

Biological Assessment of

Military Point Regional WWTF

Bay County

NPDES #FL0167959

Sampled January 26, 2009

February 2010

Biology Section

Bureau of Laboratories

Division of Environmental Assessment and Restoration

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EPA End Sheet

Fifth Year Inspection Summary

The Fifth Year Inspection of the Military Point Wastewater Treatment Facility conducted on January 26, 2009 produced the following notable results. No organic constituents were detected in the effluent. Effluent zinc (92 µg/L) exceeded the Class III Marine Water Quality Criterion (62-302.530(70) F.A.C.) and was approximately 4.5 to 6 times greater than concentrations at the receiving water sites. There is no effluent permit limit for zinc.

Sediment concentrations of chromium III, copper, lead, nickel, and zinc were approximately 3 times greater at the two Test Sites, 200ft west and east of D-001, than concentrations at the Control Site. The elevated sediment metals may be due to greater binding affinity of metals to smaller sediment particle sizes (Horowitz, 1985) and the percent organic fraction, which were in greater proportion at the Test Sites compared to the Control Sites. The elevated sediment metals suggest an effect of metal concentrations in the effluent. No metals exceeded the Threshold Effects Level (TEL) for sediment metals (MacDonald, 1994).

The No Observed Effect Concentration (NOEC) for survival and growth of the fish, *Pimephales promelas*, and survival and reproduction of the water flea, *Ceriodaphnia dubia*, during the 7 day chronic screening bioassays was 100%, and therefore complied with effluent permit limits.

General physical-chemical and microbiological measurements complied with water quality criteria and effluent permit limits. Nutrient enrichment was not detected in the receiving water despite comparatively elevated levels of nitrogen and phosphorus in the effluent; likely due to the dilution provided by the diffuser pipe. Nitrogen and phosphorus co-limitation is likely in the effluent.

The quantitative biological results should not be used to assess compliance with the water quality criterion due to lost replicates from the Control Site and low number of organisms at the Test Sites. The reduction in the benthic macroinvertebrate assemblages at Test Site 1 compared to Test Site 2 may be influenced by differences in sediment organic content and sediment particle sizes. Organic enrichment may be driving the depression in diversity, but more sampling would be needed to assess the degree of biological change from background condition.

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

Facility Overview

The Military Point Regional Wastewater Treatment Facility is an Advanced Domestic Wastewater Treatment (AWT) facility. This facility discharges effluent from Outfall D-001 to St. Andrew Bay, a Class III Marine Water (see map in Appendix A-1). The Outfall diffuser is common to both the Military Point Regional AWT Facility and the Military Point Aerated Lagoon (FL0002631). The discharge pipe extends approximately 1300 feet into the bay and discharges via a diffuser at a depth of approximately 17 feet. The point of discharge is located approximately at latitude 30°7' 28" N, longitude 85°37' 52" W. The discharge is monitored prior to confluence with effluent from the Military Point Aerated Lagoon, FL0002631's permitted 30 MGD industrial effluent. The design flow of the Military Point Regional wastewater system is 7.0 million gallons per day (MGD). The flow to the bay on the day the samples were collected was 3.74 MGD. The mean flow for the previous 12 months (11/2007 to 10/2008) was 3.8 MGD for all external outfalls and approximately 0.6 MGD to the golf course irrigation reuse system (Northwest District Office, Pensacola). Several major NPDES facilities discharge into St. Andrew Bay, including the City of Panama City's St. Andrews WWTF and Millville WWTF, and City of Lynn Haven WWTF (see Appendix A-2).

See the Facility Summary (Appendix B) for a description of the facility, a summary of permit limits, and details on previous inspection, consent order (CO), 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. The Military Point Regional WWTF was sampled on January 26, 2009. Chemical and biological comparisons were made 200ft west (Test Site 1) and 200ft east (Test Site 2) of Outfall D-001 boil and at a Control Site approximately 4500ft west of the D-001 boil off Palmetto Point. Sites were sampled on an incoming tide (water flowing east); the effluent pipe's diffuser boil could be seen at the time of sampling. Effluent grab samples were taken from a tap in the Military Point Regional WWTF lab fed by a recycling pump in monitoring location EFF-05, the effluent pump station clear well. The effluent composite samples used in the bioassays were taken from monitoring location EFF-04, the composite sampler in the effluent pump station clear well.

During site reconnaissance, an attempt was made to establish the path of the effluent plume using salinity and color. This approach worked well for a water quality and transparency study conducted in November 2007 (FDEP 2008). Weather and water conditions impeded the attempt during this reconnaissance and sites were established based on proximity to the boil, water depth, and sediment conditions. The Control Site used in the 2007 study was suggested for this inspection. The Control Site chosen was the historic sampling location, which is near the November 2007 Downstream Point 1 site at the outer edge of the zone of influence.

All field and laboratory biological methods followed Bureau of Laboratories and Biology Section Standard Operating Procedures (see http://www.floridadep.org/labs/sop/index.htm for details) and met DEP quality assurance/quality control standards (see http://www.floridadep.org/labs/qa/index.htm). Explanations of specific methods and measurements can be found in Appendix C. See Appendix D for the completed chain of custody form.

Samples were collected by Mark Sumner (FDEP NW District Branch Office, Panama City) and Michael King, Nathan Mulkey, and Rick Abad (FDEP NW District Office, Pensacola). Analyses were performed by the FDEP Central Laboratory in Tallahassee, Water and Air Research, Inc. in Gainesville, and the University of West Florida in Pensacola. The report was reviewed by District representatives and the Point Source Studies Review Committee (Michael Tanski and Nancy Ross).

Results and Discussion

Organic Constituents – Water (See Table 1 and Appendix E)

- No organic constituents were detected in the effluent or the receiving waters.

Metals – Water (See Table 1 and Appendix E)

- Effluent zinc (92 µg/L) exceeded the Class III Marine Water Quality Criterion (62-302.530(70) F.A.C.).
- Copper and nickel in the effluent were detected at levels that complied with Class III Marine Water Quality Criteria (62-302.530 F.A.C.) and effluent permit limits. Nickel in the effluent was approximately 5 times greater than levels at the Control and two Test Sites.
- Aluminum, arsenic, cadmium, chromium-III, and selenium in the effluent were present at levels between the minimum detection limit (MDL) and practical quantitation limit (PQL) and within the water quality criteria.

- Control Site copper was detected at levels that complied with the Class III Marine Water Quality Criterion (62-302.530(23) F.A.C.). Chromium-III was detected at the Control Site; there is no Class III Marine Water Quality Criterion for chromium.
- Control Site arsenic, nickel, selenium, and silver, Test Site 1 aluminum, arsenic, chromium, selenium, and zinc and Test Site 2 arsenic, chromium, selenium, and zinc were present at levels between the MDL and PQL and within the water quality criteria.

Whole Effluent Toxicity Test (See Table 1 and Appendices E, F, and G)

- Tests were performed January 27 through February 3, 2009.
- The effluent sample NOEC for survival and growth of the fish, *Pimephales promelas,* and for survival and reproduction of the water flea, *Ceriodaphnia dubia*, during the 7 day chronic screening bioassays were 100%, and therefore complied with effluent permit limits.

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

- The Habitat Assessment (HA) scores were similar for all three receiving water sites: Control Site (57), Test Site 1 (55), and Test Site 2 (55). All three sites had unaltered, natural shorelines.
- Dissolved oxygen (mg/L) and pH (Standard Units) of the effluent, as recorded in the facility log, and of the receiving water complied with Class III Marine Water Quality Criteria (62-302.530 F.A.C.) and effluent permit limits.
- Effluent total residual chlorine (TRC) concentrations, 0.05 mg/L and 0.035 mg/L, detected respectively, in the first and second bioassay samples in the bioassay laboratory were likely the result of interfering substances within the samples since effluent is not chlorinated at this facility.
- Chlorophyll *a* content estimates algal biomass, and high algal biomass implies nutrient stress (Stevenson and Bahls, 1999). Chlorophyll *a* was not detected in the effluent but was detected in the 3 receiving water sites at low levels.
- Total suspended solids (mg/L) and Carbonaceous Biological Oxygen Demand (CBOD; mg/L) of the effluent complied with permit limits.

Microbiology (See Table 1 and Appendix E)

- Enterococci and fecal coliform analyses were performed by the University of West Florida, Pensacola, Florida. Enterococci and fecal coliforms were not detected in the effluent. No samples were collected for the 3 receiving water sites.

Nutrients (See Table 1 and Appendices E)

- Nutrient concentrations in the effluent complied with permit limits. There was no detectable nutrient enrichment from the effluent at the two Test Sites.
- Nitrate and Nitrite were detected in the field blank at a level between the MDL and PQL.

Algal Growth Potential (See Tables 2a and 2b, and Appendix E)

- Algal growth potential (AGP) is a measure of nutrients available for algal growth (Miller et al. 1978). Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a “problem” threshold for fresh receiving waters, implying nutrient enrichment. The AGP value in the effluent sample using the freshwater species, *Pseudokirchneriella subcapitata,* was approximately 29 times greater than the “problem” threshold value. The analytical chemistry suggests that the effluent is co-limited by both nitrogen and phosphorus.

- Raschke and Shultz (1987) found that AGP values above 10.0 mg dry weight/L represent a “problem” threshold for marine receiving waters, implying nutrient enrichment. The AGP value in the salinity-adjusted effluent sample using the saltwater species, *Dunaliella tertiolecta*, was approximately 9.5 times greater than the “problem” threshold value. The ratio of inorganic nitrogen to ortho-phosphate in the effluent suggests that the effluent is nitrogen-limited; whereas, the ratio of total nitrogen to total phosphorus in the effluent suggests that the effluent is co-limited by both nitrogen and phosphorus.
- AGP of the saltwater species, *Dunaliella tertiolecta,* in all three receiving water sites were undetected and therefore, below the “problem” threshold for marine waters. The diffuser pipe appears to provide sufficient dilution such that no nutrient enrichment in this portion of St. Andrew Bay related to the Military Point Regional discharge can be detected.

Sediments (See Table 3, Figures 1 and 2, and Appendix E)

- The sediments at all three sites were a mix of shell and sand with a little gravel at the Control Site. Test Site 1 particle sizes were skewed towards the fine and very fine sands. Sediment organic content was higher at the two Test Sites. Test Site 1 had the greatest percent organic content (12%) followed by Test Site 2 (7%) and then the Control Site (~4%).
- In sediments, no organic constituents were detected at any of the three sites.
- No sediment metals were detected at levels that exceeded the Threshold Effects Level (TEL) for sediment metals (MacDonald, 1994). Chromium-III, copper, lead, nickel, and zinc were present at both Test Sites at levels approximately 3 times greater than in the sediments at the Control Site. Higher sediment metal levels at the Test Sites may be due to greater binding affinity of metals to smaller sediment particle sizes (Horowitz, 1985) and percent organic fraction, which were in greater proportion at the Test Sites compared to the Control Site. The sediment metal concentrations suggest an effect of metal concentrations in the effluent.

Bioassessment - Macroinvertebrates (See Table 4 and Appendices I-1 and I-2)

- Quantitative macroinvertebrate samples were collected using a Petite Ponar. Water and Air Research, Inc in Gainesville, FL performed the macroinvertebrate identifications. Two of the 5 replicate sample jars from the Control Site broke during shipping to Water and Air Research. The diversity scores of Test Site 1 and 2 may be negatively biased due to calculation based on slightly fewer than 300 individuals (Lande 1996). The quantitative biological results should not be used to assess compliance with the water quality criterion due to lost replicates from the Control Site and low number of organisms at the Test Sites. Additional sampling would be required.
- The Test Site 1 sample contained half the number of taxa (30) than the Test Site 2 sample (60). Test Site 1 had the highest percent dominance and contained a comparatively high percent of nemertean worms. The difference between Test Sites may be related to the greater percent organic content and finer sediment particle sizes at Test Site 1.

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Table 1. Effluent limits, Class III Criteria for predominantly marine waters and chemical, microbiological and toxicological data.

Military Point Regional WWTF	Class III Criteria	Effluent Limits	Effluent	Control Site	Test Site 1	Test Site 2
Organic Constituents (µg/L)						
None Detected	-	-	None Detected			
Metals (µg/L unless otherwise noted)						
Aluminum	≤ 1500	≤ 2000 s,p,q	130 g, I	180 U	180 I	180 U
Arsenic	≤ 50	-	0.55 I	0.95 I	0.85 I	1.3 I
Cadmium	≤ 8.8	-	0.031 I	0.03 U	0.09 U	0.09 U
Calcium (mg/L)	-	-	29.4	314	313 A	298
Chromium-III	-	-	0.41 I	1.62	1.4 I	1.3 I
Copper	≤ 3.7	≤ 25 s,p,q	2 g	0.53	1.5 U	1.5 U
Iron	≤ 300	≤ 1600 s,p,q	30 g, U	90 U	90 U	90 U
Lead	≤ 8.5	-	0.2 U	0.2 U	0.6 U	0.6 U
Magnesium (mg/L)	-	-	4	1050	1030 A	969
Nickel	≤ 8.3	-	2.48	0.52 I	0.75 U	0.75 U
Selenium	≤ 71	-	0.36 I	0.72 I	0.97 I	1.5 I
Silver	≤ 2.3	-	0.01 U	0.014 I	0.03 U	0.03 U
Zinc	≤ 86	-	92	15 U	18 I	19 I
Nutrients (mg/L)						
Ortho-phosphate	-	-	0.32	0.008 U	0.008 U	0.008 U
Total Phosphorus	-	≤ 4.0 s,p	0.4 g	0.008 U	0.008 I	0.008 U
Total Ammonia	-	-	0.5	0.01 U	0.01 U	0.01 U
Un-ionized Ammonia	-	-	≤ 0.02 c	≤ 0.02 c	≤ 0.02 c	≤ 0.02 c
Nitrate and Nitrite	-	-	5.5	0.004 U	0.004 U	0.004 U
Total Kjeldahl Nitrogen	-	-	1.4	0.43	0.4	0.5
Organic Nitrogen	-	-	0.9 c	0.43 c	0.40 c	0.50 c
Total Nitrogen	-	≤ 16.0 s,p	6.9 c,g	0.43 c	0.40 c	0.50 c
General Physical and Chemical Parameters						
Habitat Assessment	-	-	-	57	55	55
Dissolved Oxygen (mg/L)	≥ 4.0	≥ 6.0 s	9.1 *	9.1	9.2	9.2
pH (SU)	6.5 - 8.5	6.5 - 8.5	6.8 *	8.1	8.2	8.2
Conductivity (µmhos/cm)	-	-	-	39358	40600	40948
Temperature (°C)	-	-	20.1 *	14.4	14.3	14.7
Salinity	-	-	-	32.3 c	33.5 c	33.5 c
Sample Depth (m)	-	-	-	0.15	0.15	0.15
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.05 £	-	-	-
Chlorophyll *a* (µg/L) - Corrected	-	-	0.55 U	1.7	1.5 I	1.4 I
Phaeophytin (µg/L)	-	-	0.24 U	0.24 U	0.24 U	0.24 U
Total Suspended Solids (mg/L)	-	≤ 20.0 s,p	4 g,U	12 I	9 I	8 I
Turbidity (NTU)	< 29 t	-	0.8	0.85	0.9	0.8
CBOD, 5 day (mg/L), N - inhibited	-	≤ 20.0 s,p	0.89 g,I	0.80 I	0.96 I	0.62 I
Flow (MGD)	-	7.0	3.74	-	-	-
Hardness (mg $CaCO_3$)	-		89.88 c	5107.96 c	5023.10 c	4734.45 c
Toxicity (7-day chronic screen, NOEC, % effluent)						
Bioassay - Water flea *(Ceriodaphnia dubia)* - survival	-	NOEC	100%	-	-	-
Bioassay - Water flea (*Ceriodaphnia dubia*) - reproduction	-	NOEC	100%	-	-	-
Bioassay - Fish (*Pimephales promelas*) - survival	-	NOEC	100%	-	-	-
Bioassay - Fish (*Pimephales promelas*) - growth	-	NOEC	100%	-	-	-
Microbiology (Number of colony forming units/100ml)						
Enterococci @	-	-	2 U	-	-	-
Fecal Coliforms @	≤ 400s #	≤ 86 s	1 U	-	-	-

Value exceeds the Class III Water Quality Criteria or permit limits

* - value from facility log and reported on Facility Summary, Appendix B.

