxygen (mg/L): 13.97	Storet Station Number:
	Matrix (include type e.g. Salt, Fresh, etc): ; Temp (C): ; pH:	Sample Depth ☐ m ☑ ft: 1	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 0.135	NPDES Number:
	Latitude ☐ dd ☐ dms:	Longitude ☐ dd ☐ dms:	Comments:	

Lab ID *	Location	Collection (comp begin or grab) Eastern	Composite end Eastern	Bottle Group(s)**
	GULF POWER Scholtz	☐ Comp ☑ Grab Date 2-18-15 Time 12:35 Central	Date Time Central	E
	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: ID: 0121-T56 (11:35 Central)	

Lab ID *	Location	Collection (comp begin or grab) Eastern	Composite end Eastern	Bottle Group(s)**
		☐ Comp ☐ Grab Date Time Central	Date Time 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:	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Shelby Alexander	2/18/15 13:46 CST	hand	Cheryl Simmons	2/18/15 1514			S.S.	2-18-15 1650

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

last revised October 1, 2003

Page 1 of 5

2/18/15 1706 1 micro

Abby McDonald 2.19.15 @ 0916

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-02-09-20
FYI Gulf Power Scholz Steam Sampling Inspection

Requester: Adrienne E. Pennington
Field Report Prepared By:

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

Collected By: Blake Spencer, Cheryl Swanson
Send Final Report To: Kim Allen
Sampling Agency: FDEP - Tallahassee

✓ Lab ID *	Location: Scholz Field ID: Control Site Scholz Control Site			☐ Comp ☒ Grab	Collection (comp begin or grab) Eastern Central: Date 2-18-15 Time 1410	Composite end Date / Time / Eastern Central	Bottle Group(s)**: GD			
				Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): 10.54	Storet Station Number				
	Matrix (include type e.g. Salt, Fresh, etc): Fresh	Temp (C): 12.1	pH: 7.37	Sample Depth: ☒ m ☐ ft .3	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 135		NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments: use time 1410 on Hg test ; ALGAL-ID						
/ Lab ID *	Location: Scholz Field ID: Test Site Scholz Test Site			☐ Comp ☒ Grab	Collection (comp begin or grab) Eastern Central: Date 2-18-15 Time 1314	Composite end Date / Time / Eastern Central	Bottle Group(s)**: GD			
				Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): 10.10	Storet Station Number				
	Matrix (include type e.g. Salt, Fresh, etc):	Temp (C): 14.8	pH: 7.21	Sample Depth: ☒ m ☐ ft .3	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☒: 135		NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments: use time 1314 on Hg test, ALGAL-ID						
Lab ID *	Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date / Time	Composite end Date / Time / Eastern Central	Bottle Group(s)**			
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number				
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☐		NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments						
Lab ID *	Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date / Time	Composite end Date / Time / Eastern Central	Bottle Group(s)**			
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number				
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	Salinity (PPTh) ☐ / Sp Conductance (umho/cm) ☐		NPDES Number			
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments						

Relinquished By	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Chris Sum	2/18/15 1646	hand	J.S.	2-18/1650				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

✓ 1706 2 minus ABA 2/18/15

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2015-02-09-20
FYI Gulf Power Scholz Steam Sampling Inspection

Requester: Adrienne E. Pennington
Collected By: MARK SUMNER
Sampling Agency:

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

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

Lab ID *	Location: Schulz Gulf Power Plant			☑ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date 2-19 Time 10:40	Composite end Eastern Central: Date 2-20 Time 9:40	Bottle Group(s)**: B
	Field ID: D-001				Tot Res Chlorine (mg/L): ~	Diss Oxygen (mg/L): Broken	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C): 12.83	pH: 7.71	Sample Depth ☐ m ☑ ft: 1	0.153	☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments: -			
Lab ID *	Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date Time	Composite end Eastern Central: Date Time	Bottle Group(s)**
	Field ID				Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments			
Lab ID *	Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date Time	Composite end Eastern Central: Date Time	Bottle Group(s)**
	Field ID				Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments			
Lab ID *	Location			☐ Comp ☐ Grab	Collection (comp begin or grab) Eastern Central: Date Time	Composite end Eastern Central: Date Time	Bottle Group(s)**
	Field ID				Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc)	Temp (C)	pH	Sample Depth ☐ m ☐ ft		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		Comments			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
MARK SUMNER	2-20 12:20						SK	2-20-15 12:19

* 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 Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE _____

COUNTY _____ STORET # _____ LONGITUDE _____

DATE 02-18-2015 TIME 1314 SAMPLING AGENCY _____

SITE NAME Scholz

FIELD ID/NAME Test Site RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

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

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

Landscape Development Intensity Index (LDI)

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

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

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

_____ m wide

Width of Riparian Vegetation (m) on Each Buffer Side

Left Bank: >18 Right Bank: >18

Hydrologic Modification Score (per FT 3101) _____

0.2 m/s (5s) — m/s (too windy) — m/s

High Water Mark: 1.75 (m) (above present water level) + 3.7 (present depth) = 6.5 (above bed)

Artificially Impounded ☐ Yes ☐ No

3.7 m deep (12ft) 6.4 m deep (21ft) — 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%)

SEDIMENT / SUBSTRATE

Sediment Oils ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse

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

Smothering of Substrates

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

SUBSTRATE TYPE

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
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)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	14.8	7.21	10.10	100	135.2		
Mid: 7	2.1	12.8	7.36	10.5	98.2	133		☐ VOB
Bottom 4m	4	12.0	7.37	10.4	97	133		TOTAL DEPTH

Meter ID: 8 — TOTAL DEPTH: 13.4

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

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

Water Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☒ Yes ☐ No

Lot Number: _____ Exp: _____

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

Algae Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☐ Yes ☒ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☒	☐
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☒	☐	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☒ large river

AMBIENT FIELD CONDITIONS / NOTES:

no aquatic plants 28m²

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

SAMPLING TEAM B. Spencer, C. Swanson SIGNATURE Cheryl Swanson DATE: 2-18-15

62-160.800, F.A.C. Revision Date: March 1, 2014

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY): 02-18-15	RECEIVING BODY OF WATER:
REMARKS:	COUNTY:	LOCATION: Scholz Test		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 6	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed snag, root 10 9 8 7 (6)	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability 1	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 (1)
Water Velocity 14	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 20 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 (14) 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering 8 Primary Score 29	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 (8) 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components **Artificial Channelization** 20	Expected sinuosity given the stream width. No evidence of dredging or artificial straight-ening. No spoil banks. (20) 19 18 17 16	Good sinuosity within old chan-nelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 10 Left Bank 5	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. (5) 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 10 Secondary Score 75	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. (10) 9	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