£ - value measured in the first bioassy sample at the laboratory (see text in report)

a - Annual average

c - Value is calculated

g - grab sample; all effluent samples taken for this Fifth Year Inspection were grab samples

p - 24 hr flow proportioned composite sample

q - quarterly montioring frequency

s - Single sample

t - Shall not exceed 29 NTUs above background

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

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

U - Material analyzed for but not detected; value reported is the method detection limit

NOEC - A no observed effect concentration less than 100% effluent will constitute a violation of this permit

@ - Fecal coliform and enterococci analyses were performed by the University of West Florida, Pensacola, FL

\# - If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)

Table 2a. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), orthophosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus.

Military Point Regional WWTF							
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	144.0	228.0 ± 45.6	137.6 ± 27.5	262.2 ± 52.4	172.0 ± 34.4	18.8	17.3

Table 2b. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus.

Military Point Regional WWTF			
Location	AGP (measured)	Inorganic N:P ratio	Total N:P ratio
Effluent *	94.3	18.8	17.3
Control Site	3.0 U	1.8	54.3
Test Site 1	3.0 U	1.8	50.5
Test Site 2	3.0 A U	1.8	63.0

* - sample salinity adjusted to 7ppt

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

U - Material analyzed for but not detected; value reported is the method detection limit

Table 3. Sediment Data for Military Point Regional WWTF

Military Point Regional WWTF	Sediment Quality Assessment Guidelines		Control Site	Test Site 1	Test Site 2
	TEL	PEL			
Particle Size Distribution (percent volume < 2mm)					
< 0.063 mm	-	-	39.6 A	59.8	52.2
0.063 - 0.125 mm	-	-	5.48 A	16.4	8.32
0.125 - 0.25 mm	-	-	16.2 A	11.1	11.4
0.25 - 0.5 mm	-	-	25.3 A	8.54	19.6
0.5 - 2.0 mm	-	-	13.4 A	4.16	8.52
> 2.0 mm (percent dry weight)	-	-	1 K	1 K	2.5
Organic Content					
Organic Content (percent dry weight)	-	-	3.9 A	12	7
Organic Constituents (ug/kg)					
None Detected	-	-	None Detected		
Metals (mg/kg)					
Cadmium	0.676	4.21	0.1 I	0.069 I	0.16 I
Chromium III	52.3	160	8.1 A	22.3	22.5
Copper	18.7	108	2.02 A	5.5	5.92
Lead	30.2	112	3.67 A	9.2	9.87
Nickel	15.9	42.8	2.2 A	6.22	6.44
Silver	0.733	1.77	0.025 U	0.049	0.051
Zinc	124	271	9.1 A	26.5	27.6

Sediment Quality Assessment Guidlines (MacDonald et al. 1984): TEL = Threshold Effects Level; PEL = Probable Effects Level
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
K - Actual value is known to be less than value given
U - Material analyzed for but not detected; value reported is the method detection limit

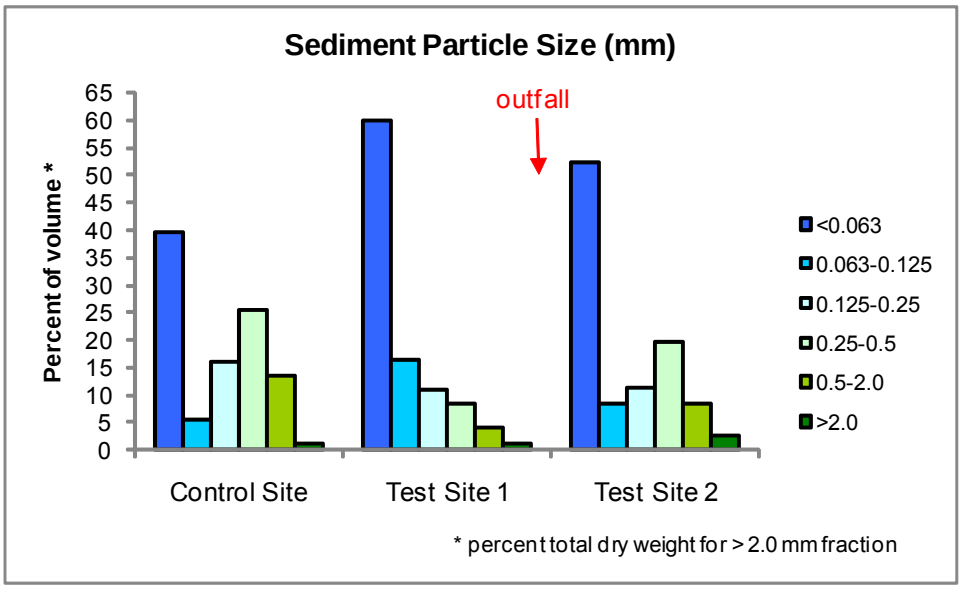


Figure 1. Sediment particle size for 3 sampling sites at Military Point Regional WWTF, January 26, 2009.

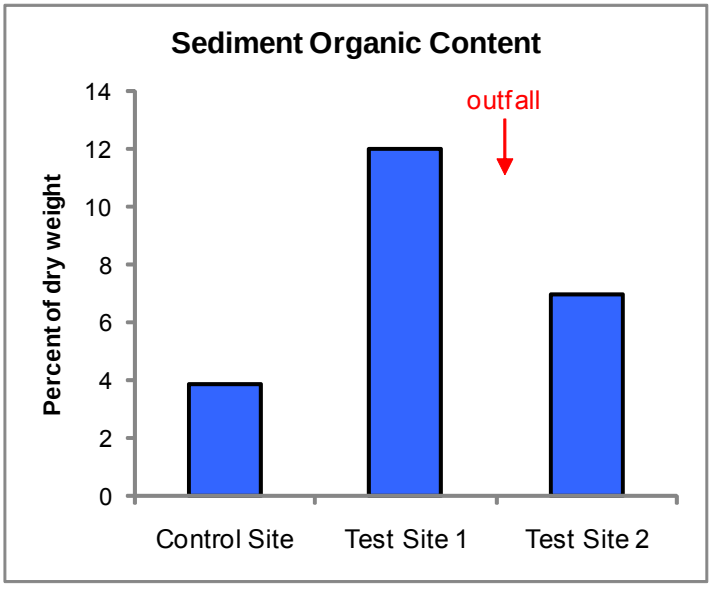


Figure 2. Sediment organic content for 3 sampling sites at Military Point Regional WWTF, January 26, 2009.

Table 4. Macroinvertebrate Petite Ponar Samples - Quantitative.
Invertebrates identified by Water and Air Research, Inc. Metrics calculated by FDEP.

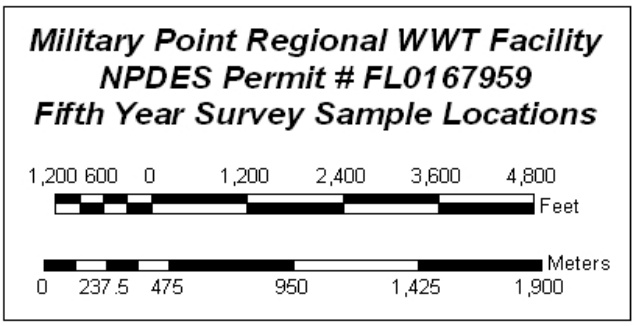
Military Point Regional WWTF	Control Site	Test Site 1	Test Site 2
Summary Statistics			
Shannon-Weaver Diversity	4.53	3.60 *	5.13 *
Number of Taxa	49	30	60
Percent Dominant Taxon	13.2	25.9	13.1
Dominant Taxon Name	*Notomastus latericeus* (Polychaeta)	*Notomastus latericeus* (Polychaeta)	*Mediomastus ambiseta* (Polychaeta)
Number of samples/site	3	5	5
Total Number of Individuals (counted)	371	235	298
Community Composition: Percent of total			
Amphipoda	13.2	3.9	8.4
Bivalvia	8.6	3.4	4.7
Cumacea	0.5	1.3	0.0
Decapoda	0.5	0.0	6.0
Echinodermata	0.5	10.6	1.0
Gastropoda	1.1	1.3	4.7
Isopoda	0.0	0.0	0.7
Nemertea	4.6	21.7	8.7
Polychaeta	63.6	57.9	59.1
Sipuncula	0.0	0.0	3.7
Tanaidacea	6.5	0.0	2.0
Other	0.8	0.0	1.0
Functional Feeding Groups: Percent of total			
Browser-Grazers	3.1	0.4	4.9
Burrowing Deposit Feeders	33.7	45.9	20.7
Piercers	0.0	0.0	0.0
Predators	10.5	36.6	34.7
Scavengers	3.1	6.0	4.9
Scrapers	0.8	1.3	4.0
Shredders	0.0	0.0	0.0
Surface Deposit Feeders	16.2	3.8	11.2
Suspension Feeders	14.2	5.6	15.7
Unknown	18.4	0.4	3.6

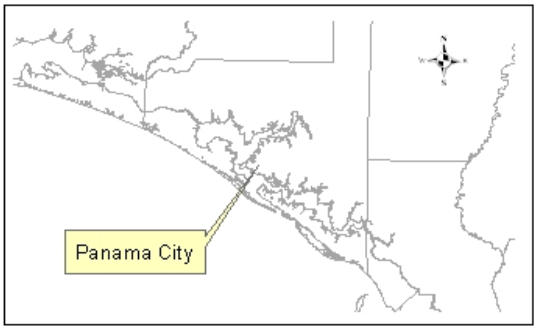
* - Shannon Weaver Diversity scores calculated on samples with < 300 individuals have the potential for negative bias (lower diversity scores compared to sites with more individuals) (Lande 1996).

Appendix A

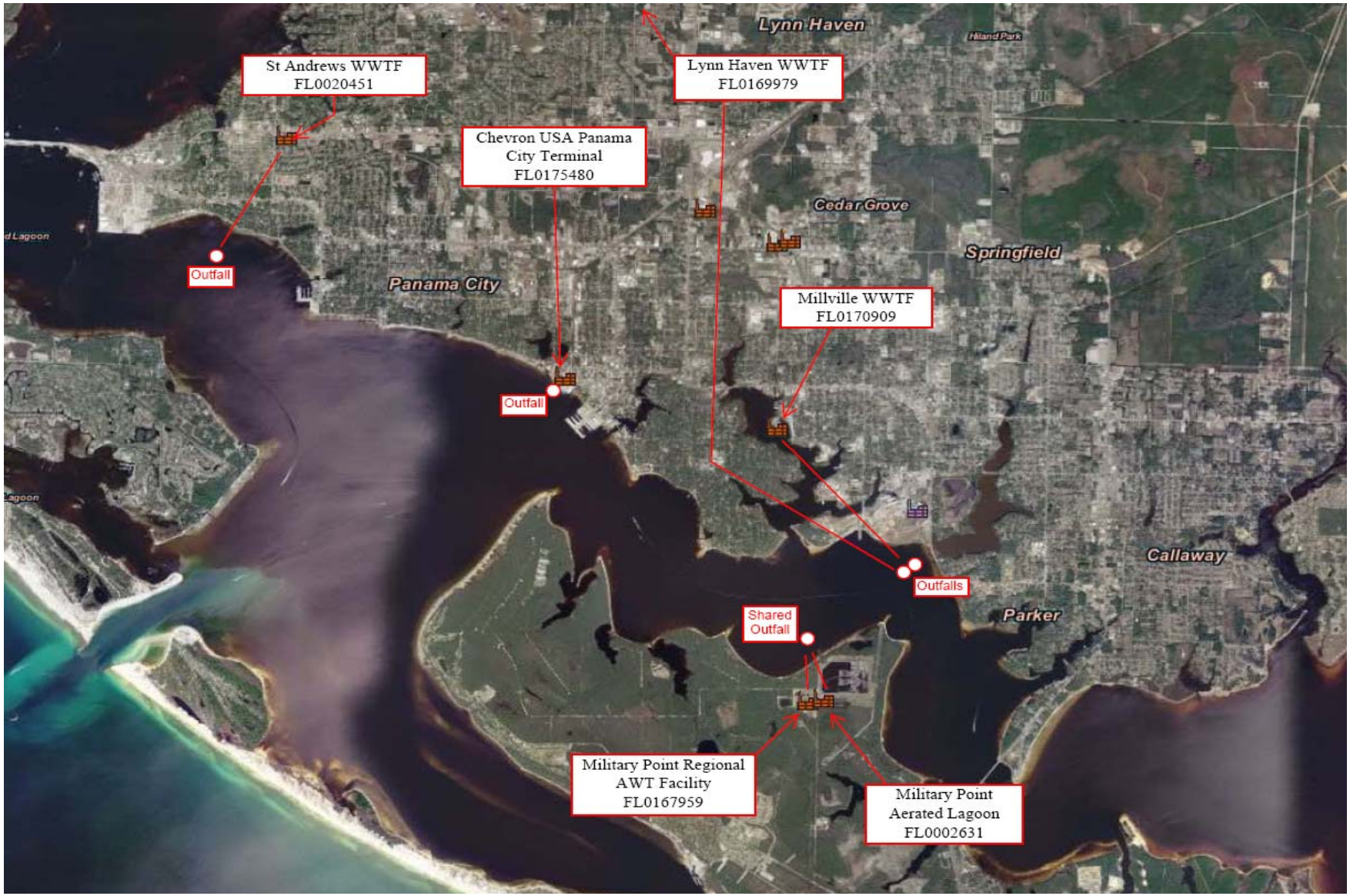
Map of Facility







Appendix A-2


Lynn Haven
Hiland Park
St Andrews WWTF
FL0020451
Lynn Haven WWTF
FL0169979
Chevron USA Panama
City Terminal
FL0175480
Cedar Grove
Springfield
Outfall
Panama City
Millville WWTF
FL0170909
Outfall
Callaway
Outfalls
Parker
Shared
Outfall
Military Point Regional
AWT Facility
FL0167959
Military Point
Aerated Lagoon
FL0002631

Appendix B

Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Kim Allen	**Contact Number:** 595-8300, x1191
Facility Name (as it appears on permit): Military Point Regional WWT Facility	**Former Names:** N/A
NPDES Permit Number: FL0167959	**Permit Expiration Date:** June 24, 2009
Physical Address: 100 Lagoon Road,Tyndall AFB, FL 32403	
District: NWD	**County:** Bay
Function of Facility: Regional treatment facility	
Facility Type: Domestic	**Permitted Capacity (MGD):** 7.0 MGD
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 3.8 mgd (11/07 – 10/08)	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): Approx. 0.6 mgd	
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):

Monitoring Location Site Number	Description of Monitoring Location*
EFA-03	UV Channel Discharge After Disinfection
EFF-01	Filter Effluent Channel, Location of Turbidity Meter and Grab Sample Point Before UV System
EFF-04	Composite Sampler in Effluent Pump Station Clear Well (BDE points S-2 and S-15)
EFF-05	Effluent Pump Stations Clear Well (BDE points S-3, S-5, and S-13)
EFF-10	MPL Outfall Pipe after Junction Box (sample port, BDE points S-7, S-9, and S-11)
FLW-01	On-Line Flow Meter on Effluent Pipe to Military Point Lagoon Outfall Structure. (BDE point S-6)
OTH-01	Calculated Value
PPI-02	UV Intensity, Wastewater Transmittance and Water Level Indicators Located Internal to the UV Channel

* BDE Points are taken from a drawing and Table "Sample Locations," Baskerville Donovan Engineers & Camp Dresser McKee, Received Feb. 20, 1996.

Monitoring Location Site Number	Monitoring Site Number	Description of Monitoring Location
INF-01	25487	Influent Force Main, Tap at Headworks (BDI Point S-1)
OTH-01	-	Calculated Value
SWA-01	28639	Point 6, "Location of Water Quality Samples," Hydroqual Report, June 1995, (approximate coordinates. lat. 30^0 8' 43" / long. 85^0 40' 3")
SWA-02	28640	Point 5, "Location of Water Quality Samples," Hydroqual Report, June 1995, (approximate coordinates: lat. 30^0 7' 12" / long. 85^0 43' 52")
SWA-03	28641	Point 4, "Location of Water Quality Samples," Hydroqual Report, June 1995, (approximate coordinates: lat. 30^0 10' 4" / long. 85^0 43' 3")

* BDE Points are taken from a drawing and table "Sample Locations," Baskerville Donovan Engineers & Camp Dresser McKee, Received Feb. 20, 1996.

Description of Permitted Outfall(s):

Submerged Diffuser Pipe to St Andrew Bay (Class III marine waters) at Discharge Location (D-001) which is approximately 1586 feet in length and discharges at a depth of approximately 21 feet. The point of discharge is located approximately at latitude 30 o07' 30" N, longitude 85 o37' 40" W.

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

A 7.0 MGD tertiary treatment plant serving the domestic wastewater needs of Callaway, Cedar Grove, Parker, Springfield, Mexico Beach, Tyndall AFB and unincorporated portions of Bay County. The facility consists of a 7.0 MGD AADF 5 Stage Biological Nutrient Removal Wastewater Treatment System including screening, degritting, an anaerobic zone, first anoxic zone, an aeration zone, second anoxic zone, and a reaeration zone, clarification, filtration, and disinfection. Primary effluent disposal following Intermediate-Level UV Disinfection is to St. Andrew Bay via an outfall common to the existing Military Point Industrial Lagoon. A portion, 0.4 MGD, of the reclaimed water is used for landscape irrigation at the Pelican Point Golf Course at Tyndall Air Force Base after undergoing additional High-Level chlorine disinfection using sodium hypochlorite injection. Residuals are aerobically digested, dewatered by centrifuge, and land applied at an agricultural use site or disposed of in a landfill.

PART I: Continued										
List current Effluent Limits of Outfall(s) to be Sampled: This should include any AO or CO limits the facility may be under (Leave cell blank if not applicable)										
			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes

A. Surface Water Discharges

1. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is authorized to discharge reclaimed water from Outfall D-001 to Submerged Diffuser Pipe to St Andrew Bay. Such discharge shall be limited and monitored by the permittee as specified below:

			Effluent Limitations				Monitoring Requirements			
Parameter	**Units**	**Max/Min**	**Annual Average**	**Monthly Average**	**Weekly Average**	**Single Sample**	**Monitoring Frequency**	**Sample Type**	**Monitoring Location Site Number**	**Notes**
Flow – Outfall D-001	MGD	Maximum	7.0	9.1	-	-	Continuous	Recording flow meters and totalizers	FLW-01	See I.A.4
BOD, Carbonaceous 5 day, 20C	MG/L	Maximum	10.0	10.0	15.0	20.0	5 Days/Week	24-hour flow proportioned composite	EFF-04	
Solids, Total Suspended	MG/L	Maximum	10.0	10.0	15.0	20.0	5 Days/Week	24-hour flow proportioned composite	EFF-04	
Nitrogen, Total	MG/L	Maximum	8.0	8.0	12.0	16.0	5 Days/Week	24-hour flow proportioned composite	EFF-04	
Phosphorus, Total (as P)	MG/L	Maximum	2.0	2.0	3.0	4.0	5 Days/Week	24-hour flow proportioned composite	EFF-04	
Coliform, Fecal (Post Disinfection)	#/100ML	Maximum	See Permit Condition I.A.5.				5 Days/Week	Grab	EFA-03	
pH	SU	Range	-	-	-	6.5 to 8.5	Continuous	Meter	EFF-05	See I.A.3
Oxygen, Dissolved (DO)	MG/L	Minimum	-	-	-	6.0	Daily	Grab	EFF-05	
Whole Effluent Toxicity	See Permit Condition I.A.6								EFF-05	
Copper, Total Recoverable	UG/L	Maximum	-	-	-	25	Quarterly	24-hour flow proportioned composite	EFF-04	See I.A.8.
Aluminum, Total Recoverable	UG/L	Maximum	-	-	-	2000	Quarterly	24-hour flow proportioned composite	EFF-04	See I.A.8.
Iron, Total Recoverable	UG/L	Maximum	-	-	-	1600	Quarterly	24-hour flow proportioned composite	EFF-04	See I.A.8.

3

			Effluent Limitations				Monitoring Requirements			
Parameter	Units	Max/Min	Annual Average	Monthly Average	Weekly Average	Single Sample	Monitoring Frequency	Sample Type	Monitoring Location Site Number	Notes
Ultraviolet Light Dosage	UW-S/CM2	Minimum				43,500	Continuous	Calculated	OTH-01	See I.A.9. & I.A.19
Ultraviolet Light Transmittance	PERCENT	Minimum	-	-	-	Report	Continuous	Meter	PPI-02	See I.A.9. & I.A.18
Ultraviolet Light Intensity (Net Average Intensity)	UW/CM2	Minimum	-	-	-	Report	Continuous	Calculated	OTH-01	See I.A.9. & I.A.17
Turbidity	NTU	Maximum	See Permit Condition I.A.9.				Continuous	Meter	EFF-01	See I.A.9. & I.A.10
Water Level in Reactors	FT	Maximum - Minimum	See Permit Condition I.A.11. & Report				Continuous	Meter	PPI-02	See I.A.9. & I.A.14

PART I: Continued

Receiving Waters:	**Classification (indicate whether fresh or marine):**
St. Andrew Bay via and outfall common to the existing Military Point Industrial Lagoon	Class III Marine

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

Routine Chronic screen (0 and 100%) Ceriodaphnia dubia and Pimephales promelas. Additional definitive chronic using 100%, 50%, 25%, 12.5%, 6.25%

Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.):
CO00-0294 executed 9/26/03

Facility Mixing Zone Details (if applicable):
The effluent limits for the metals, aluminum, copper, and iron are end of pipe limits, prior to mixing with the effluent from Military Point Lagoon, based upon calculations to provide a zone of mixing to comply with state water quality standards. The zones of mixing for aluminum, copper and iron are 7 feet, 46 feet, and 18 feet, respectively, measured from the diffuser discharging the combined effluent from the proposed facility and the existing Military Point Lagoon.

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

Date	Parameter and Units	Limit	Result
2-08	**pH**	**6.5 SU (min)**	**6.2 SU**
2-08	**ceriodaphnia (Routine)**	**NOEC >100**	**NOEC<100**
3-08	**Total Phosphorous**	**4.0 mg/L (max)**	**4.4 mg/L**
5-08	**Pimphales promelas (R)**	**NOEC >100**	**NOEC <100**
8-08	**pH**	**6.5 SU (min)**	**6.4 SU**
8-08	**Total Phosphorous**	**3.0 mg/L (weekly avg)**	**3.2 mg/L**

Describe previous FYI and WQBEL study:
The limitations for the metals of concern are taken from "Cherry Street System Contributors Wastewater Treatment Facility Water Quality Based Effluent Limit Level II Study on St. Andrew Bay," Baskerville Donovan, Inc., Hydroqual Inc., Barry Vittor & Assoc., Inc., and Camp Dresser McKee, Inc., June 1995.

Previous Fifth year inspection data is not available as no study was done because the WWTF effluent is co-joined with the Military Point Lagoon effluent prior to discharge in a common outfall in St Andrew Bay.

Describe previous or current Enforcement Actions (including WLs):

09/26/2003 Consent Order (OGC # 00-0294) executed for placing subaqueous pipeline into service without prior approval.

Describe any violations or problems noted in previous inspection:

Same as list of violations above.

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

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

PART II: Sampling Event Information

Date(s) sample collected: 01/26/09	Sampler(s): Michael King, Mark Sumner
Temperature (Deg C): 20.1 (facility log)	pH (SU): 6.8 (facility log)
Dissolved Oxygen (mg/L): 9.12 (facility log)	Conductivity (umhos/cm): n/a
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): 01/26/09 3.740 01/28/09 2.700 01/30/09 3.310	
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): 01/2008 – 12/2008 3.748	
Describe Discharge during Sampling Event: ☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	

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

Appendix C

Explanation of Measurements

(1) Quality Assurance and Quality Control

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

(2) Chemical Analyses

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

(3) Toxicity Bioassays

Greater than 50% mortality in an acute toxicity test may constitute an exceedence of 62-302.500(1)a and/or a violation of facility permit limits. An inhibition concentration greater than 25% in a chronic test may constitute exceedences of 62-302.530(20), 62-302.530(61) and/or a violation of facility permit limits.

(4) Bacteriological Testing

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

(5) Chlorophyll *a* Content

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

(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 10.0 mg dry weight/L represents a “problem” threshold for marine receiving waters, implying nutrient enrichment. High AGP values may constitute exceedences of 62-302.530(46) F.A.C., 62-302.530(47)(a) F.A.C. and/or 62-302.530(47)(b) F.A.C..

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

(7) Sediment Sampling

Sediments were collected using a petite ponar dredge at all sampling stations. Sediment samples were analyzed for metals, organic constituents, pesticides, organic content and sediment grain size. The results from these analyses were compared with sediment quality assessment guidelines applicable to Florida coastal waters (Table 4. in MacDonald 1994). The range of sediment contaminant concentrations that fall below the threshold effects level (TEL) are not likely to be associated with adverse biological effects on aquatic organisms. The range of sediment contaminant concentrations that fall above the probable effects level (PEL) are usually or always associated with adverse biological effects. Within the range of concentrations delineated by the TEL (lower limit) and the PEL (upper limit), adverse biological effects are possible but it is difficult to predict the occurrence, nature, and/or severity of these effects (MacDonald 1994).

(8) Benthic Macroinvertebrate Assemblages

Benthic macroinvertebrates were collected using a petite ponar dredge at all sampling stations. Five replicate ponar samples were collected at each station and sieved through a 500 μm mesh. Benthic macroinvertebrates were sorted and identified to the lowest practical taxonomic level, usually species.

Taxa richness: Taxa richness is the number of distinct macroinvertebrate taxa present in a sample. Decreases in taxa richness related to a facility's effluent may constitute exceedences of 62-302.530(46) F.A.C., 62-302.530(47)(a) F.A.C., 62-302.530(47)(b) F.A.C. and/or 62-302.530(61) F.A.C..

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

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

Functional Feeding Groups: Environmental degradation may differentially affect groups of invertebrates based on how the group feeds (e.g. predators, deposit feeders, etc.). Changes in the proportions of functional feeding groups related to a facility's effluent may constitute exceedences of 62-302.530(46) F.A.C., 62-302.530(47)(a) F.A.C., 62-302.530(47)(b) F.A.C. and/or 62-302.530(61) F.A.C..

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 samples at test and control sites constitutes exceedences of 62-302.530(10) F.A.C..

Appendix D

Chain of Custody

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-01-26-20
Military Point

Requester: Jennifer Paris — Field Report Prepared By: Michael King

Customer: NW-DIST

Collected By: Michael King — Send Final Report To Greg Smith

Project ID: FYI5

Sampling Agency: FDEP

PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Military Point Wastewater treatment Plant	☑ Comp ☐ Grab	Date 1/26/09 Time 1115 (Central)	Date Time	A
	Field ID: MPWTP	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FW — Temp (C) — pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " — Longitude o ' "	Comments: 13:0980y.			

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Military Point Wastewater treatment Plant	☐ Comp ☑ Grab	Date 1/26/09 Time 1135 (Central)	Date Time	A
	Field ID: MPWTP	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): FW — Temp (C) — pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " — Longitude o ' "	Comments			

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
	Military Point Wastewater treatment Plant	☐ Comp ☐ Grab	Date 1/26/09 Time 1200 (Central)	Date Time	D
	Field ID: Equip blank	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): DI H2O — Temp (C) — pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' " — Longitude o ' "	Comments			

Lab ID *	Location	Comp / Grab	Collection (begin) Eastern Central	Collection (end) Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab	Date Time	Date Time	
	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 o ' " — Longitude o ' "	Comments: 2 Bl, assay Red 9:48 1.27.09 Toy- J.D.			