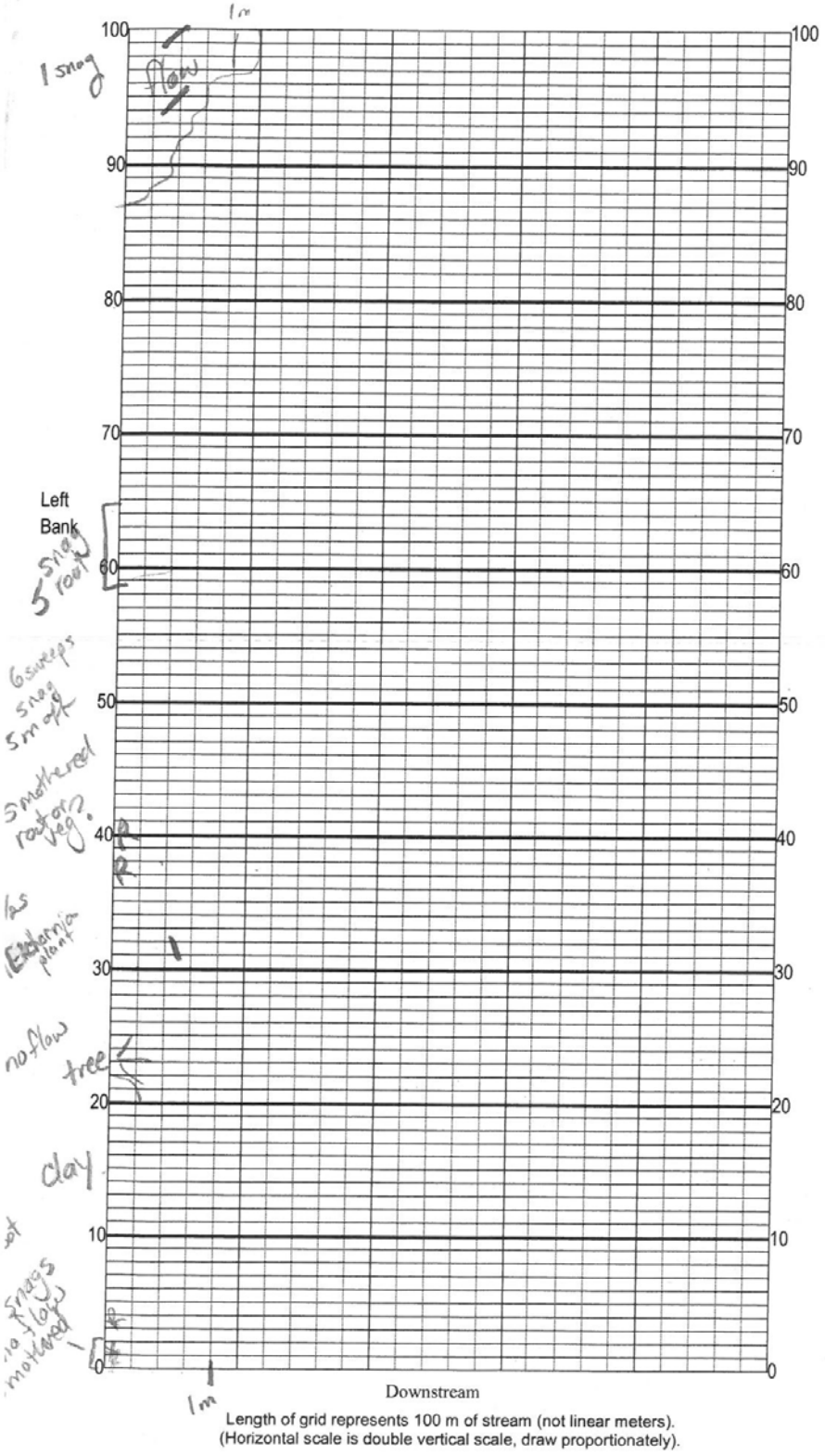
104 **TOTAL SCORE**

Date: 2-18-2015	Analyst: Cheryl Swanson	Signature: Cheryl Swanson

62-160.800, F.A.C.

Revision Date: March 1, 2014

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



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: Scholz Test

Date: 2-18-15

Sampler: C. Swanson

100 m:	Latitude	30.66596
	Longitude	84.88678
0 m:	Latitude	30.66534
	Longitude	84.88753

Substrates: Code key, draw proportionate habitat abundance. %

☑	Snags	—
R	Roots/undercut banks	—
☐	Leaf Packs (or mats)	
☐	Aquatic Macrophytes	
☐		
☐		
☐	Pools	total # observed = ____ # range expected = ____

Average width ____ m

Average depth 4.9 m

Velocity measured at 15 meter mark.

WQ & chemistry taken at 15 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

Left no leaf, steep banks in H_2O
very very short root in sand @ 10m
very little flow if any on bank
clay sides + smothered

* did not map right bank

62-160.800, F.A.C

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Scholz Test | County: | Date: 2-18-15 | Investigators: Cheryl Swanson

STORET Station Number:

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

Secchi depth	
Estimated?	

# points ranked 4-6	5
total points assessed	88
% points ranked 4-6	5.7 %

Check accompanying data collected at same site/date.	
Algal mat sample	YES
Linear Veg Survey	—
Habitat Assessment	YES
SCI/Biorecon	—
Water sample	YES
RQ- 2015-02-09-20	

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

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

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

62-160.800, F.A.C.

Revision Date: March 1, 2014

Form FD9000-28 Water Field Form 031306_FD9000-28

SITE NAME: Test Site - Scholz DATE: 2-18-15 TIME 1314 (military) EST ~~CST~~ DEPTH^: 0.2 ft (m) FIELD ID: _____

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Blake Spencer	X		X	X	X
Cheryl Swanson		X	X	X	

SAMPLING EQUIPMENT

☒ Sample Container ☐ Pole ☐ Pump ID#: _____ ☐ Tubing type: _____ ☐ Other _____ ☐ Other

WATER QUALITY MEASUREMENTS

Instrument ID: 8

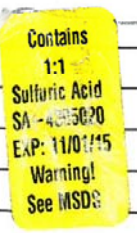
COLLECTION MODE

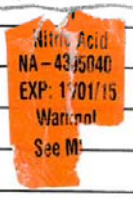
☐ Wading ☐ Diving ☐ From Shore ☐ Other_____

Via Boat: ☐ Canoe ☐ Electric Motor ☒ Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles***
Preserved Nutrients	☒TKN ☒TP ☒NOx ☒NH3 ☒TOC ☐Total N ☐Other:	SW	☒Ice ☒H_2SO_4		☒<2	1
Filtered Nutrients	☒oP ☐Other:	SW	☒Ice ☒.45 um Filter			1
Unpreserved Nutrients	☐NO_2 ☐NO_3 ☐SO4 ☐Other:	W	☐Ice			
Physical/Aggregate Properties	☐TDS ☒TSS ☐TS ☒Turbidity ☒Alk ☒Color ☐Other:	SW	☒Ice			1
Chlorophyll	☒CHL-PPTN-W	SW	☒Ice			1
BOD	☒BOD-INHB ☐BOD-UNIN	SW	☒Ice			1
Microbiology	MF: ☒E coli ☐T Coli ☐F Coli ☐Entero ☐F Strep	SW	☒Ice			1
Macroinvertebrates	☐MI-FW-QLDC ☐MI-FW-QLBR ☐MI-FW-QNNC ☐MI-MN-QNNC	W	☐Formalin			
Phytoplankton	☐PKD-QN-C ☐DTY-QN-C	W	☐Lugol's			
Periphyton	☒PRN-QL-C ☐DTM-QL-C ☐PRN-QN-C ☐DTM-QN-C	SW	☐Formalin			1 ALGAE-LD
AGP	☒AA-AGP ☐AA-LIM-NUT	SW	☒Ice			1
Metals	☐W-ICP ☐W-FIAS ☒W-ICPMS ☐W-ICP-Tr	SW	☐HNO_3		☒<2	1
Filtered Metals	☐W-ICP-F ☐W-FIAS-F ☐W-ICPMS-F ☐W-ICP-Tr-F	W	☐HNO_3 ☐.45 um Filter		☐<2	
Mercury	☒W-HG-AF	SW				1
BaseNeutral / Acid Extractable	☒W-BNA ☐W-AE ☐W-BN ☐W-PAH	SW	☒Ice			2
	☐W-FL-PRO ☐W ☐Other:	W	☐Ice ☐H_2SO_4		☐<2	
Pesticides	☐W-PEST-CL ☐W-PCB ☐W PEST-NP ☐W-PSCL-PCB	W	☐Ice			
	☐W-NP-AA-SF ☐W-PC-AA-SF ☐W-PSHRB-NP ☐W-SLFN-UREA ☐W-SULFN-LC ☐Other:	W	☐Ice			
	☐W-ACIDHERB	W	☐Ice ☐H_2SO_4			
	☐W-CARB	W	☐Ice ☐MCAA			
Purgeables	☐W-VOC-MS	W	☐Ice			
	☐W-VOC-MS-A	W	☐Ice ☐HCl			
Bioassay	Specify Test:	W	☐Ice			
OTHER	1,4 Dioxane	SW	☒Other:			1
	Sucralose	SW				1

Notes:





Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): **SW** = Surface Water **GW** = Groundwater **DW** = Drinking Water **WW** = Wastewater **O** = Other:_____

****PRESERVATIVES:1 ml added unless otherwise noted**

*****Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

DEP Form FD 9000-3 Physical/Chemical Characterization Field Sheet

SAMPLE ID _____ ORG ID _____ LATITUDE _____

COUNTY _____ STORET # _____ LONGITUDE _____

DATE 02-18-2015 TIME 1410 SAMPLING AGENCY _____

SITE NAME Scholz

FIELD ID/NAME Control Site RECEIVING BODY OF WATER _____

RIPARIAN ZONE / STREAM FEATURES

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

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

Landscape Development Intensity Index (LDI):