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Michael King	1/26/09 1115	FEDEX	ABS	1-27-09 09:15.				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 4

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2009-01-26-20
Military Point

Event ID *

Requester: Jennifer Paris
Field Report Prepared By: N. Mulkey
Collected By: Rick Abad / Nathan Mulkey
Send Final Report To Greg Smith
Sampling Agency: NWFDEP

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

Lab ID *	Location: Military Pt AWT	☐ Comp ☒ Grab	Collection (begin) Date 1/26/09 Time 1000	Eastern Central	Collection (end) Date Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Control	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 9.11		Storet Station Number: 32030M14		
	Matrix (Include type e.g. (Salt), Fresh, etc):	Temp (C): 14.38	pH: 8.13	Sample Depth: 0.15 ☒ m ☐ ft	39538	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' "	Longitude o ' "	Comments: off Palm Hy Pt					
Lab ID *	Location: Military Pt AWT Diffuser Discharge	☐ Comp ☒ Grab	Collection (begin) Date 1/26/09 Time 1200	Eastern Central	Collection (end) Date Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Test 1	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 9.23		Storet Station Number		
	Matrix (Include type e.g. (Salt), Fresh, etc):	Temp (C): 14.33	pH: 8.15	Sample Depth: 0.15 ☒ m ☐ ft	40400	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' "	Longitude o ' "	Comments: ~100 ft west of bo. 1					
Lab ID *	Location: Military Pt AWT Diffuser Discharge	☐ Comp ☒ Grab	Collection (begin) Date 1/26/09 Time 1400	Eastern Central	Collection (end) Date Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Test 2	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 9.22		Storet Station Number		
	Matrix (Include type e.g. (Salt), Fresh, etc):	Temp (C): 14.65	pH: 8.15	Sample Depth: 0.15 ☒ m ☐ ft	40948	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number	
	Latitude o ' "	Longitude o ' "	Comments: ~100 ft East of bo. 1					
Lab ID *	Location	☐ Comp ☐ Grab	Collection (begin) Date Time	Eastern Central	Collection (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 o ' "	Longitude o ' "	Comments:					

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Nate Mulkey	1/26/09 1215	~~Fed Ex~~ Hand	[illegible]	1/27/09 1220P				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-01-26-20
Military Point

Customer: NW-DIST

Project ID: FYI5

PMAS: 1143

Requester: Jennifer Paris

Collected By: Rick Abud / Nathan Mulkey

Sampling Agency: NWFDEP

Field Report Prepared By: N. Mulkey

Send Final Report To Greg Smith

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	MP Military Pt AWT Control	☐ Comp ☒ Grab	Date 1/26/09 Time 1045 (Central)	Date Time	
	Field ID: MP Control	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Military Pt AWT Diffuser Discharge	☐ Comp ☒ Grab	Date 1/26/09 Time 1230 (Central)	Date Time	
	Field ID: MP Test 1	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Military Pt AWT Diffuser Discharge	☐ Comp ☒ Grab	Date 1/26/09 Time 1430 (Central)	Date Time	
	Field ID: MP Test 2 Diffuser Discharge	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab	Date Time	Date Time	
	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 o ' "	Longitude o ' "	Comments		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	1/26/09 1215	Fed Ex Hand		1/27/09 1000				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

1045, 1245, 1445

2009-01-26-20 **Florida Department of Environmental Protection**

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ~~2008-09-22-26~~

~~West Bay/St Andrews~~ Bay

Military Point

Requester: William Chandler

Field Report Prepared By: N. Mallay

Customer: NW-DIST

Collected By: Nathan Mallay / Rick Abel

Send Final Report To Bill Chandler

Project ID: ~~DISCRTNARY~~ FY15

Sampling Agency: NWFDEP

PMAS: ~~1508~~ 1143

Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date	Time	Eastern Central	Collection (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 o ' " .	Longitude o ' " .		Comments							
	Location: Military Point Control			☐ Comp ☐ Grab	Collection (begin) Date: 1/26/09	Time: 1245	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Control			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc: Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft			☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' " .	Longitude o ' " .		Comments							
	Location: ~~MP T~~ Military Point AWT			☐ Comp ☐ Grab	Collection (begin) Date: 1/26/09	Time: 1245	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Test 1			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc: Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft			☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' " .	Longitude o ' " .		Comments							
	Location: Military Point AWT			☐ Comp ☐ Grab	Collection (begin) Date: 1/26/09	Time: ~~1245~~ 1245	Eastern Central	Collection (end) Date	Time	Eastern Central	Bottle Group(s)**
	Field ID: MP Test 2			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)			Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc: Sediment	Temp (C)	pH	Sample Depth ☐ m ☐ ft			☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude o ' " .	Longitude o ' " .		Comments							
	Location			☐ Comp ☐ Grab	Collection (begin) Date	Time	Eastern Central	Collection (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 o ' " .	Longitude o ' " .		Comments							

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	1/26/09 1215	Hand		1/27/09 1220				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

SAMPLE TRANSMITTAL FORM

Document Reference # 05.1.0

Project: TMDL | Laboratory: Wetlands Research Laboratory | Sampler's intials : mk/nm

Method of transport: Drop off by Mike King | Page 1 of 1

Samples delivered by: Mike King of DEP | Date/Time: 1/26/09 / 1520

Sample received by: [illegible] of WRL | Date/Time: 1/26/09 / 1520

Instructions: Fill in all fields except "Lab ID" on sample transport form completely. Each sample container must use a separate line. Place this form in a waterproof bag and place it with the samples for transport. If a field log or other chain of custody is attached, that information may be referenced on this form and the log or COC attached.

Lab ID	Sample ID	Matrix[1]	Type[2]	Container Type	Analyses Requested	Preservative	Sample (°C)[3]	Sampling Date/Time
09-26451	* MPWTP military point water treatment plant	SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O3	1.3	1/26/09 / 1120
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O3		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O3		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O3		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O4		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O4		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O4		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O4		
		SW	G	Sterile plastic	Enterococcus/Fecal coliforms	ice/Na2S2O4		

Comments RQ-2009-Q-26-20

Sample container lot # 408070

Contact organization DEP | Contact name Brad Hartshorn | Phone: 850-595-8300

Address | Sampler's name: Mike King Nathan Mulkey

[1]Matrix: SW = surface water, PW = pore water, GW = ground water, S = soil/sediment, X = SW

[2]Type codes: G = grab, C = composite, X = G

[3] Recorded using IRT-2

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-01-26-20
Military Point

Requester: Jennifer Paris
Collected By: C. MARK SUMNER
Sampling Agency:

Field Report Prepared By:
Send Final Report To Greg Smith

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

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Bay County Mil Pt AWT	X Comp ☐ Grab		Date 1/29 Time 7:58 (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 o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "	Comments		

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
			[illegible]	1-30-09 0940				

mf 2 bioassay Inge 1-30-09 1019

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2009-01-26-20
Military Point

Requester: Jennifer Paris
Field Report Prepared By:

Customer: NW-DIST
Collected By: C. MARK SUMNER
Send Final Report To Greg Smith

Project ID: FYI5
Sampling Agency: FDEP PCBO

PMAS: 1143

Lab ID *	Location / Field ID	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Bay County Mit. Pt AWT	X Comp ☐ Grab	Date 1/30/9 Time 831 (Central)	Date 1/30/9 Time 8:42 (Central)	
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc) (Fresh)	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "		Comments 3 Bottles Iced at 8:43 cent.	

Lab ID *	Location / Field ID	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "		Comments	

Lab ID *	Location / Field ID	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "		Comments	

Lab ID *	Location / Field ID	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab			
	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 o ' "	Longitude o ' "		Comments	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

1-31-09
0945 Picked up from
Fedex office MF
3 Jugs

Appendix E

Chemical analysis of effluent and receiving water

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Effluent	AGP/LN	Algal Growth Potential-Salinity Adjusted	94.3		mg DryWt/L	3	3
1/26/09	Effluent	AGP/LN	Algal Growth Potential	144		mg DryWt/L	0.3	0.9
1/26/09	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
1/26/09	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
1/26/09	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.89	I	mg/L	0.2	2
1/26/09	Effluent	Overflow	Enterococci-Membrane Filter	2	U	#/100 mL	2	2
1/26/09	Effluent	Overflow	Fecal Coliforms-Membrane Filter	1	U	#/100 mL	1	1
1/26/09	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-C.dubia, NOEC	100		NOEC		
1/26/09	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-Fish, NOEC	100		NOEC		
1/26/09	Effluent	Metals	Chromium	0.41	I	ug/L	0.2	0.8
1/26/09	Effluent	Metals	Iron	30	U	ug/L	30	120
1/26/09	Effluent	Metals	Silver	0.01	U	ug/L	0.01	0.04
1/26/09	Effluent	Metals	Arsenic	0.55	I	ug/L	0.25	1
1/26/09	Effluent	Metals	Cadmium	0.031	I	ug/L	0.03	0.12
1/26/09	Effluent	Metals	Magnesium	4		mg/L	0.04	0.16
1/26/09	Effluent	Metals	Zinc	92		ug/L	5	20
1/26/09	Effluent	Metals	Calcium	29.4		mg/L	0.075	0.3
1/26/09	Effluent	Metals	Nickel	2.48		ug/L	0.25	1
1/26/09	Effluent	Metals	Aluminum	130	I	ug/L	60	240
1/26/09	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
1/26/09	Effluent	Metals	Selenium	0.36	I	ug/L	0.2	0.8
1/26/09	Effluent	Metals	Copper	2		ug/L	0.5	0.5
1/26/09	Effluent	Nutrients	TSS	4	U	mg/L	4	16
1/26/09	Effluent	Nutrients	Turbidity	0.8		NTU	0.1	0.1
1/26/09	Effluent	Nutrients	NO2NO3-N	5.5		mg N/L	0.04	0.1
1/26/09	Effluent	Nutrients	Ammonia-N	0.5		mg N/L	0.01	0.02
1/26/09	Effluent	Nutrients	Total-P	0.4		mg P/L	0.02	0.06
1/26/09	Effluent	Nutrients	O-Phosphate-P	0.32		mg P/L	0.008	0.02
1/26/09	Effluent	Nutrients	Kjeldahl Nitrogen	1.4		mg N/L	0.08	0.2
1/26/09	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
1/26/09	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
1/26/09	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
1/26/09	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
1/26/09	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
1/26/09	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Effluent	Pesticides	Fonofos	0.1	UJ	ug/L	0.1	0.4
1/26/09	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
1/26/09	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
1/26/09	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
1/26/09	Effluent	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
1/26/09	Effluent	Pesticides	Alachlor	0.6	UJ	ug/L	0.6	2.4
1/26/09	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
1/26/09	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
1/26/09	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
1/26/09	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
1/26/09	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
1/26/09	Effluent	Pesticides	Metalaxyl	0.25	UJ	ug/L	0.25	1
1/26/09	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
1/26/09	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
1/26/09	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
1/26/09	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
1/26/09	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Chrysene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
1/26/09	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Fluorene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.95	U	ug/L	0.95	3.8

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.5	U	ug/L	9.5	38
1/26/09	Effluent	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Acenaphthene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Acenaphthylene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
1/26/09	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
1/26/09	Effluent	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
1/26/09	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
1/26/09	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	Phenanthrene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
1/26/09	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
1/26/09	Effluent	Priority Organic Pollutants	Anthracene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
1/26/09	Effluent	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
1/26/09	Effluent	Priority Organic Pollutants	Fluoranthene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	Pyrene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
1/26/09	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
1/26/09	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
1/26/09	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Naphthalene	0.95	U	ug/L	0.95	3.8
1/26/09	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
1/26/09	Control Site	AGP/LN	Algal Growth Potential	3	U	mg DryWt/L	3	3
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.8	I	mg/L	0.2	2
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.7		ug/L	0.55	1.7
1/26/09	Control Site	Metals	Selenium	0.72	I	ug/L	0.2	0.8
1/26/09	Control Site	Metals	Magnesium	1050		mg/L	2	8
1/26/09	Control Site	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
1/26/09	Control Site	Metals	Zinc	15	U	ug/L	15	60
1/26/09	Control Site	Metals	Lead	0.2	U	ug/L	0.2	0.8
1/26/09	Control Site	Metals	Calcium	314		mg/L	0.22	0.9
1/26/09	Control Site	Metals	Copper	0.53		ug/L	0.5	0.5
1/26/09	Control Site	Metals	Silver	0.014	I	ug/L	0.01	0.04
1/26/09	Control Site	Metals	Chromium	1.62		ug/L	0.2	0.8
1/26/09	Control Site	Metals	Iron	90	U	ug/L	90	360
1/26/09	Control Site	Metals	Nickel	0.52	I	ug/L	0.25	1
1/26/09	Control Site	Metals	Arsenic	0.95	I	ug/L	0.25	1
1/26/09	Control Site	Metals	Aluminum	180	U	ug/L	180	720
1/26/09	Control Site	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
1/26/09	Control Site	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
1/26/09	Control Site	Nutrients	O-Phosphate-P	0.008	U	mg P/L	0.008	0.02
1/26/09	Control Site	Nutrients	Total-P	0.008	U	mg P/L	0.008	0.02
1/26/09	Control Site	Nutrients	Turbidity	0.85		NTU	0.1	0.1
1/26/09	Control Site	Nutrients	TSS	12	I	mg/L	4	16
1/26/09	Control Site	Nutrients	Kjeldahl Nitrogen	0.43		mg N/L	0.16	0.4
1/26/09	Control Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Benzo(a)pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Benzo(b)fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Di-n-octyl phthalate	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorobutadiene	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dichlorophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	56

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Control Site	Priority Organic Pollutants	2-Nitrophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Acenaphthylene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Hexachloroethane	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	Pentachlorophenol	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Diethyl phthalate	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dinitrotoluene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2-Chlorophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Benzo(k)fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Phenol	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dimethylphenol	9.3	U	ug/L	9.3	37
1/26/09	Control Site	Priority Organic Pollutants	2-Chloronaphthalene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Benzo(a)anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	Naphthalene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.5
1/26/09	Control Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.5
1/26/09	Control Site	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	56
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	Butyl benzyl phthalate	4.7	U	ug/L	4.7	19
1/26/09	Control Site	Priority Organic Pollutants	Fluorene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2,6-Dinitrotoluene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8	U	ug/L	2.8	11
1/26/09	Control Site	Priority Organic Pollutants	Benzidine	93	U	ug/L	93	370
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	56
1/26/09	Control Site	Priority Organic Pollutants	Chrysene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.5
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.5
1/26/09	Control Site	Priority Organic Pollutants	Phenanthrene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	37	UJ	ug/L	37	150
1/26/09	Control Site	Priority Organic Pollutants	Acenaphthene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Di-n-butyl phthalate	4.7	U	ug/L	4.7	19

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Control Site	Priority Organic Pollutants	Dimethyl phthalate	9.3	U	ug/L	9.3	37
1/26/09	Control Site	Priority Organic Pollutants	Fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorobenzene	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Priority Organic Pollutants	Isophorone	0.93	U	ug/L	0.93	3.7
1/26/09	Control Site	Field Parameter	Dissolved Oxygen	9.11		mg/L		
1/26/09	Control Site	Field Parameter	Temperature	14.38		C		
1/26/09	Control Site	Field Parameter	Sample Depth	0.15		m		
1/26/09	Control Site	Field Parameter	pH	8.13				
1/26/09	Control Site	Field Parameter	Specific Conductance	39358		umhos/cm		
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, >2.0 mm	1	K	%tot drywt	0	1
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.063-0.125mm	5.48	A	% vol <2mm	0	0.01
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, <0.063 mm	39.6	A	% vol <2mm	0	0.01
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.25-0.5 mm	25.3	A	% vol <2mm	0	0.01
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment % Organic	3.9	A	% dry wt		
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.5-2.0 mm	13.4	A	% vol <2mm	0	0.01
1/26/09	Control Site	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.125-0.25 mm	16.2	A	% vol <2mm	0	0.01
1/26/09	Control Site	Metals	Lead	3.67	A	mg/Kg	0.37	1.5
1/26/09	Control Site	Metals	Cadmium	0.1	I	mg/Kg	0.098	0.39
1/26/09	Control Site	Metals	Copper	2.02	A	mg/Kg	0.25	0.98
1/26/09	Control Site	Metals	Nickel	2.2	A	mg/Kg	0.15	0.59
1/26/09	Control Site	Metals	Silver	0.025	U	mg/Kg	0.025	0.098
1/26/09	Control Site	Metals	Zinc	9.1	A	mg/Kg	2	7.8
1/26/09	Control Site	Metals	Chromium	8.1	A	mg/Kg	0.098	0.39
1/26/09	Control Site	Priority Organic Pollutants	1,2,4-Trichlorobenzene	280	U	ug/kg	280	1100
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dichlorophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dinitrotoluene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2,6-Dinitrotoluene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2-Chloronaphthalene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	4-Chloro-3-methylphenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Acenaphthylene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Anthracene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Benzo(a)anthracene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Dibenzo(a,h)anthracene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Fluorene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Hexachloroethane	280	UJ	ug/kg	280	1100
1/26/09	Control Site	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Phenanthrene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2-Chlorophenol	280	U	ug/kg	280	1100
1/26/09	Control Site	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	93	U	ug/kg	93	370

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Control Site	Priority Organic Pollutants	Azobenzene/1,2-Diphenylhydrazine	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	560	U	ug/kg	560	2200
1/26/09	Control Site	Priority Organic Pollutants	Fluoranthene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorobutadiene	280	U	ug/kg	280	1100
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorocyclopentadiene	93	UJ	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Isophorone	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Phenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2,4,6-Trichlorophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Benzidine	2000	U	ug/kg	2000	8000
1/26/09	Control Site	Priority Organic Pollutants	Benzo(b)fluoranthene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Dimethyl phthalate	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Hexachlorobenzene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Nitrobenzene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Pentachlorophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Benzo(a)pyrene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Benzo(g,h,i)perylene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Chrysene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Naphthalene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Pyrene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	3,3'-Dichlorobenzidine	5500	U	ug/kg	5500	22000
1/26/09	Control Site	Priority Organic Pollutants	4-Bromophenyl phenyl ether	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Acenaphthene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Di-n-butyl phthalate	560	U	ug/kg	560	2200
1/26/09	Control Site	Priority Organic Pollutants	Di-n-octyl phthalate	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dimethylphenol	560	U	ug/kg	560	2200
1/26/09	Control Site	Priority Organic Pollutants	2,4-Dinitrophenol	560	U	ug/kg	560	2200
1/26/09	Control Site	Priority Organic Pollutants	2-Nitrophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Benzo(k)fluoranthene	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Butyl benzyl phthalate	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Diethyl phthalate	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	4-Nitrophenol	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	Bis(2-chloroethyl)ether	93	U	ug/kg	93	370
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodimethylamine	560	U	ug/kg	560	2200
1/26/09	Control Site	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	93	U	ug/kg	93	370
1/26/09	Control Site	Nutrients	% Solid	64.6	A	%	1	1
1/26/09	Test Site 1	AGP/LN	Algal Growth Potential	3	U	mg DryWt/L	3	3
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.5	I	ug/L	0.55	1.7

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.96	I	mg/L	0.2	2
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
1/26/09	Test Site 1	Metals	Lead	0.6	U	ug/L	0.6	2.4
1/26/09	Test Site 1	Metals	Nickel	0.75	U	ug/L	0.75	3
1/26/09	Test Site 1	Metals	Iron	90	U	ug/L	90	360
1/26/09	Test Site 1	Metals	Magnesium	1030	A	mg/L	2	8
1/26/09	Test Site 1	Metals	Aluminum	180	I	ug/L	180	720
1/26/09	Test Site 1	Metals	Silver	0.03	U	ug/L	0.03	0.12
1/26/09	Test Site 1	Metals	Calcium	313	A	mg/L	0.22	0.9
1/26/09	Test Site 1	Metals	Zinc	18	I	ug/L	15	60
1/26/09	Test Site 1	Metals	Cadmium	0.09	U	ug/L	0.09	0.36
1/26/09	Test Site 1	Metals	Arsenic	0.85	I	ug/L	0.75	3
1/26/09	Test Site 1	Metals	Chromium	1.4	I	ug/L	0.6	2.4
1/26/09	Test Site 1	Metals	Selenium	0.97	I	ug/L	0.6	2.4
1/26/09	Test Site 1	Metals	Copper	1.5	U	ug/L	1.5	1.5
1/26/09	Test Site 1	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
1/26/09	Test Site 1	Nutrients	Total-P	0.008	I	mg P/L	0.008	0.02
1/26/09	Test Site 1	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
1/26/09	Test Site 1	Nutrients	Kjeldahl Nitrogen	0.4		mg N/L	0.16	0.4
1/26/09	Test Site 1	Nutrients	O-Phosphate-P	0.008	U	mg P/L	0.008	0.02
1/26/09	Test Site 1	Nutrients	Turbidity	0.9		NTU	0.1	0.1
1/26/09	Test Site 1	Nutrients	TSS	9	I	mg/L	4	16
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dinitrotoluene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2,6-Dinitrotoluene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2-Chloronaphthalene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2-Chlorophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Acenaphthene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	56
1/26/09	Test Site 1	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Dimethyl phthalate	9.3	U	ug/L	9.3	37
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dimethylphenol	9.3	U	ug/L	9.3	37
1/26/09	Test Site 1	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	56
1/26/09	Test Site 1	Priority Organic Pollutants	Acenaphthylene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	Pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dichlorophenol	0.93	U	ug/L	0.93	3.7

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorobenzene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorobutadiene	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Phenol	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2-Nitrophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Benzidine	93	U	ug/L	93	370
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Di-n-octyl phthalate	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Isophorone	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Naphthalene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.5
1/26/09	Test Site 1	Priority Organic Pollutants	Phenanthrene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(b)fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Di-n-butyl phthalate	4.7	U	ug/L	4.7	19
1/26/09	Test Site 1	Priority Organic Pollutants	Diethyl phthalate	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.5
1/26/09	Test Site 1	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	Anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(a)pyrene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(k)fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachloroethane	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.5
1/26/09	Test Site 1	Priority Organic Pollutants	Pentachlorophenol	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	56
1/26/09	Test Site 1	Priority Organic Pollutants	3,3'-Dichlorobenzidine	37	UJ	ug/L	37	150
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.8	U	ug/L	2.8	11
1/26/09	Test Site 1	Priority Organic Pollutants	Butyl benzyl phthalate	4.7	U	ug/L	4.7	19
1/26/09	Test Site 1	Priority Organic Pollutants	Chrysene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Fluoranthene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.5
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(a)anthracene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Priority Organic Pollutants	Fluorene	0.93	U	ug/L	0.93	3.7
1/26/09	Test Site 1	Field Parameter	Dissolved Oxygen	9.23		mg/L		
1/26/09	Test Site 1	Field Parameter	Sample Depth	0.15		m		
1/26/09	Test Site 1	Field Parameter	Specific Conductance	40600		umhos/cm		
1/26/09	Test Site 1	Field Parameter	pH	8.15				
1/26/09	Test Site 1	Field Parameter	Temperature	14.33		C		

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.5-2.0 mm	4.16		% vol <2mm	0	0.01
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, <0.063 mm	59.8		% vol <2mm	0	0.01
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.25-0.5 mm	8.54		% vol <2mm	0	0.01
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.125-0.25 mm	11.1		% vol <2mm	0	0.01
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment % Organic	12		% dry wt		
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, >2.0 mm	1	K	%tot drywt	0	1
1/26/09	Test Site 1	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.063-0.125mm	16.4		% vol <2mm	0	0.01
1/26/09	Test Site 1	Metals	Lead	9.2		mg/Kg	0.36	1.5
1/26/09	Test Site 1	Metals	Chromium	22.3		mg/Kg	0.097	0.39
1/26/09	Test Site 1	Metals	Copper	5.5		mg/Kg	0.24	0.97
1/26/09	Test Site 1	Metals	Zinc	26.5		mg/Kg	1.9	7.7
1/26/09	Test Site 1	Metals	Silver	0.049		mg/Kg	0.012	0.048
1/26/09	Test Site 1	Metals	Nickel	6.22		mg/Kg	0.15	0.58
1/26/09	Test Site 1	Metals	Cadmium	0.069	I	mg/Kg	0.048	0.19
1/26/09	Test Site 1	Priority Organic Pollutants	2-Chlorophenol	390	U	ug/kg	390	1600
1/26/09	Test Site 1	Priority Organic Pollutants	2-Nitrophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Anthracene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Butyl benzyl phthalate	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Fluorene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachloroethane	390	U	ug/kg	390	1600
1/26/09	Test Site 1	Priority Organic Pollutants	Naphthalene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Pentachlorophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Phenanthrene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	2,4,6-Trichlorophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dichlorophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	2-Chloronaphthalene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	4-Bromophenyl phenyl ether	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	4-Chloro-3-methylphenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	4-Nitrophenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Azobenzene/1,2-Diphenylhydrazine	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Di-n-butyl phthalate	790	U	ug/kg	790	3200
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Acenaphthylene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(b)fluoranthene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Dibenzo(a,h)anthracene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Diethyl phthalate	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Isophorone	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Nitrobenzene	130	U	ug/kg	130	530

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 1	Priority Organic Pollutants	1,2,4-Trichlorobenzene	390	U	ug/kg	390	1600
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dimethylphenol	790	U	ug/kg	790	3200
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(a)pyrene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(g,h,i)perylene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	790	U	ug/kg	790	3200
1/26/09	Test Site 1	Priority Organic Pollutants	Fluoranthene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodimethylamine	790	U	ug/kg	790	3200
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dinitrotoluene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Acenaphthene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorobenzene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Pyrene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	2,4-Dinitrophenol	790	U	ug/kg	790	3200
1/26/09	Test Site 1	Priority Organic Pollutants	2,6-Dinitrotoluene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Benzidine	2700	U	ug/kg	2700	11000
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroethyl)ether	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Chrysene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Di-n-octyl phthalate	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorobutadiene	390	U	ug/kg	390	1600
1/26/09	Test Site 1	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(a)anthracene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Dimethyl phthalate	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Hexachlorocyclopentadiene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	Phenol	130	U	ug/kg	130	530
1/26/09	Test Site 1	Priority Organic Pollutants	3,3'-Dichlorobenzidine	7900	U	ug/kg	7900	32000
1/26/09	Test Site 1	Priority Organic Pollutants	Benzo(k)fluoranthene	130	U	ug/kg	130	530
1/26/09	Test Site 1	Nutrients	% Solid	45.7		%		
1/26/09	Test Site 2	AGP/LN	Algal Growth Potential	3	A U	mg DryWt/L	3	3
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	1.4	I	ug/L	0.55	1.7
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.62	I	mg/L	0.2	2
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
1/26/09	Test Site 2	Metals	Iron	90	U	ug/L	90	360
1/26/09	Test Site 2	Metals	Nickel	0.75	U	ug/L	0.75	3
1/26/09	Test Site 2	Metals	Magnesium	969		mg/L	2	8
1/26/09	Test Site 2	Metals	Zinc	19	I	ug/L	15	60
1/26/09	Test Site 2	Metals	Chromium	1.3	I	ug/L	0.6	2.4
1/26/09	Test Site 2	Metals	Lead	0.6	U	ug/L	0.6	2.4
1/26/09	Test Site 2	Metals	Selenium	1.5	I	ug/L	0.6	2.4

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 2	Metals	Calcium	298		mg/L	0.22	0.9
1/26/09	Test Site 2	Metals	Cadmium	0.09	U	ug/L	0.09	0.36
1/26/09	Test Site 2	Metals	Silver	0.03	U	ug/L	0.03	0.12
1/26/09	Test Site 2	Metals	Arsenic	1.3	I	ug/L	0.75	3
1/26/09	Test Site 2	Metals	Copper	1.5	U	ug/L	1.5	1.5
1/26/09	Test Site 2	Metals	Aluminum	180	U	ug/L	180	720
1/26/09	Test Site 2	Nutrients	Total-P	0.008	U	mg P/L	0.008	0.02
1/26/09	Test Site 2	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
1/26/09	Test Site 2	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
1/26/09	Test Site 2	Nutrients	TSS	8	I	mg/L	4	16
1/26/09	Test Site 2	Nutrients	Turbidity	0.8		NTU	0.1	0.1
1/26/09	Test Site 2	Nutrients	O-Phosphate-P	0.008	U	mg P/L	0.008	0.02
1/26/09	Test Site 2	Nutrients	Kjeldahl Nitrogen	0.5		mg N/L	0.16	0.4
1/26/09	Test Site 2	Priority Organic Pollutants	Benzidine	99	U	ug/L	99	400
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(a)pyrene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Fluorene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorocyclopentadiene	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	60
1/26/09	Test Site 2	Priority Organic Pollutants	2,6-Dinitrotoluene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	2-Chlorophenol	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	8
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dimethylphenol	9.9	U	ug/L	9.9	40
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dinitrotoluene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Anthracene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	2-Nitrophenol	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(a)anthracene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Di-n-octyl phthalate	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Diethyl phthalate	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorobenzene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Naphthalene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	8
1/26/09	Test Site 2	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.99	U	ug/L	0.99	4