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

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

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

Hydrologic Modification Score (per FT 3101):

High Water Mark: 1.75 (m) + 4.6 (present depth) = 6.4 (above bed)

Artificially Impounded: ☐ Yes ☐ No

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

m wide

0.4 m/s	— m/s	— m/s
3, 2, 2.5	~2.5 too windy	
4.6 m deep (15 ft)	5.2 m deep (17 ft)	— 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%)

SEDIMENT / SUBSTRATE

Sediment Oils: ☒ Absent ☐ Slight ☐ Moderate ☐ Profuse

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

Smothering of Substrates

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

SUBSTRATE TYPE

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

	% Coverage	INVERT # Times Sampled	PERI # Times Sampled
Woody Debris (Snags)			
Undercut Banks / Roots			
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)	D.O. Sat (%)	Cond. (UMHO/CM)	Salinity (PPT)	SECCHI (M)
Top:	0.3	12.1	7.37	10.54	98.2	135		
Mid: (5 ft)	1.5	12.2	7.47	10.55	98.4	135		☐ VOB
Bottom (15 ft)	4	12.4	7.5	10.68	100	135		TOTAL DEPTH

Meter ID: 8

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

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

Water Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☒ Yes ☐ No

Lot Number: _____ Exp: _____

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

Algae Sample Taken? ☒ Yes ☐ No

Sample Preserved? ☐ Yes ☒ No

Lot Number: _____ Exp: _____

Clarity Clear ☐ Slightly Turbid ☐ Turbid ☒ Opaque ☐

ABUNDANCE

	Not Obs.	Rare	Common	Abundant
Periphyton:	☐	☐	☐	☒
Fish:	☐	☐	☒	☐
Aquatic Plants:	☐	☒	☐	☐
Iron/Sulfur Bacteria:	☒	☐	☐	☐

System Type: Stream ☐ Lake ☐ Wetland ☐ Estuary ☐ Other(Specify) ☒ large river

AMBIENT FIELD CONDITIONS / NOTES:

no aquatic plants growing <2m²

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

SAMPLING TEAM: B. Spencer + C. Swanson

SIGNATURE: Cheryl Swanson

DATE: 2-18-2015

62-160.800, F.A.C.

Revision Date: March 1, 2014

DEP Form FD 9000-5 Stream/River Habitat Assessment Field Sheet

SAMPLING AGENCY:		STORET STATION NUMBER:	DATE (MM/DD/YY): 02-18-15	RECEIVING BODY OF WATER:
REMARKS:	COUNTY:	LOCATION: Scholz Control		FIELD ID/NAME:

Habitat Parameter	Optimal	Suboptimal	Marginal	Poor
Primary Habitat Components **Substrate Diversity** 6	Four or more major productive habitats present [snags, tree roots, aquatic vegetation, leaf packs (partially decayed), rock] 20 19 18 17 16	Three major productive habitats present. Adequate habitat. Some substrates may be new fall (fresh leaves or snags) 15 14 13 12 11	Two major productive habitats present. Less than desirable habitat, frequently disturbed or removed leaf, snag 10 9 8 7 (6)	One or less major productive habitat. Lack of habitat is obvious, substrates unstable or smothered 5 4 3 2 1
Substrate Availability 1	Greater than 30% major productive habitat present at site 20 19 18 17 16	16% to 30% major productive habitat, by aerial extent 15 14 13 12 11	6% to 15% major productive habitat 10 9 8 7 6	Less than 5% major productive habitat 5 4 3 2 (1)
Water Velocity 20	Max. observed at typical transect: > 0.25 m/sec. But < 1 m/sec ≥0.33 0.31 0.29 0.27 >0.25 (20) 19 18 17 16	Max. observed at typical transect: >0.1 to 0.25 m/sec 0.25 0.21 0.17 0.13 >0.1 15 14 13 12 11	Max. observed at typical transect: 0.05 to 0.1 m/sec 0.1 0.09 0.07 0.06 0.05 10 9 8 7 6	Max. observed at typical transect: <0.05 m/sec; or spate occurring: > 1 m/sec <0.05 0.04 0.03 0.01 <0.01 5 4 3 2 1
Habitat Smothering 8 Primary Score 35	Adequate number of stable pools (1-2 per 12 times width) and <25% of habitats affected by sand, silt, or algae. 20 19 18 17 16	Adequate number of stable pools (1-2 per 12 times width) and >25% of habitats affected by sand, silt, or algae. 15 14 13 12 11	Does not have required number of stable pools (1-2 per 12 x width) and/or has shallow pools (<2 x prevailing depth). 10 9 (8) 7 6	Stable pools are absent. Most habitats affected by sand, silt, or algae accumulation. 5 4 3 2 1
Secondary Habitat Components **Artificial Channelization** 20	Expected sinuosity given the stream width. No evidence of dredging or artificial straightening. No spoil banks. (20) 19 18 17 16	Good sinuosity within old channelized area. Evidence of dredging in the past (>25 yrs) but mostly recovered. 15 14 13 12 11	Straightened with trapezoidal cross section, but has a small degree of sinuosity developed within channelized area. 10 9 8 7 6	Straightened or engineered by dredging, has trapezoidal or box cut cross section, lacks required pools. May have spoil banks. 5 4 3 2 1
Bank Stability Right Bank 5 Left Bank 10	Bankfull > 60% of bank height. Slope of bank ≤ 60° from bankful to top of bank. Bankfull is within or above the root zone with few raw, eroded areas. (10) 9	Only meets 2 of the 3 requirements for optimal bank stability. 8 7 6	Only meets 1 of the 3 requirements for optimal bank stability. (5) 4	Bankfull < 60% of bank height. Slope of bank > 60°. Bankfull is below the root zone with raw, eroded areas. 3 2 1
Riparian Buffer Zone Width Right Bank 10 Left Bank 10	Width of vegetation greater than 18 m (10) 9	Width of vegetation >12 to 18m 8 7 6	Width of vegetation 6 to 12 m. human activities close to system 5 4	Less than 6 m of buffer zone due to intensive human activities 3 2 1
Riparian Zone Vegetation Quality Right Bank 10 Left Bank 9 10 Secondary Score 74	Over 80% of riparian surfaces consist of normal, expected plant community for given sunlight & habitat conditions (e.g., native plants; tree, shrub, and forbs represented, if appropriate). Minimal disturbance. (10) (9)	>50% to 80% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Some disruption in community observed. 8 7 6	25% to 50% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). Disruption obvious. 5 4	Less than 25% of riparian zone is undisturbed (normal, expected plant community for given sunlight & habitat conditions). 3 2 1

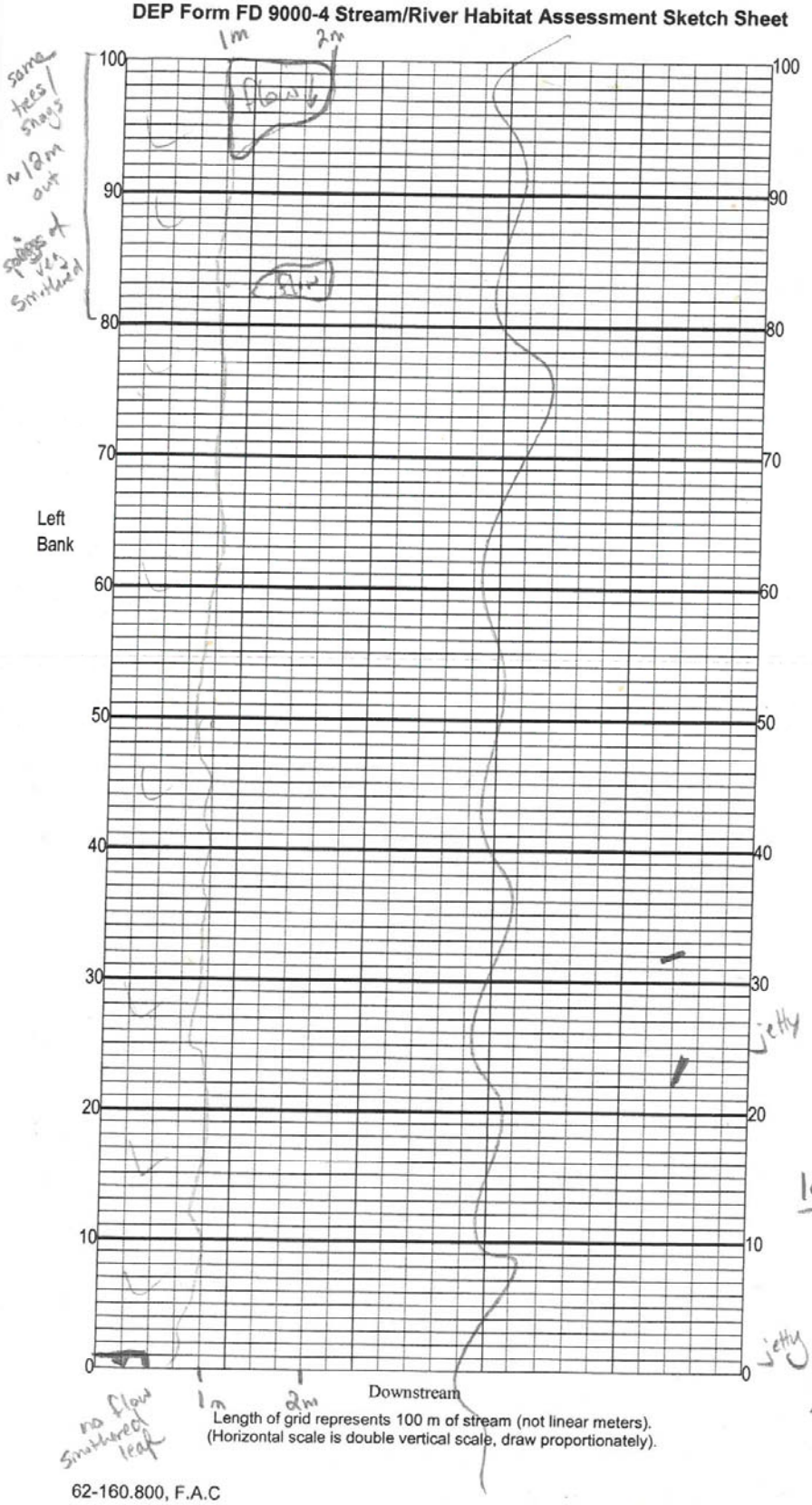
109 **TOTAL SCORE**

Date: 2-18-2015	Analyst: Cheryl Swanson	Signature: Cheryl Swanson

62-160.800, F.A.C.

Revision Date: March 1, 2014

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



Length of grid represents 100 m of stream (not linear meters).
(Horizontal scale is double vertical scale, draw proportionately).

Location: Schatz Control

Date: 2-18-2015

Sampler: C. Swanson

100 m: Latitude	30.66779
Longitude	84.(88373) ?
0 m: Latitude	30.66757
Longitude	84.88417

Substrates: Code key, draw proportionate habitat abundance. %

- [/] Snags ___
- [ ] Roots/undercut banks ___
- [L] Leaf Packs (or mats) ___
- [V] Aquatic Macrophytes ~1/8m x 1/2m ___
- [ ] _____ ___
- [ ] _____ ___
- [ ] Pools total # observed = ___ # range expected = ___

Average width ___ m

Average depth 4.8 m 16ft

Velocity measured at 30 meter mark.

WQ & chemistry taken at 30 meter mark.

Habitat Smothering:
Note areas (on map) where sand or silt is smothering substrates, limiting habitability.

Bank Stability:
Note areas (on map) with unstable, eroding banks.

Riparian Buffer Width:
Note areas (on map) where natural vegetation is altered or eliminated.

Plants observed / other notes:

left 100m smothered, no flow leaf
Smother = silt-heavy + periphyton ~40mm long
if snags - smothered
2-3 floating logs not in flow

right 2 snags
could not get on shore b/c steep

62-160.800, F.A.C

Revision Date: March 1, 2014

DEP FORM FD 9000-25 Rapid Periphyton Survey Field Sheet

Site: Scholz Control | County: | Date: 2-18-15 | Investigators: Cheryl Swanson

STORET Station Number:

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
0	1	5		
	2	N	J	
	3			
	4			
	5			96 0
	6			
	7			
	8			
	9	X		
10	1	5		
	2	N	J	
	3			
	4			
	5			96 0
	6			
	7			
	8			
	9			
20	1	5		
	2	N		
	3			
	4			
	5			96 0
	6			
	7			
	8			
	9	X		
30	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
40	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
50	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		

Transect (m)	Point 1=right 9=left	Algal Thickness Rank (N-6, X)	Estimated	Canopy Cover
60	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
70	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
80	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
90	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		
100	1	5		
	2	N	J	
	3			
	4			
	5			0
	6			
	7			
	8			
	9	X		

Secchi depth	
Estimated?	

# points ranked 4-6	11
total points assessed	88
% points ranked 4-6	12.5%

Check accompanying data collected at same site/date.	
Algal mat sample	Yes
Linear Veg Survey	
Habitat Assessment	Yes
SCI/Biorecon	
Water sample	Yes

RQ- 2015-02-09-20

Algal Thickness Rank	
N	rough, no algae, slimy, algae up to 1mm
3	>1mm - 6mm
4	>6mm - 20mm
5	>20mm - 10 cm
6	>10 cm

Record "N" and check "Estimated" for points deeper than the Secchi depth; algae are presumed absent. Check "Estimated" if thickness estimated for deep points which can be seen but not reached.

Record "X" for points shallower than Secchi depth for which substrate cannot be seen or reached with the hand. No estimated rank.

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

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

62-160.800, F.A.C.

Revision Date: March 1, 2014

Form FD9000-28 Water Field Form 031306_FD9000-28

SITE NAME: Control Site-Scholz **DATE:** 2-18-15 **TIME** 1410 (military) EST ~~CST~~ **DEPTH^:** 0.2 ft (m) **FIELD ID:** _____

SAMPLING TEAM MEMBERS	WQ MEASUREMENTS	DOCUMENTATION	SAMPLE COLLECTION	PRESERVATION	PRESERVATION CHECK
Blake Spencer	X		X	X	X
Cheryl Swanson		X	X	X	

SAMPLING EQUIPMENT

- [x] Sample Container
- [ ] Pole
- [ ] Pump ID#: _____
- [ ] Tubing type: _____
- [ ] Other _____
- [ ] Other _____