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dichlorophenol	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	3,3'-Dichlorobenzidine	40	UJ	ug/L	40	160
1/26/09	Test Site 2	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	60
1/26/09	Test Site 2	Priority Organic Pollutants	Acenaphthene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	60
1/26/09	Test Site 2	Priority Organic Pollutants	Dimethyl phthalate	9.9	U	ug/L	9.9	40
1/26/09	Test Site 2	Priority Organic Pollutants	Pentachlorophenol	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Phenol	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Di-n-butyl phthalate	5	U	ug/L	5	20
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	8
1/26/09	Test Site 2	Priority Organic Pollutants	2-Chloronaphthalene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(k)fluoranthene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Butyl benzyl phthalate	5	U	ug/L	5	20
1/26/09	Test Site 2	Priority Organic Pollutants	Chrysene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Fluoranthene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorobutadiene	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Acenaphthylene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Pyrene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	Phenanthrene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	8
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachloroethane	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Isophorone	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3	U	ug/L	3	12
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(b)fluoranthene	0.99	U	ug/L	0.99	4
1/26/09	Test Site 2	Field Parameter	Dissolved Oxygen	9.22		mg/L		
1/26/09	Test Site 2	Field Parameter	Sample Depth	0.15		m		
1/26/09	Test Site 2	Field Parameter	Specific Conductance	40948		umhos/cm		
1/26/09	Test Site 2	Field Parameter	pH	8.15				
1/26/09	Test Site 2	Field Parameter	Temperature	14.65		C		
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.125-0.25 mm	11.4		% vol <2mm	0	0.01
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.063-0.125mm	8.32		% vol <2mm	0	0.01
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.25-0.5 mm	19.6		% vol <2mm	0	0.01
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, >2.0 mm	2.5		%tot drywt	0	1
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, <0.063 mm	52.2		% vol <2mm	0	0.01
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment % Organic	7		% dry wt		
1/26/09	Test Site 2	Chlorophyll/Grain Size/BOD	Sediment Particle Size, %, 0.5-2.0 mm	8.52		% vol <2mm	0	0.01
1/26/09	Test Site 2	Metals	Copper	5.92		mg/Kg	0.24	0.98
1/26/09	Test Site 2	Metals	Chromium	22.5		mg/Kg	0.098	0.39

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 2	Metals	Zinc	27.6		mg/Kg	2	7.8
1/26/09	Test Site 2	Metals	Cadmium	0.16	I	mg/Kg	0.049	0.2
1/26/09	Test Site 2	Metals	Nickel	6.44		mg/Kg	0.15	0.59
1/26/09	Test Site 2	Metals	Silver	0.051		mg/Kg	0.012	0.049
1/26/09	Test Site 2	Metals	Lead	9.87		mg/Kg	0.37	1.5
1/26/09	Test Site 2	Priority Organic Pollutants	4-Bromophenyl phenyl ether	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Acenaphthylene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(b)fluoranthene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroethyl)ether	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Fluoranthene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Nitrobenzene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	1,2,4-Trichlorobenzene	410	U	ug/kg	410	1600
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dinitrotoluene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2-Chlorophenol	410	U	ug/kg	410	1600
1/26/09	Test Site 2	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Acenaphthene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Anthracene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	820	U	ug/kg	820	3300
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodimethylamine	820	U	ug/kg	820	3300
1/26/09	Test Site 2	Priority Organic Pollutants	Naphthalene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dinitrophenol	820	U	ug/kg	820	3300
1/26/09	Test Site 2	Priority Organic Pollutants	2-Chloronaphthalene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorocyclopentadiene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dichlorophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	4-Nitrophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Azobenzene/1,2-Diphenylhydrazine	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(g,h,i)perylene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorobutadiene	410	U	ug/kg	410	1600
1/26/09	Test Site 2	Priority Organic Pollutants	Pyrene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2,4-Dimethylphenol	820	U	ug/kg	820	3300
1/26/09	Test Site 2	Priority Organic Pollutants	4-Chloro-3-methylphenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(a)pyrene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Chrysene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachlorobenzene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Hexachloroethane	410	U	ug/kg	410	1600
1/26/09	Test Site 2	Priority Organic Pollutants	2,6-Dinitrotoluene	140	U	ug/kg	140	550

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(a)anthracene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Diethyl phthalate	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Dimethyl phthalate	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Phenanthrene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Phenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	3,3'-Dichlorobenzidine	8100	U	ug/kg	8100	33000
1/26/09	Test Site 2	Priority Organic Pollutants	Benzidine	3000	U	ug/kg	3000	12000
1/26/09	Test Site 2	Priority Organic Pollutants	Benzo(k)fluoranthene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Butyl benzyl phthalate	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Di-n-butyl phthalate	820	U	ug/kg	820	3300
1/26/09	Test Site 2	Priority Organic Pollutants	Di-n-octyl phthalate	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Dibenzo(a,h)anthracene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Isophorone	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2,4,6-Trichlorophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	2-Nitrophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Fluorene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	140	U	ug/kg	140	550
1/26/09	Test Site 2	Priority Organic Pollutants	Pentachlorophenol	140	U	ug/kg	140	550
1/26/09	Test Site 2	Nutrients	% Solid	43.6		%		
1/26/09	Equipment Blank	Metals	Aluminum	60	U	ug/L	60	240
1/26/09	Equipment Blank	Metals	Chromium	0.2	U	ug/L	0.2	0.8
1/26/09	Equipment Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
1/26/09	Equipment Blank	Metals	Cadmium	0.03	U	ug/L	0.03	0.12
1/26/09	Equipment Blank	Metals	Zinc	5	U	ug/L	5	20
1/26/09	Equipment Blank	Metals	Silver	0.01	U	ug/L	0.01	0.04
1/26/09	Equipment Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
1/26/09	Equipment Blank	Metals	Iron	30	U	ug/L	30	120
1/26/09	Equipment Blank	Metals	Arsenic	0.25	U	ug/L	0.25	1
1/26/09	Equipment Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
1/26/09	Equipment Blank	Metals	Selenium	0.2	U	ug/L	0.2	0.8
1/26/09	Equipment Blank	Metals	Copper	0.5	U	ug/L	0.5	0.5
1/26/09	Equipment Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
1/26/09	Equipment Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
1/26/09	Equipment Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
1/26/09	Equipment Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
1/26/09	Equipment Blank	Nutrients	Turbidity	0.1	U	NTU	0.1	0.1
1/26/09	Equipment Blank	Nutrients	NO2NO3-N	0.005	I	mg N/L	0.004	0.01
1/26/09	Equipment Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
1/26/09	Equipment Blank	Pesticides	Metolachlor	0.47	U	ug/L	0.47	1.9

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Equipment Blank	Pesticides	Ametryn	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
1/26/09	Equipment Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
1/26/09	Equipment Blank	Pesticides	Phorate	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
1/26/09	Equipment Blank	Pesticides	Metalaxyl	0.24	UJ	ug/L	0.24	0.96
1/26/09	Equipment Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
1/26/09	Equipment Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
1/26/09	Equipment Blank	Pesticides	Alachlor	0.57	UJ	ug/L	0.57	2.3
1/26/09	Equipment Blank	Pesticides	Ethion	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Metribuzin	0.095	U	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Parathion Methyl	0.095	U	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
1/26/09	Equipment Blank	Pesticides	Atrazine	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Chlorpyrifos Methyl	0.095	U	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Ethoprop	0.095	U	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
1/26/09	Equipment Blank	Pesticides	Butylate	0.19	UJ	ug/L	0.19	0.76
1/26/09	Equipment Blank	Pesticides	Chlorpyrifos Ethyl	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Diazinon	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Pesticides	Fonofos	0.095	UJ	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Hexazinone	0.095	U	ug/L	0.095	0.38
1/26/09	Equipment Blank	Pesticides	Naled	0.76	U	ug/L	0.76	3
1/26/09	Equipment Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
1/26/09	Equipment Blank	Pesticides	Simazine	0.047	U	ug/L	0.047	0.19
1/26/09	Equipment Blank	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
1/26/09	Equipment Blank	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
1/26/09	Equipment Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
1/26/09	Equipment Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
1/26/09	Equipment Blank	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Equipment Blank	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
1/26/09	Equipment Blank	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
1/26/09	Equipment Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
1/26/09	Equipment Blank	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
1/26/09	Equipment Blank	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
1/26/09	Equipment Blank	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
1/26/09	Equipment Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
1/26/09	Equipment Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8

Date	UDL	SCH_Group	Component	Value	Qualifier	Units_Word_Result	MDL	PQL
1/26/09	Equipment Blank	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
1/26/09	Equipment Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
1/26/09	Equipment Blank	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.7
1/26/09	Equipment Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
1/26/09	Equipment Blank	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
1/26/09	Equipment Blank	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
1/26/09	Equipment Blank	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
1/26/09	Equipment Blank	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8

Appendix F

Toxicological results

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia

Facility: Military Point Regional WWTF MF
Address: 130 Lagoon Road Tyndall AFB FL 32403
County: Bay
NPDES Permit #: FL 0167959
Contact/District: Rick Abel / Northwest

LIMS entry: 2-17-09 MF verified: 2.17.09 JD

Diluent/ Batch: 20% DMW / 1-23-09 Test Days Used: 0-6
20% DMW / _____ Test Days Used: _____

SOP#: TA07_05 EPA 821-R-02-013 Method 1002.0

Start Date: 1-27-09 Time: 1300
End Date: 2-3-09 Time: 1430

Organism: *Ceriodaphnia dubia*
Organism Batch #: 3-09
Organism age : <24 hours
Feeding: Prior to Test and Daily
Food: YCT *P. subcapitata*
Food Batch: 6-18-08 7-18-08
Chamber size : 30 ml
Sample volume : 20 ml

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH-2009-01-27-10	1161023	1-26-09 1115	1-27-09 0948
Test Day 2	2	TLH-2009-01-30-28	1162535	1-29-09 0858	1-30-09 1019
Test Day 4	3	TLH-2009-02-03-05	1163479	1-30-09 0942	1-31-09 0945

Water Quality Parameters	Field Chlorine (mg/L)			Lab Chlorine (mg/L)			Alkalinity (mg/L as $CaCO_3$)		
Lab Sample #:	1	2	3	1	2	3	1	2	3
Sample:	NOT MEASURED	NOT MEASURED	NOT MEASURED	0.05	0.035	<0.03	66	70	70
Diluent/Control:				<0.03	<0.03	<0.03	82	82	82
Method:	—	—	—	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:	—	—	—	AGR	AGR	JD AGR	BA	BA AGR JD	BA AGR JD
Verified by:	MF	MF	MF	MF	MF	MF	MF	MF	MF
	Conductivity (circle one) (µmhos-cm) (mmhos-cm)			Ammonia (mg/L)			Hardness (mg/L as $CaCO_3$)		
Lab Sample #:	1	2	3	1	2	3	1	2	3
Sample:	421	465	485	<0.017	0.235	0.380	94	89	90
Diluent/Control:	181	184	183	<0.017	<0.017	<0.017	88	88	88
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver	Hach	Hach	Hach
Measured by:	JD/AR	MF	BA	MF	MF	MF	BA	BA AGR JD	BA AGR JD
Verified by:	ARMF	JD	MF	BA	JD	JD	MF	MF	MF

Temperature Shipped ≤6° C (all samples) (yes) no
Holding Time ≤36 hours (yes) no
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 25.2 max. 26.1 mean 25.66
Room B246 min. 23.7 max. 25.9 mean 24.9

Investigators' signatures
James Daniels
Marshall Faircloth
Amelia Barker
Bruce Alexander

Loretta C Wolfe
REVIEWER

Test Replicate	Loaded from culture vial
1	A10
2	A14
3	A19
4	A25
5	A28
6	A29
7	B5
8	B12
9	B14
10	B21

Statistics	
Control % CV:	42.17 %
Dunnetts PMSD:	34.9 %
Reproduction NOEC:	7100 %
Survival NOEC:	7100 %
T-test value	0.47233
T- table value:	~~1.7~~ 1.340 wrong table value 2/16/09
df:	18

Comments:

Test Page 1 of 3

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revised 08/24/06 MF/SP

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia Survival and Reproduction

Facility: Military Point WWTP

LIMS Sample # 116023 for lab sample 1

Start Date: 1-27-09 Time: 1300

End Date: 2-4-09 Time: 1430

3 MF weights 2/4/09

Conc.	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total Neonates	Surviving adults	Neonates per adult
Control	0*												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	4	0	0	0	4	10	0.4
	4	2	4	2	4	3	2	0	0	4	3	24	10	2.4
	5	6	10	5	5	16	5	14	5	6	13	85	10	8.5
	6	5	6	2	3	0	0	10	5	8	6	45	10	4.5
	XX 7	11	0	6	0	0	2	10	7	0	0	13	10	1.3
	8			9	MF				10			total recalculated due to Day 7		
	Total	13	20	15	12	19	7	28	27	18	22	161 158	10	15.8

Conc.	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total Neonates	Surviving adults	Neonates per adult
100% sample	0*												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	3	3	0	0	6	10	0.6
	4	2	2	0	0	0	2	0	0	3	4	13	10	1.3
	5	6	8	3	7	10	7	9	10	4	12	76	10	7.6
	6	5	10	1	6	10	10	12	14	0	8	78	10	7.8
	XX 7	0	16	0	10	10	0	11	15	8	0		10	(NA)
	8				15	MF	20			7	MF	Day 7 not counted		
	Total	13	20	4	25	30	19	24	27	15	24	173	10	17.3

Organisms loaded by: MF	
Day	Counted/ verified by:
0	BA
1	ROL
2	MF
3	MF
4	MF
5	BA
6	BA
7	BA
8	

Concentration	Mean neonates /adult	% survival
Control	15.8	100%
100%	17.3	100%

Test acceptability	
Mean control reproduction 15/female	(yes) no
3rd brood in 60% of surviving females	(yes) no
Control survival ≥80%:	(yes) no

Comments:

(A) MF 1-30-09 wrote 7th neonate in Rep 6 spot.