WATER QUALITY MEASUREMENTS

Instrument ID: #8

COLLECTION MODE

- [ ] Wading
- [ ] Diving
- [ ] From Shore
- [ ] Other _____

Via Boat
- [ ] Canoe
- [ ] Electric Motor
- [x] Gasoline Motor

Parameter Suite	Parameter(s)/Method	Matrix Code*	Preservation**	Preservative Lot #	pH Check	# Bottles***
Preserved Nutrients	[x] TKN [x] TP [x] NOx [x] NH3 [x] TOC [ ] Total N [ ] Other:	SW	[x] Ice [x] H_2SO_4		[x] <2	1
Filtered Nutrients	[x] oP [ ] Other:	SW	[x] Ice [x] .45 um Filter			1
Unpreserved Nutrients	[ ] NO_2 [ ] NO_3 [ ] SO4 [ ] Other:	W	[ ] Ice			
Physical/Aggregate Properties	[ ] TDS [x] TSS [ ] TS [x] Turbidity [x] Alk [x] Color [ ] Other:	SW	[x] Ice			1
Chlorophyll	[x] CHL-PPTN-W	SW	[x] Ice			1
BOD	[x] BOD-INHB [ ] BOD-UNIN	SW	[x] Ice			1
Microbiology	MF: [x] E coli [ ] T Coli [ ] F Coli [ ] Entero [ ] F Strep	SW	[x] Ice			1
Macroinvertebrates	[ ] MI-FW-QLDC [ ] MI-FW-QLBR [ ] MI-FW-QNNC [ ] MI-MN-QNNC	W	[ ] Formalin			
Phytoplankton	[ ] PKD-QN-C [ ] DTY-QN-C	W	[ ] Lugol's			
Periphyton	[x] PRN-QL-C [x] DTM-QL-C [ ] PRN-QN-C [ ] DTM-QN-C	SW	[ ] Formalin			1 Algal ID
AGP	[x] AA-AGP [ ] AA-LIM-NUT	SW	[x] Ice			1
Metals	[x] W-ICP [ ] W-FIAS [x] W-ICPMS [ ] W-ICP-Tr	SW	[x] HNO_3		[x] <2	1
Filtered Metals	[ ] W-ICP-F [ ] W-FIAS-F [ ] W-ICPMS-F [ ] W-ICP-Tr-F	W	[ ] HNO_3 [ ] .45 um Filter		[ ] <2	
Mercury	[x] W-HG-AF	SW				1
BaseNeutral / Acid Extractable	[x] W-BNA [ ] W-AE [ ] W-BN [ ] W-PAH	SW	[x] Ice			2
	[ ] W-FL-PRO [ ] W [ ] Other:	W	[ ] Ice [ ] H_2SO_4		[ ] <2	
Pesticides	[ ] W-PEST-CL [ ] W-PCB [ ] W PEST-NP [ ] W-PSCL-PCB	W	[ ] Ice			
	[ ] W-NP-AA-SF [ ] W-PC-AA-SF [ ] W-PSHRB-NP [ ] W-SLFN-UREA [ ] W-SULFN-LC [ ] Other:	W	[ ] Ice			
	[ ] W-ACIDHERB	W	[ ] Ice [ ] H_2SO_4			
	[ ] W-CARB	W	[ ] Ice [ ] MCAA			
Purgeables	[ ] W-VOC-MS	W	[ ] Ice			
	[ ] W-VOC-MS-A	W	[ ] Ice [ ] HCl			
Bioassay	Specify Test:	W	[ ] Ice			
OTHER	1,4 Dioxane	SW	[x] Other:			1
	Sucralose	SW				1

Notes:

Sulfuric Acid — Nitric Acid

SA-4305020 — NA-4305040

Exp. 11/01/15 — Exp. 11/01/15

Use one line for each set of sample (as supplied by the laboratory) containers. Use separate sheet for field or laboratory duplicate or blank or different water depth

^Enter "S" for surface if collected at a depth less than or equal to 1 foot

*Matrix Codes (Insert prefix): **SW** = Surface Water **GW** = Groundwater **DW** = Drinking Water **WW** = Wastewater **O** = Other: _____

****PRESERVATIVES: 1 ml added unless otherwise noted**

***Enter number of containers supplied by the laboratory for the test (e.g., 3 for volatile organics, etc.)

DEP Bureau of Laboratories Water Sample Collection Record

(Use with FDEP SOP-001/01 Form FD 9000-3 Physical/Chemical Characterization Field Sheet)

Appendix F

Chemical analysis of effluent and receiving water

Date_Sampled	UDL	SCH_Group	Component	Result	Units	MDL	PQL
02/16/15 12:15	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, IC25	100 L	IC25		
02/16/15 12:15	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, NOEC	100	NOEC		
02/16/15 12:15	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-Fish, IC25	100 L	IC25		
02/16/15 12:15	Effluent Composite	Toxicology	Bioassay-Chron-Def-FW-C.dubia, NOEC	100	NOEC		
02/16/15 12:15	Effluent Composite	Nutrients	Specific Conductance	155	umhos/cm		
02/16/15 12:15	Effluent Composite	Nutrients	Sample Depth	1	ft		
02/16/15 12:15	Effluent Composite	Nutrients	pH	7.61			
02/16/15 12:15	Effluent Composite	Nutrients	Temperature	15.62	C		
02/16/15 12:15	Effluent Composite	Nutrients	Dissolved Oxygen	11.93	mg/L		
02/18/15 10:45	Effluent Composite	Metals	Potassium	2.1	mg/L	0.3	1.2
02/18/15 10:45	Effluent Composite	Metals	Chromium	0.45 I	ug/L	0.3	1.2
02/18/15 10:45	Effluent Composite	Metals	Arsenic	0.75 I	ug/L	0.25	1
02/18/15 10:45	Effluent Composite	Metals	Zinc	5.0 U	ug/L	5	20
02/18/15 10:45	Effluent Composite	Metals	Aluminum	215	ug/L	5	20
02/18/15 10:45	Effluent Composite	Metals	Nickel	0.57 I	ug/L	0.25	1
02/18/15 10:45	Effluent Composite	Metals	Selenium	0.21 I	ug/L	0.2	0.8
02/18/15 10:45	Effluent Composite	Metals	Mercury	1.5	ng/L	0.1	0.4
02/18/15 10:45	Effluent Composite	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
02/18/15 10:45	Effluent Composite	Metals	Magnesium	2.30	mg/L	0.04	0.16
02/18/15 10:45	Effluent Composite	Metals	Silver	0.025 U	ug/L	0.025	0.1
02/18/15 10:45	Effluent Composite	Metals	Lead	0.22 I	ug/L	0.2	0.8
02/18/15 10:45	Effluent Composite	Metals	Copper	0.76 I	ug/L	0.5	1
02/18/15 10:45	Effluent Composite	Metals	Calcium	17.0	mg/L	0.075	0.3
02/18/15 10:45	Effluent Composite	Metals	Iron	550	ug/L	30	120
02/18/15 10:45	Effluent Composite	Metals	Sodium	8.0	mg/L	0.5	2
02/18/15 10:45	Effluent Composite	Metals	Hardness	52.0	mg/L	0.35	1.4
02/18/15 10:45	Effluent Composite	Nutrients	TSS	7 I	mg/L	2	10
02/18/15 10:45	Effluent Composite	Nutrients	Dissolved Oxygen	13.97	mg/L		
02/18/15 10:45	Effluent Composite	Nutrients	Sample Depth	1	ft		
02/18/15 10:45	Effluent Composite	Nutrients	Specific Conductance	0.135	umhos/cm		
02/20/15 10:40	Effluent Composite	Nutrients	Specific Conductance	153	umhos/cm		
02/20/15 10:40	Effluent Composite	Nutrients	pH	7.71			
02/20/15 10:40	Effluent Composite	Nutrients	Sample Depth	1	ft		
02/20/15 10:40	Effluent Composite	Nutrients	Temperature	12.83	C		

02/18/15 12:58	Effluent Grab	AGP/LN	Algal Growth Potential	2.02	mg DryWt/L	0.3	0.9
02/18/15 12:58	Effluent Grab	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.1 I	mg/L	0.2	2
02/18/15 12:58	Effluent Grab	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	8.7	ug/L	0.55	1.7
02/18/15 12:58	Effluent Grab	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.7	ug/L	0.4	1.2
02/18/15 12:58	Effluent Grab	Microbiology	Fecal Coliforms-Membrane Filter	34 B	cfu/100 mL	2	2
02/18/15 12:58	Effluent Grab	Nutrients	O-Phosphate-P	0.004 I	mg P/L	0.004	0.01
02/18/15 12:58	Effluent Grab	Nutrients	Total-P	0.030	mg P/L	0.002	0.005
02/18/15 12:58	Effluent Grab	Nutrients	Sulfate	11 A	mg SO4/L	0.2	0.5
02/18/15 12:58	Effluent Grab	Nutrients	Chloride	8.1 A	mg Cl/L	0.2	0.5
02/18/15 12:58	Effluent Grab	Nutrients	Ammonia-N	0.007	mg N/L	0.002	0.005
02/18/15 12:58	Effluent Grab	Nutrients	Kjeldahl Nitrogen	0.31	mg N/L	0.08	0.2
02/18/15 12:58	Effluent Grab	Nutrients	NO2NO3-N	0.77	mg N/L	0.008	0.02
02/18/15 12:58	Effluent Grab	Nutrients	Color (true)	20 A	PCU	2.5	6
02/18/15 12:58	Effluent Grab	Nutrients	Fluoride	0.098 I	mg F/L	0.035	0.1
02/18/15 12:58	Effluent Grab	Nutrients	Alkalinity	36 A	mg CaCO3/L	0.65	2.5
02/18/15 12:58	Effluent Grab	Nutrients	Organic Carbon	3.1 A	mg C/L	1	2
02/18/15 12:58	Effluent Grab	Nutrients	Turbidity	7.7 A	NTU	0.1	0.1
02/18/15 12:58	Effluent Grab	Overflow	HEM	0.75 U	mg/L	0.75	2.7
02/18/15 12:58	Effluent Grab	Pesticides	Ethoprop	0.0048 U	ug/L	0.0048	0.019
02/18/15 12:58	Effluent Grab	Pesticides	Prometryn	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Norflurazon	0.029 U	ug/L	0.029	0.11
02/18/15 12:58	Effluent Grab	Pesticides	Bromacil	0.038 U	ug/L	0.038	0.15
02/18/15 12:58	Effluent Grab	Pesticides	Chlorpyrifos Ethyl	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Metolachlor	0.057 U	ug/L	0.057	0.23
02/18/15 12:58	Effluent Grab	Pesticides	Naled	0.038 U	ug/L	0.038	0.15
02/18/15 12:58	Effluent Grab	Pesticides	Butylate	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Demeton	0.023 U	ug/L	0.023	0.092
02/18/15 12:58	Effluent Grab	Pesticides	Metalaxyl	0.038 U	ug/L	0.038	0.15
02/18/15 12:58	Effluent Grab	Pesticides	Metribuzin	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Simazine	0.12	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Sucralose	1.4	ug/L	0.01	0.05
02/18/15 12:58	Effluent Grab	Pesticides	Phorate	0.0048 U	ug/L	0.0048	0.019
02/18/15 12:58	Effluent Grab	Pesticides	Parathion Ethyl	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Atrazine Desisopropyl	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Alachlor	0.057 U	ug/L	0.057	0.23
02/18/15 12:58	Effluent Grab	Pesticides	Atrazine	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Atrazine Desethyl	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Diazinon	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Ethion	0.0096 U	ug/L	0.0096	0.038