** - 4th brood → not counted - Day 7 should not be included MF 2/4/09

S - split brood MF/BA 2/3/09 Day 7 portion not counted -

*Day 0 is test initiation day

X = Dead (original organism)

000035

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Ceriodaphnia dubia Parameters

Facility: Military Point WWTP

LIMS Sample #: 0 116 1023 for lab sample 1

Circle µmhos-cm or mmhos-cm

Test Day ↓		Concentration	New Sample: Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample: Test Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 0	sample:	Control	M	8.2	24.9	7.3	181					
	1	100%	M	7.8	25.1	7.4	415					
	Measured by:			ADR	ADR	ADR	ADR					
	Recorded by:			ADR	ADR	ADR	ADR					
Day 1	sample:	Control	M	8.2	24.7	6.5	196 ADR (C)	M	8.1	24.4	6.5	197
	1	100%	M	7.9	25.3	7.2	429	M	8.0	24.2	5.8	439
	Measured by:			ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR
	Recorded by:			ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR
Day 2	sample:	Control	M	8.3	24.2	7.8	184	M	8.3	24.8 (C)	7.8	190
	12 (B)	100%	M	8.1	24.9	8.3	420	M	8.1	24.3	7.7	430
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 3	sample:	Control	M	8.0	24.0	7.8	184	M	8.1	24.3	7.2	187
	2		M	8.0	25.2	8.2	464	M	7.9	24.0	7.4	437
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 4	sample:	Control	M	8.2	24.1	7.8	185	M	8.2	24.1	7.9	186
	3	100%	M	8.1	24.3	7.9	474	M	8.1	24.4	8.2	458
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 5	sample:	Control	M	8.0	24.0	7.6	183	M	7.8	24.0	7.5	183
	3	100%	M	7.9	24.0	8.3	459	M	7.8	24.0	7.6	474
	Measured by:			BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:			BA	BA	BA	BA		BA	BA	BA	BA
Day 6	sample:	Control	M	7.9	24.0	7.8	183	M	7.8	24.0	7.7	185
	3	100%	M	7.9	24.0	7.9	478	M	7.9	24.0	7.8	471
	Measured by:			BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:			BA	BA	BA	BA		BA	BA	BA	BA
Day 7	sample:	Control	M					M	7.7	24.0	7.9	184
	3	100 %	M	NOT RECEIVED				M	7.7	24.1	7.8	491
	Measured by:								BA	BA	BA	BA
	Recorded by:								BA	BA	BA	BA
Day 8	sample:	Control						M				
	3							M				
	Measured by:											
	Recorded by:											

Comments:

(A) transcription error ADR 1/28/09

(B) Sample 1 used on Day 2 because of collection error by plant personnel on 1/28/09 MF

(C) Transcription error DO is 7.8 temp is 24.3 MF 1-29-09

Replicate M= "Metered" vial, a surrogate vial for parameters

FDEP Biology Laboratory - Chronic Bioassay Bench Sheet

Pimphales promelas or Menidia beryllina

Facility: Military Point Regional WWTF
Address: 100 Lagoon Road Tyndall AFB FL 32403
County: BAY
NPDES Permit #: FL 0167959
Contact/District: Rick Abel / northwest

Test Species (circle one)
(P. promelas) SOP#: TA07_09 EPA-821-R-02-013 Method 1000.0
M. beryllina SOP#: TA07_14 EPA-821-R-02-014 Method 1006.0

Start Date: 1-27-09 Time: 1530
End Date: 2-3-09 Time: 1300

Diluent/ Batch:
MHW / 1-23-09 Test Days Used: 0-6
MHW / _____ Test Days Used: _____
ASW / _____ Test Days Used: _____
ASW / _____ Test Days Used: _____

Organism Batch # : ~~38348~~ MF artemia 1-27-09 MF 1-27-09 Organism age : <26 ~~days~~ hours (test organisms P. promelas)
Feeding Prior to Test and Daily
Artemia Lot # : 38348
Chamber size : 1000 ml
Test volume : 500 ml

Artemia Batch #	
Day 0 7-09	Day 4 11-09
Day 1 8-09	Day 5 12-09
Day 2 9-09	Day 6 13-09
Day 3 10-09	

LIMS:	Date	Initials
Entry:	2/13/09	MF
Verification:	2.17.09	

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH-2009-01-27-10	1161023	1-26-09 1115	1-27-09 0948
Test Day 2	2	TLH-2009-01-30-23	1162535	1-29-09 0858	1-30-09 1019
Test Day 4	3	TLH-2009-02-03-65	1163479	1-30-09 0942	1-31-09 0945

Water Quality Parameters	Batch # 1-23-09 ☑ MHW ☐ ASW	☐ MHW ☐ ASW	NA Sample 1	NA Sample 2	NA Sample 3	Other:	Measured by:	Verified by:
Field Total Residual Cl_2 (mg/L):	NA	NA	Not measured	Not measured	Not measured		—	MF
Lab Total Residual Cl_2 (mg/L):	<0.03		0.05	0.035	<0.03		AGR	MF
Alkalinity (mg/L as $CaCO_3$):	74		66	70	70		AGR/BAJD	MF
Hardness (mg/L as $CaCO_3$):	100		94	89	(A) 90		AGR/BAJD	MF
Total Ammonia (mg/L as N):	<0.017		<0.017	0.385 (A)	0.235		MF	JD
Conductivity (umhos) mmhos:	330		421	465	485		JD	MF
Salinity (ppth):	—	—	—	—	—	—	—	—

Temperature Shipped ≤6° C (all samples) (yes) no
Holding Time ≤36 hours (yes) no
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark

Temperature Range °C: (if used)
Incubator # 2 min. 25.2 max. 26.1 mean 25.7
Water bath # ____ min. _____ max. _____ mean _____
Room B246 min. 23.9 max. 25.9 mean 24.9

Test Incubated in: ☑ Incubator #: 2 ☐ Waterbath #: ____

Investigators' signatures
James Daniels
Marshall Fairlett
Amelia Rankin
Buck Alexander

REVIEWER Loretta C. Wolfe

Statistics	
Control %cv:	17.4%
Dunnetts PMSD:	27.3%
Survival NOEC:	100%
Survival LOEC:	NA
Growth NOEC:	100%
Growth LOEC:	NA

Comments: (A) Day 2 Ammonia & Day 3 2 lot of reagent MF 2/6/09 Sample MF Sample

PAGE 01

revised 7/15/08 MF

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Pimphales promelas or Menidia beryllina Survival

Facility: Military Point WWTP

Organism: (*P. promelas*) *M. beryllina* (circle one)

LIMS Sample Number: 116023 for lab sample #1

Start Date: 1-27-09 Time: 1530

End Date: 2-3-09 Time: 1300

		TEST DAY							
Concentration	Replicate	0	1	2	3	4	5	6	7
Control	A A1	10	10	10	10	10	10	10	10
	B A2	10	10	10	10	10	10	10	10
	C A3	10	10	10	10	10	10	10	10
	D A4	10	10	10	10	10	10	10	10
100 % sample concentration	A A5	10	10	10	10	10	10	10	10
	B A6	10	10	10	10	10	10	10	10
	C A7	10	10	10	10	10	10	10	10
	D A8	10	10	10	10	10	10	10	10
Control	A	10							
	B	10							
	C	10							
	D	10							
% sample concentration	A	10							
	B	10							
	C	10							
	D	10							
Loaded by: BA	Checked by:		JD	JD	JD	JD	JD	JD	JD
Verified by: MF									

Comments:

Biology Laboratory Chronic Screening Bioassay Benchsheet

Parameters

P. promelas SOP TA-07_09 *M. beryllina* SOP TA-07_14

Sample Source: Military Point WWTP

LIMS Sample #: 116023 (for Lab sample #1)

Test Day ↓		Conc.	Old Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Cond (µmhos/cm) (mmhos/cm)	Salinity ppth	New Sample: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Cond (µmhos/cm) (mmhos/cm)	Salinity ppth
Day 0	sample:	Control							A	8.2	24.7	7.6	330	<1
	1	100%							A	7.9	25.2	7.2	415	<1
	Measured by:									JD	JD	JD	JD	JD
	Recorded by:									JD	JD	JD	JD	JD
Day 1	sample:	Control	B	7.8 ~~356~~	23.8	6.0	356	0.10	B	8.1	24.0	7.2	(A) ~~345~~ 323	0.10
	1	100%	B	7.8 ~~433~~	24.0	5.9	433	0.14	B	8.0	24.1	6.4	~~431~~ 431	0.14
	Measured by:			AGR	AGR	AGR	AGR	AGR		AGR	AGR	AGR	AGR	AGR
	Recorded by:			AGR	AGR	AGR	AGR	AGR		AGR	AGR	AGR	AGR	AGR
Day 2	sample:	Control	C	7.9	25.7	5.9	349	—	C	7.9	24.0	7.8	341	—
	2	100%	C	7.7	25.6	6.4	437	—	C	7.7	24.1	7.8	433	—
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	—
	Recorded by:			JD	JD	JD	JD	JD		AGR	AGR	AGR	AGR	—
Day 3	sample:	Control	D	7.5	25.5	6.2	345	—	D	7.9	24.0	4.8	347	—
	2	100%	D	7.8	25.1	6.3	441	—	D	7.9	24.0	6.1	460	—
	Measured by:			JD	JD	JD	JD	JD		AGR	AGR	AGR	AGR	—
	Recorded by:			JD	JD	JD	JD	JD		AGR	AGR	AGR	AGR	—
Day 4	sample:	Control	A	7.5	25.1	5.8	354	—	A	8.0	24.0	7.3	344	—
	3	100%	A	7.7	24.6	5.9	461	—	A	7.9	24.0	7.3	482	—
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 5	sample:	Control	B	7.7	25.1	6.4	315	—	B	7.6	24.0	7.7	346	—
	3	100%	B	7.6	25.2	6.2	475	—	B	7.6	24.1	7.9	479	—
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 6	sample:	Control	C	7.6	25.2	35 (6.4)	353	—	C	7.8	24.0	7.4	344	—
	3	100%	C	7.5	25.4	5.9	481	—	C	7.8	24.0	8.1	488	—
	Measured by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by:			JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
Day 7	sample:	Control	D	7.7	24.1	6.0	366	—						
	3	100%	D	7.5	24.4	5.5	499	—						
	Measured by:			JD	JD	JD	JD	JD						
	Recorded by:			JD	JD	JD	JD	JD						

Test Rep. = Replicate Record Salinity < 1 if freshwater Circle µmhos-cm or mmhos-cm

Comments: (A) transcription error AGR 11/28/07

(B) Transcription error JD 2209 Day 6, 0.0, D.O.

revised 7/15/08 mf

FDEP Biology Laboratory - Chronic Screen Bench Sheet

Facility: Military Point WWTP

LIMS Sample Number: 111023 for lab sample #1

Concentration	Replicate	Pan #	Pan wt. (g)	Pan + Fish (g)	Fish wt. (g)	Original # Fish	Mean wt. (mg)
			mean wt = fish wt divided by 10 convert g to mg: move decimal 3 places to right				
Control	A	9	0.02060	0.02524	0.00464	10	.464
	B	10	0.02344	0.02964	0.00620	10	.620
	C	11	0.02298	0.02699	0.00401	10	.401
	D	12	0.02188	0.02643	0.00455	10	.455
100 % sample	A	13	0.02242	0.02902	0.00660	10	.660
	B	14	0.02157	0.02606	0.00449	10	.449
	C	15	0.02399	0.03006	0.00607	10	.607
	D	16	0.02289	0.02941	0.00652	10	.652
Control	A					10	
	B					10	
	C					10	
	D					10	
% sample	A					10	
	B					10	
	C					10	
	D					10	
	Weighed by initials:		JD	JD			

Growth	%CV	PMSD
Control	19.4	27.3

Growth	Table	Calculated	dF
T-test	1.94300	1.57308	6

Drying	
Temperature °C:	100
Hours:	3

S-weight ID: BIO-S-WEIGHTS-01

Balance ID: OHAUS 250D SER. 1125481084

Tare Weighing Date: 2.2.09 Final Weighing Date: 2.9.09

			Measured Value (g)		S-weight Value (g)
Tare Pan 1 after Pan 5 (g)	0.02389 @ 0.02390	S-weights	0.01	@	0.01
Tare Pan 1 after Pan 8 (g)	0.02393 @ 0.02390	at tare	0.04001	@	0.04
Final Pan 1 after Pan 5 (g)	0.02525 @ 0.02524	S-weights	0.02	@	0.02
Final Pan 1 after Pan 8 (g)	0.02525 @ 0.02524	at final	0.05004	@	0.05

Comments:

Bioassay Instrument ID

Test ID: Military Point WWTP FL0167959 MF urinary aid Dates: 1-27-09 — 2-3-09

METER / DEVICE	ID	SOP	Parameter	Method	√used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	✓
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	✓ ✓
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	✓
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	✓
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	✓
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	✓
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	✓
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	- -	✓
Drying Oven			Drying	—	✓

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.

Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

entered by M. Faircloth 2/6/09

V 1.1 6/12/08 MF

Appendix G

Standard Reference Toxicant Results

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia

Diluent/ Batch: 20% DMW / 1-23-09 Test Days Used: 0-6
20% DMW / _____ Test Days Used: _____
Toxicant/ Batch: NaCl / 1-26-09

SOP # : TA 07_05
EPA-821-R-02-013 Method 1002.0

Organism: *Ceriodaphnia dubia*
Organism Batch #/ Age: 3-09 / <24 hr.
Feeding: Prior to Test and Daily
Food: YCT *P. subcapitata*
Food Batch: 6-18-08 7-18-08
Chamber size: 30 mL ✓
Test Volume: 20 mL ✓

Start Date: 1-27-08 Time: 1400
End Date: 2-3-09 Time: 1100

Water Quality Parameters	20% DMW Batch 1-23-09	Diluent (or other)	Method	Measured by:	Verified by:
Lab Total Residual Cl_2 (mg/L):	<0.03		HACH	AGR	MF
Alkalinity (mg/L as $CaCO_3$):	82		HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	88		HACH	BA	MF
Total Ammonia (mg/L as N):	<0.017		DENVER	MF	JD
Conductivity (umhos-cm) mmhos-cm :	169		YSI (Mettler)	MF	JD

Results	
Control % CV:	41.1 %
Dunnetts PMSD:	31.6 %
Reproduction NOEC:	0.89 g/L
Reproduction LOEC:	1.3 g/L
Survival NOEC:	1.3 g/L
Survival LOEC:	2 g/L
ICP_{20}:	1.07 g/L
ICP_{25}:	1.11 g/L

Day	Concentrations prepared by	Counted by
0	MF/AGR	BA
1	JD/AGR	AGR
2	MF	MF
3	MF/AGR	MF
4	MF	MF
5	BA	BA
6	BA	BA
7	—	BA
8		

Test Replicate	Loaded from culture vial
1	A10
2	A14
3	A19
4	A25
5	A28
6	A29
7	B5
8	B12
9	B14
10	B21

Comments:

Investigators' signatures

James Daniels
Marshall Faircloth
Amelia Rankin
Bruce Alexander

Loretta C. Wolfe
REVIEWER

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 25.3 max. 26.1 mean 25.7
Incubator # ____ min. _____ max. _____ mean _____
Room B246 min. 23.9 max. 25.4 mean 24.9

000026

Ceriodaphnia dubia Survival and Reproduction

Start Date: 1-27-09 Time: 1400 Loaded by: MF
End Date: 2-3-09 Time: 1100 Verified by: BA

Concentration	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total neonates	Live adults	Neonates per adult
Control	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	4	0	0	0	4	10	0.4
	4	3	2	1	4	3	3	0	1	4	0	21	10	2.1
	5	9	10	2	6	6	8	5	3	3	2	54	10	5.4
	6	10	7	2	0	0	12 S	10 *	0	0	5	35	10	3.5
	7	0	0	0	9	11	11	12 *	5	0	8	56	10	5.6
	8													
	Total	22	19	5	19	20	23	19 *	9	7	15	158	10	15.8
0.59 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	3	0	0	0	3	10	0.3
	4	1	4	3	2	3	3	0	3	3	3	25	10	2.5
	5	9	7	4	5	2	3	11	8	8	8	65	10	6.5
	6	11	9 S	4	0	0	0	12	7	0	0	43	10	4.3
	7	0	1 *	0	0	9	2	15 *	0	7	1	~~35~~ 20 MF	10	2.0
	8										15 6	1 NLOTVE ET count 2/4/09	add 4th brood	corrected MF 2/4/09
	Total	~~27~~ MF	21	11	7	14	8	26	18	18	12	~~177~~ MF ~~166~~	10	15.6
0.89 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	2	2	3	3	1	2	2	2	3 MF	4	24	10 invalid	2.4
	5	5	6	8	9	5	8	9	6	6	7	~~37~~ 36 MF	10	6.9
	6	9	9	5 S	0	0	0	10	3	0	0	36	10	3.6
	7	0	0	3	7	8	9	0	0	8	8	43	10	4.3
	8													
	Total	16	17	19	19	14	19	21	11	17	19	172	11	17.2