02/18/15 12:58	Effluent Grab	Pesticides	Fenamiphos	0.029 UJ	ug/L	0.029	0.11
02/18/15 12:58	Effluent Grab	Pesticides	Malathion	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Chlorpyrifos Methyl	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Fonofos	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Hexazinone	0.029 UJ	ug/L	0.029	0.11
02/18/15 12:58	Effluent Grab	Pesticides	Prometon	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Parathion Methyl	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Azinphos Methyl	0.019 U	ug/L	0.019	0.076
02/18/15 12:58	Effluent Grab	Pesticides	Mevinphos	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Pesticides	Disulfoton	0.0048 U	ug/L	0.0048	0.019
02/18/15 12:58	Effluent Grab	Pesticides	Ametryn	0.0096 U	ug/L	0.0096	0.038
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.7
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	1,4-Dioxane	0.066 I	ug/L	0.02	0.1
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,4-Dimethylphenol	9.6 U	ug/L	9.6	38
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Di-n-butyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Dimethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.7
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	58
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Di-n-octyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2-Nitrophenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.7
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Diethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.7

02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Pentachlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,4-Dichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.7
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Naphthalene	0.19 UJ	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	58
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2-Chloronaphthalene	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	2-Chlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzidine	96 U	ug/L	96	380
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Isophorone	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Phenol	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Butyl benzyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Priority Organic Pollutants	Hexachlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 12:58	Effluent Grab	Nutrients	Sample Depth	1	ft		
02/18/15 12:58	Effluent Grab	Nutrients	pH	7.5			
02/18/15 12:58	Effluent Grab	Nutrients	Temperature	14.8	C		
02/18/15 12:58	Effluent Grab	Nutrients	Specific Conductance	0.135	umhos/cm		
02/18/15 12:58	Effluent Grab	Nutrients	Dissolved Oxygen	13.97	mg/L		
02/18/15 13:14	Test Site	AGP/LN	Algal Growth Potential	2.24 A	mg DryWt/L	0.3	0.9
02/18/15 13:14	Test Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.9	ug/L	0.4	1.2
02/18/15 13:14	Test Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.60 I	mg/L	0.2	2
02/18/15 13:14	Test Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	9.8	ug/L	0.55	1.7
02/18/15 13:14	Test Site	Microbiology	Fecal Coliforms-Membrane Filter	36 B	cfu/100 mL	2	2
02/18/15 13:14	Test Site	Metals	Copper	0.72 I	ug/L	0.5	1
02/18/15 13:14	Test Site	Metals	Zinc	5.0 U	ug/L	5	20
02/18/15 13:14	Test Site	Metals	Chromium	0.50 I	ug/L	0.3	1.2

02/18/15 13:14	Test Site	Metals	Potassium	2.3	mg/L	0.3	1.2
02/18/15 13:14	Test Site	Metals	Sodium	8.3	mg/L	0.5	2
02/18/15 13:14	Test Site	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
02/18/15 13:14	Test Site	Metals	Aluminum	311	ug/L	5	20
02/18/15 13:14	Test Site	Metals	Iron	540	ug/L	30	120
02/18/15 13:14	Test Site	Metals	Calcium	14.9	mg/L	0.075	0.3
02/18/15 13:14	Test Site	Metals	Mercury	1.8	ng/L	0.1	0.4
02/18/15 13:14	Test Site	Metals	Silver	0.025 U	ug/L	0.025	0.1
02/18/15 13:14	Test Site	Metals	Selenium	0.20 U	ug/L	0.2	0.8
02/18/15 13:14	Test Site	Metals	Nickel	0.45 I	ug/L	0.25	1
02/18/15 13:14	Test Site	Metals	Arsenic	0.34 I	ug/L	0.25	1
02/18/15 13:14	Test Site	Metals	Magnesium	2.05	mg/L	0.04	0.16
02/18/15 13:14	Test Site	Metals	Hardness	45.5	mg/L	0.35	1.4
02/18/15 13:14	Test Site	Metals	Lead	0.22 I	ug/L	0.2	0.8
02/18/15 13:14	Test Site	Nutrients	Organic Carbon	3.0	mg C/L	0.5	1
02/18/15 13:14	Test Site	Nutrients	Kjeldahl Nitrogen	0.25	mg N/L	0.08	0.2
02/18/15 13:14	Test Site	Nutrients	Ammonia-N	0.011	mg N/L	0.002	0.005
02/18/15 13:14	Test Site	Nutrients	Alkalinity	38	mg CaCO3/L	0.65	2.5
02/18/15 13:14	Test Site	Nutrients	O-Phosphate-P	0.004 I	mg P/L	0.004	0.01
02/18/15 13:14	Test Site	Nutrients	Chloride	7.8	mg Cl/L	0.2	0.5
02/18/15 13:14	Test Site	Nutrients	NO2NO3-N	0.76	mg N/L	0.004	0.01
02/18/15 13:14	Test Site	Nutrients	Fluoride	0.097 I	mg F/L	0.035	0.1
02/18/15 13:14	Test Site	Nutrients	Sulfate	10	mg SO4/L	0.2	0.5
02/18/15 13:14	Test Site	Nutrients	Turbidity	7.2	NTU	0.1	0.1
02/18/15 13:14	Test Site	Nutrients	Color (true)	19	PCU	2.5	6
02/18/15 13:14	Test Site	Nutrients	Total-P	0.028	mg P/L	0.002	0.005
02/18/15 13:14	Test Site	Nutrients	TSS	8 I	mg/L	2	10
02/18/15 13:14	Test Site	Overflow	HEM	0.76 U	mg/L	0.76	2.7
02/18/15 13:14	Test Site	Pesticides	Sucralose	1.3	ug/L	0.01	0.05
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,4-Dimethylphenol	9.6 U	ug/L	9.6	38
02/18/15 13:14	Test Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.7
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzidine	96 U	ug/L	96	380
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Diethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	58
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	2-Chloronaphthalene	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.77

02/18/15 13:14	Test Site	Priority Organic Pollutants	Di-n-butyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.7
02/18/15 13:14	Test Site	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	2-Nitrophenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	Isophorone	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Pentachlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	58
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Dimethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	2-Chlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Butyl benzyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.7
02/18/15 13:14	Test Site	Priority Organic Pollutants	1,4-Dioxane	0.050 I	ug/L	0.02	0.1
02/18/15 13:14	Test Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.7
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,4-Dichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
02/18/15 13:14	Test Site	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.77

02/18/15 13:14	Test Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.7
02/18/15 13:14	Test Site	Priority Organic Pollutants	Di-n-octyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Hexachlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Priority Organic Pollutants	Naphthalene	0.19 UJ	ug/L	0.19	0.77
02/18/15 13:14	Test Site	Priority Organic Pollutants	Phenol	0.96 U	ug/L	0.96	3.8
02/18/15 13:14	Test Site	Nutrients	Sample Depth	.3	m		
02/18/15 13:14	Test Site	Nutrients	Temperature	14.8	C		
02/18/15 13:14	Test Site	Nutrients	pH	7.21			
02/18/15 13:14	Test Site	Nutrients	Specific Conductance	135	umhos/cm		
02/18/15 13:14	Test Site	Nutrients	Dissolved Oxygen	10.10	mg/L		
02/18/15 13:14	Test Site	Nutrients	Specific Conductance	135	umhos/cm		
02/18/15 13:14	Test Site	Nutrients	Dissolved Oxygen	10.10	mg/L		
02/18/15 13:14	Test Site	Nutrients	Sample Depth	0.3	m		
02/18/15 13:14	Test Site	Nutrients	pH	7.21			
02/18/15 13:14	Test Site	Nutrients	Temperature	14.8	C		
02/18/15 14:10	Control Site	AGP/LN	Algal Growth Potential	1.75	mg DryWt/L	0.3	0.9
02/18/15 14:10	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	8.4	ug/L	0.55	1.7
02/18/15 14:10	Control Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	1.0 I	mg/L	0.2	2
02/18/15 14:10	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.3	ug/L	0.4	1.2
02/18/15 14:10	Control Site	Microbiology	Fecal Coliforms-Membrane Filter	20 B	cfu/100 mL	2	2
02/18/15 14:10	Control Site	Metals	Arsenic	0.31 I	ug/L	0.25	1
02/18/15 14:10	Control Site	Metals	Copper	0.69 I	ug/L	0.5	1
02/18/15 14:10	Control Site	Metals	Lead	0.22 I	ug/L	0.2	0.8
02/18/15 14:10	Control Site	Metals	Magnesium	2.14	mg/L	0.04	0.16
02/18/15 14:10	Control Site	Metals	Potassium	2.1	mg/L	0.3	1.2
02/18/15 14:10	Control Site	Metals	Sodium	7.9	mg/L	0.5	2
02/18/15 14:10	Control Site	Metals	Aluminum	306	ug/L	5	20
02/18/15 14:10	Control Site	Metals	Calcium	15.7	mg/L	0.075	0.3
02/18/15 14:10	Control Site	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
02/18/15 14:10	Control Site	Metals	Selenium	0.20 U	ug/L	0.2	0.8
02/18/15 14:10	Control Site	Metals	Mercury	1.3	ng/L	0.1	0.4
02/18/15 14:10	Control Site	Metals	Zinc	5.0 U	ug/L	5	20
02/18/15 14:10	Control Site	Metals	Nickel	0.37 I	ug/L	0.25	1
02/18/15 14:10	Control Site	Metals	Chromium	0.54 I	ug/L	0.3	1.2
02/18/15 14:10	Control Site	Metals	Iron	570	ug/L	30	120
02/18/15 14:10	Control Site	Metals	Silver	0.025 U	ug/L	0.025	0.1
02/18/15 14:10	Control Site	Metals	Hardness	48.0	mg/L	0.35	1.4
02/18/15 14:10	Control Site	Nutrients	Sulfate	9.2 A	mg SO4/L	0.2	0.5
02/18/15 14:10	Control Site	Nutrients	Kjeldahl Nitrogen	0.27	mg N/L	0.08	0.2

02/18/15 14:10	Control Site	Nutrients	Color (true)	20	PCU	2.5	6
02/18/15 14:10	Control Site	Nutrients	Organic Carbon	3.1	mg C/L	0.5	1
02/18/15 14:10	Control Site	Nutrients	O-Phosphate-P	0.005 I	mg P/L	0.004	0.01
02/18/15 14:10	Control Site	Nutrients	Alkalinity	41	mg CaCO3/L	0.65	2.5
02/18/15 14:10	Control Site	Nutrients	Chloride	7.6 A	mg Cl/L	0.2	0.5
02/18/15 14:10	Control Site	Nutrients	Fluoride	0.092 I	mg F/L	0.035	0.1
02/18/15 14:10	Control Site	Nutrients	Ammonia-N	0.012	mg N/L	0.002	0.005
02/18/15 14:10	Control Site	Nutrients	TSS	7 I	mg/L	2	10
02/18/15 14:10	Control Site	Nutrients	Total-P	0.030	mg P/L	0.002	0.005
02/18/15 14:10	Control Site	Nutrients	Turbidity	7.2	NTU	0.1	0.1
02/18/15 14:10	Control Site	Nutrients	NO2NO3-N	0.81	mg N/L	0.008	0.02
02/18/15 14:10	Control Site	Overflow	HEM	0.76 U	mg/L	0.76	2.7
02/18/15 14:10	Control Site	Pesticides	Sucralose	1.3	ug/L	0.01	0.05
02/18/15 14:10	Control Site	Priority Organic Pollutants	Di-n-octyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Dimethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.7
02/18/15 14:10	Control Site	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,4-Dimethylphenol	9.6 U	ug/L	9.6	38
02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzidine	96 U	ug/L	96	380
02/18/15 14:10	Control Site	Priority Organic Pollutants	Pentachlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Naphthalene	0.19 UJ	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Diethyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.7
02/18/15 14:10	Control Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	1,4-Dioxane	0.052 I	ug/L	0.02	0.1
02/18/15 14:10	Control Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.7
02/18/15 14:10	Control Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	Di-n-butyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.7

02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Hexachlorobutadiene	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	2-Chlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	2-Nitrophenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Hexachloroethane	2.9 U	ug/L	2.9	12
02/18/15 14:10	Control Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Butyl benzyl phthalate	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Hexachlorobenzene	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Isophorone	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,4-Dichlorophenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	58
02/18/15 14:10	Control Site	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.7
02/18/15 14:10	Control Site	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Phenol	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	58
02/18/15 14:10	Control Site	Priority Organic Pollutants	2-Chloronaphthalene	0.96 U	ug/L	0.96	3.8
02/18/15 14:10	Control Site	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.77
02/18/15 14:10	Control Site	Nutrients	Temperature	12.1	C		
02/18/15 14:10	Control Site	Nutrients	Dissolved Oxygen	10.54	mg/L		
02/18/15 14:10	Control Site	Nutrients	Specific Conductance	135	umhos/cm		
02/18/15 14:10	Control Site	Nutrients	Sample Depth	.3	m		
02/18/15 14:10	Control Site	Nutrients	pH	7.37			
02/18/15 14:10	Control Site	Nutrients	Dissolved Oxygen	10.54	mg/L		
02/18/15 14:10	Control Site	Nutrients	Sample Depth	.3	m		
02/18/15 14:10	Control Site	Nutrients	pH	7.37			
02/18/15 14:10	Control Site	Nutrients	Temperature	12.1	C		
02/18/15 14:10	Control Site	Nutrients	Specific Conductance	135	umhos/cm		
02/18/15 13:35	Field Blank	Metals	Nickel	0.25 U	ug/L	0.25	1

02/18/15 13:35	Field Blank	Metals	Arsenic	0.25 U	ug/L	0.25	1
02/18/15 13:35	Field Blank	Metals	Selenium	0.20 U	ug/L	0.2	0.8
02/18/15 13:35	Field Blank	Metals	Copper	0.50 U	ug/L	0.5	1
02/18/15 13:35	Field Blank	Metals	Aluminum	5.0 U	ug/L	5	20
02/18/15 13:35	Field Blank	Metals	Potassium	0.30 U	mg/L	0.3	1.2
02/18/15 13:35	Field Blank	Metals	Zinc	5.0 U	ug/L	5	20
02/18/15 13:35	Field Blank	Metals	Cadmium	0.050 U	ug/L	0.05	0.2
02/18/15 13:35	Field Blank	Metals	Chromium	0.30 U	ug/L	0.3	1.2
02/18/15 13:35	Field Blank	Metals	Iron	30 U	ug/L	30	120
02/18/15 13:35	Field Blank	Metals	Calcium	0.075 U	mg/L	0.075	0.3
02/18/15 13:35	Field Blank	Metals	Magnesium	0.040 U	mg/L	0.04	0.16
02/18/15 13:35	Field Blank	Metals	Sodium	0.50 U	mg/L	0.5	2
02/18/15 13:35	Field Blank	Metals	Hardness	0.35 U	mg/L	0.35	1.4
02/18/15 13:35	Field Blank	Metals	Silver	0.025 U	ug/L	0.025	0.1
02/18/15 13:35	Field Blank	Metals	Lead	0.20 U	ug/L	0.2	0.8
02/18/15 13:35	Field Blank	Nutrients	Sulfate	0.20 U	mg SO4/L	0.2	0.5
02/18/15 13:35	Field Blank	Nutrients	Turbidity	0.10 U	NTU	0.1	0.1
02/18/15 13:35	Field Blank	Nutrients	Chloride	0.20 U	mg Cl/L	0.2	0.5
02/18/15 13:35	Field Blank	Nutrients	Fluoride	0.035 U	mg F/L	0.035	0.1
02/18/15 13:35	Field Blank	Nutrients	NO2NO3-N	0.004 U	mg N/L	0.004	0.01
02/18/15 13:35	Field Blank	Nutrients	Alkalinity	0.65 U	mg CaCO3/L	0.65	2.5
02/18/15 13:35	Field Blank	Nutrients	Kjeldahl Nitrogen	0.080 U	mg N/L	0.08	0.2
02/18/15 13:35	Field Blank	Nutrients	Organic Carbon	0.50 U	mg C/L	0.5	1
02/18/15 13:35	Field Blank	Nutrients	Color (true)	2.5 U	PCU	2.5	6
02/18/15 13:35	Field Blank	Nutrients	O-Phosphate-P	0.004 U	mg P/L	0.004	0.01
02/18/15 13:35	Field Blank	Nutrients	Ammonia-N	0.002 U	mg N/L	0.002	0.005
02/18/15 13:35	Field Blank	Nutrients	Total-P	0.002 U	mg P/L	0.002	0.005
02/18/15 13:35	Field Blank	Overflow	HEM	0.73 U	mg/L	0.73	2.6
02/18/15 13:35	Field Blank	Pesticides	Malathion	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Ethoprop	0.0050 U	ug/L	0.005	0.02
02/18/15 13:35	Field Blank	Pesticides	Phorate	0.0050 U	ug/L	0.005	0.02
02/18/15 13:35	Field Blank	Pesticides	Norflurazon	0.030 U	ug/L	0.03	0.12
02/18/15 13:35	Field Blank	Pesticides	Alachlor	0.060 U	ug/L	0.06	0.24
02/18/15 13:35	Field Blank	Pesticides	Parathion Methyl	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Parathion Ethyl	0.020 U	ug/L	0.02	0.08
02/18/15 13:35	Field Blank	Pesticides	Metolachlor	0.060 U	ug/L	0.06	0.24
02/18/15 13:35	Field Blank	Pesticides	Fonofos	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Prometryn	0.020 U	ug/L	0.02	0.08
02/18/15 13:35	Field Blank	Pesticides	Prometon	0.020 U	ug/L	0.02	0.08

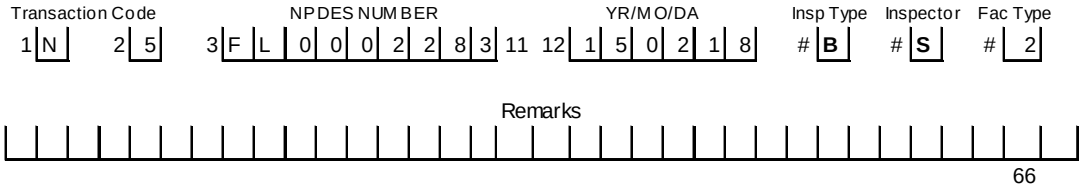
02/18/15 13:35	Field Blank	Pesticides	Disulfoton	0.0050 U	ug/L	0.005	0.02
02/18/15 13:35	Field Blank	Pesticides	Demeton	0.024 U	ug/L	0.024	0.096
02/18/15 13:35	Field Blank	Pesticides	Chlorpyrifos Methyl	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Atrazine	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Sucralose	0.010 U	ug/L	0.01	0.05
02/18/15 13:35	Field Blank	Pesticides	Mevinphos	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Naled	0.040 U	ug/L	0.04	0.16
02/18/15 13:35	Field Blank	Pesticides	Hexazinone	0.030 UJ	ug/L	0.03	0.12
02/18/15 13:35	Field Blank	Pesticides	Ethion	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Bromacil	0.040 U	ug/L	0.04	0.16
02/18/15 13:35	Field Blank	Pesticides	Simazine	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Metribuzin	0.020 U	ug/L	0.02	0.08
02/18/15 13:35	Field Blank	Pesticides	Fenamiphos	0.030 UJ	ug/L	0.03	0.12
02/18/15 13:35	Field Blank	Pesticides	Diazinon	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Chlorpyrifos Ethyl	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Atrazine Desisopropyl	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Atrazine Desethyl	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Ametryn	0.010 U	ug/L	0.01	0.04
02/18/15 13:35	Field Blank	Pesticides	Butylate	0.020 U	ug/L	0.02	0.08
02/18/15 13:35	Field Blank	Pesticides	Azinphos Methyl	0.020 U	ug/L	0.02	0.08
02/18/15 13:35	Field Blank	Pesticides	Metalaxyl	0.040 U	ug/L	0.04	0.16
02/18/15 13:35	Field Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38 U	ug/L	38	150
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.4 U	ug/L	9.4	38
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2-Nitrophenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9 U	ug/L	1.9	7.5
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Diethyl phthalate	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Hexachlorobenzene	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Phenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Anthracene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2-Chlorophenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Dimethyl phthalate	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Fluoranthene	0.19 U	ug/L	0.19	0.75

02/18/15 13:35	Field Blank	Priority Organic Pollutants	Pyrene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14 U	ug/L	14	57
02/18/15 13:35	Field Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9 U	ug/L	1.9	7.5
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzidine	94 U	ug/L	94	380
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Butyl benzyl phthalate	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9 U	ug/L	1.9	7.5
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Naphthalene	0.19 UJ	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Nitrobenzene	1.9 U	ug/L	1.9	7.5
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Fluorene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Hexachloroethane	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Isophorone	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	1,4-Dioxane	0.020 U	ug/L	0.02	0.1
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Acenaphthylene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Di-n-butyl phthalate	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8 U	ug/L	2.8	11
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9 U	ug/L	1.9	7.5
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Phenanthrene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	4-Nitrophenol	14 U	ug/L	14	57
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Acenaphthene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.94 U	ug/L	0.94	3.8
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Chrysene	0.19 U	ug/L	0.19	0.75
02/18/15 13:35	Field Blank	Priority Organic Pollutants	Pentachlorophenol	0.94 U	ug/L	0.94	3.8
02/18/15 12:31	Field Blank-HG	Metals	Mercury	0.10 U	ng/L	0.1	0.4

EPA End Sheet

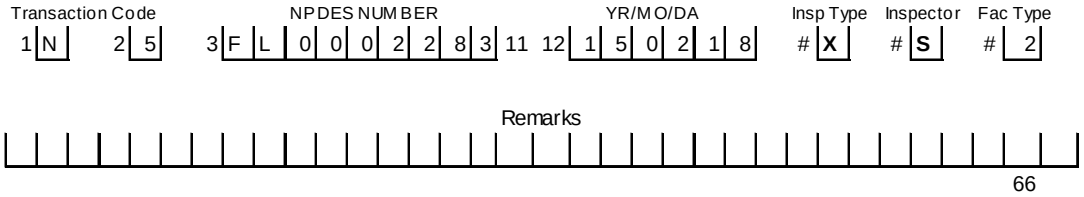
The Bioassay of the Gulf Power Scholz Electric Generating Plant effluent sampled on February 18, 2015, NPDES #FL0002283

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



The Priority Pollutants Analysis of the Gulf Power Scholz Electric Generating Plant effluent sampled on February 18, 2015, NPDES #FL0002283

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



Biological Analyses of the Gulf Power Scholz Electric Generating Plant effluent sampled on February 18, 2015, NPDES #FL0002283

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