Comments: 1-31-09 0.89 ppth Rep 9 3 neonates MF
S = split brood BA/MF 2/3/09
* 4th brood not counted MF 2/4/09

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Survival and Reproduction

Concentration	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total neonates	Live adults	Neonates per adult
1.3 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	0	2	2	2	0	0	4	0	2	2	14	10	1.4
	5	0	4	3	2	4	2	0	0	6	6	27	10	2.7
	6	0	5	1	0	0	0	8	0	0	10	24	10	2.4
	7	0	0	0	5	8	4	0	3	3	0	23	10	2.3
	8													
	Total	0	11	6	9	12	6	12	3	11	18	88	10	8.8
2.0 ppth	0												10	
	1												10 JD	
	2	0	0	X0	0	X0	0	0	0	0	0	0	8	0
	3	X0	0	+	0	+	0	0	0	0	X0	0	6	0
	4		0		0		0	0	0	0		0	6	0
	5		0		0		0	2	3	0		5	6	0,5
	6		3		2		0	0	0	0		5	6	0,5
	7		6		1		30	3	3	2		2/9/09	6	1,45 MF all counted at 1st 2/9/09
	8						Nursery place							
	Total	0	9	0	3	0	2/3/09 0	5	6	2	0	25	6	2,5
3.0 ppth	0												10	
	1	X	X		X	X	X			X	X		4	
	2	0	0	X0	X0	0	0	X	X	—	—	0	0	0
	3												0	0
	4												0	0
	5												0	0
	6												0	0
	7												0	0
	8												0	
	Total	0	0	0	0	0	0	0	0	0	0		0	0

Comments:

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Test Day ↓	Conc.	New Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 0	Control	M	7.9	24.7	7.6	169					
	0.59 ppth	M	7.9	25.2	7.4	1333					
	0.89 ppth	M	7.9	25.2	7.4	1907					
	1.3ppth	M	8.0	25.2	7.5	2760					
	2.0 ppth	M	8.0	25.2	7.5	3960					
	3.0 ppth	M	8.0	25.2	7.5	5780					
	Measured by:		MF	MF	MF	MF					
	Recorded by:		ADR	ADR	ADR	ADR					2-23-09
Day 1	Control	M	8.3	24.9	7.1	195	M	8.1	23.3	5.8	210
	0.59 ppth	M	8.2	25.0	7.0	1351	M	8.1	23.4	(A) 5.5 ADR 6.0	1395
	0.89 ppth	M	8.2	24.9	5.7	1940	M	8.1	23.4	(B) 5.5 MF 6.3	2610
	1.3ppth	M	8.2	24.7	6.0	2760	M	8.1	23.4	(A) 5.5 MF 6.5	2820
	2.0 ppth	M	8.2	24.4	5.8	3990	M	8.1	23.4	(B) 5.9 MF 6.5	4140
	3.0 ppth	M	8.2	24.6	5.5	5920	M	8.1	23.4	6.3	6000
	Measured by:		ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR
	Recorded by:		ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR
Day 2	Control	M	8.1	24.4	7.8	176	A	8.2	24.4	7.8	184
	0.59 ppth	M	8.1	24.6	7.9	1320	A	8.2	24.2	7.7	1395
	0.89 ppth	M	8.1	24.5	7.9	1935	A	8.2	24.3	7.6	1956
	1.3ppth	M	8.1	24.5	7.9	2770	A	8.2	24.3	7.6	2850
	2.0 ppth	M	8.1	24.5	7.8	1-29-09 MF 4080 2-4-09 MF 2040	(1164) A	8.1	24.4	7.6	4060
	3.0 ppth	M	8.1	24.5	7.8	5860	C	8.2	24.4	7.6	5920
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 3	Control	M	8.0	24.0	7.0	184	A	8.0	24.3	7.5	188
	0.59 ppth	M	8.0	24.0	7.0	1371	A	8.0	24.4	7.3	1403
	0.89 ppth	M	8.0	24.0	7.0	1928	A	8.0	24.2	7.3	2040
	1.3ppth	M	8.0	24.0	6.7 (A) 6.8 MF	2750	A	8.0	24.4	7.3	2870
	2.0 ppth	M	8.0	24.0	6.8 MF	3970	B A	8.0	24.4	7.2	4130
	3.0 ppth	M	—	—	—	—	corrected to 1-30-09 MF	—	—	—	—
	Measured by:		ADR	ADR	ADR	ADR		MF	MF	MF	MF
	Recorded by:		ADR	ADR	ADR	ADR		MF	MF	MF	MF

Comments: (A) Transcription error 1/28/09 ADR
(B) transcription error 1/30/09 ADR. Entered it was a B MF 2-23-09

M= "Metered" vial, a surrogate vial for parameters

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Test Day	Conc.	New Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 4 (B) 5 mf 2/3/09	Control	M	8.1	24.0	7.8	181	A	7.8	24.0	7.9	186
	0.59 ppth	M	8.1	24.0	7.8	1327	A	7.9	24.0	7.6	1336
	0.89 ppth	M	8.1	24.0	7.8	1875	A	7.9	24.0	7.6	1923
	1.3ppth	M	8.1	24.0	7.8	2680	A	8.0	24.0	7.7	2650
	2.0 ppth	M	8.1	24.0	7.9	3800	A B mf 2-3-09	8.0	24.0	7.7	3770
	3.0 ppth	M									
	Measured by:		BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:		BA	BA	BA	BA		BA	BA	BA	BA
Day 6 (A) (B) mf 2/5/09	Control	M	7.9	24.0	7.9	188	A	7.9	24.0	7.2	178
	0.59 ppth	M	7.9	24.0	7.8	1383	A	7.9	24.0	7.5	1284
	0.89 ppth	M	7.9	24.0	7.7	1964	A	7.9	24.0	7.5	1894
	1.3ppth	M	8.0	24.0	7.7	2770	A	8.0	24.0	7.7	2680
	2.0 ppth	M	8.0	24.0	7.7	3920	B mf A 2-3-09	8.0	24.0	7.7	3870
	3.0 ppth	M									
	Measured by:		BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:		BA	BA	BA	BA		BA	BA	BA	BA
Day 6 (B) 4 mf 2/5/09	Control	M	8.2	24.0	7.9	185	A	8.2	24.7	7.7	188 178
	0.59 ppth	M	8.1	24.2	7.7	1340	A	8.2	24.7	7.6	1365
	0.89 ppth	M	8.1	24.3	7.8	1905	A	8.2	24.4	7.5	2020
	1.3ppth	M	8.1	24.3	7.6	2740	A	8.2	24.3	7.7	2750
	2.0 ppth	M	8.1	24.4	7.6	3910	B	8.2	24.4	7.8	3960
	3.0 ppth	M									
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 7	Control	M					A	7.7	24.0	8.0	183
	0.59 ppth	M					A	7.7	24.0	7.9	1346
	0.89 ppth	M					A	7.8	24.0	7.8	1952
	1.3ppth	M					A	7.8	24.0	8.0	2710
	2.0 ppth	M					A	7.9	24.0	8.0	3920
	3.0 ppth	M									
	Measured by:							BA	BA	BA	BA
	Recorded by:							BA	BA	BA	BA
Day 8	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										

MF for BA 2-23-09

(A) "New" and "old" Samples switched BA 2-2-09 Replicate M= "Metered" vial, a surrogate vial for parameters

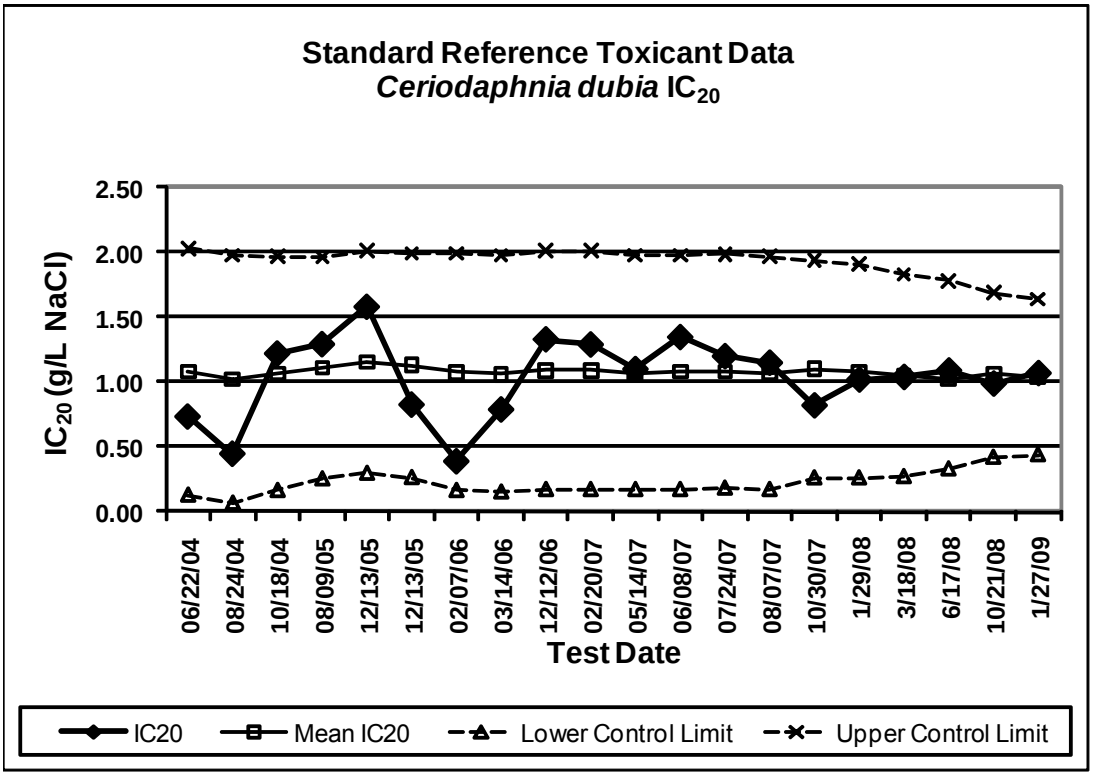
(B) Day #'s corrected. MF failed to transcribe from pad to book on 1/31/09 MF 2/3/09

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 7-Day Chronic Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	IC20	Mean IC20	Std Dev	Lower Control Limit	Upper Control Limit	Date
06/22/04	0.73	1.08	0.48	0.13	2.03	06/22/04
08/24/04	0.45	1.02	0.48	0.06	1.98	08/24/04
10/18/04	1.22	1.07	0.45	0.16	1.97	10/18/04
11/16/04	1.29	1.11	0.43	0.25	1.96	08/09/05
08/09/05	1.58	1.15	0.43	0.30	2.01	12/13/05
12/13/05	0.83	1.13	0.43	0.26	1.99	12/13/05
02/07/06	0.39	1.08	0.46	0.16	1.99	02/07/06
03/14/06	0.79	1.06	0.46	0.15	1.98	03/14/06
12/12/06	1.33	1.09	0.46	0.17	2.01	12/12/06
02/20/07	1.29	1.09	0.46	0.17	2.01	02/20/07
05/14/07	1.10	1.07	0.45	0.17	1.98	05/14/07
06/08/07	1.35	1.08	0.45	0.17	1.98	06/08/07
07/24/07	1.20	1.08	0.45	0.18	1.99	07/24/07
08/07/07	1.15	1.07	0.45	0.17	1.97	08/07/07
10/30/07	0.82	1.10	0.42	0.26	1.94	10/30/07
1/29/08	1.02	1.08	0.41	0.26	1.91	1/29/08
3/18/08	1.04	1.05	0.39	0.27	1.83	3/18/08
6/17/08	1.09	1.02	0.36	0.33	1.78	6/17/08
10/21/08	0.99	1.06	0.32	0.42	1.69	10/21/08
1/27/09	1.07	1.04	0.30	0.44	1.64	1/27/09

Means are of the last 20 SRT tests.
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev



FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina*

Test Species (circle one)

(*P. promelas*)	SOP#: TA07_09	EPA-821-R-02-013	Method 1000.0
M. beryllina	SOP#: TA07_14	EPA-821-R-02-014	Method 1006.0

Diluent/ Batch: MHW/1.23.09 Test Days Used: 0-7

Diluent/ Batch: _____ Test Days Used: _____

Toxicant/ Batch # : KCl 1.26.09

Artemia Lot # : 38348

Start Date: 1-27-09 Time: 1300

End Date: 2-3-09 Time: 1100

Organism Batch #/ Age: 1-27-09 < 24hours

Artemia Batch #	Day 2 9-09	Day 5 12-09
Day 0 7-09	Day 3 10-09	Day 6 13-09
Day1 8-09	Day 4 11-09	

Chamber size : 1000 ml

Test volume : 500 ml

Feeding: *P. promelas* 0.15 g wet wt. 2X day 6 hour interval

M. beryllina 0.10 g wet wt days 0-2 0.15g wet wt. days 3-7

Water Quality Parameters	Diluent	Diluent (or other)	Method	Measured by	Verified by
Total Residual Cl_2 (mg/L):	< 0.03		HACH	AGR	MF
Alkalinity (mg/L as $CaCO_3$):	74		HACH	BA	MF
Hardness (mg/L as $CaCO_3$):	100		HACH	BA	MF
Total Ammonia (mg/L as N):	<0.017		DENVER	MF	
Conductivity (µmhos-cm) mmhos-cm:	323		METTLER	BA	MF

Statistics	
Growth NOEC:	0.5 g/L
Growth LOEC:	1 g/L
Growth IC_{20}:	0.5460 g/L
Growth IC_{25}:	0.5841 g/L
Ctrl % CV:	11.2 %
Dunnetts PMSD:	27.8 %
Survival NOEC:	0.5 g/L
Survival LOEC:	1 g/L

Test incubated in : ☑ Incubator # 2

☐ Waterbath #_____

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 2 min. 25.3 max. 26.1 mean 25.7

Water bath # ____ min.____ max.____ mean____

Room B246 min. 23.9 max. 25.8 mean 24.9

P. promelas PMSD Bounds for Growth: Lower 12 Upper 30

M. beryllina PMSD Bounds for Growth: Lower 11 Upper 28

Investigators' signatures

James Daniels

Amalia Rankin

Marshall Faircloth

Loretta C. Wolfe

REVIEWER

Comments:

revised 7/16/08 MF

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or Menidia beryllina Survival

Organism: (*P. promelas*) *M.beryllina* (circle one) D = dead M = missing

Concentration: µg/L (g/L) (circle one)

			TEST DAY							
Concentration	Replicate	Chamber	0	1	2	3	4	5	6	7
Control	A	B1	10	10	10	10	10	10	10	10
	B	B 2	10	10	10	10	10	10	10	10
	C	B 3	10	10	10	10	10	10	10	10
	D	B 4	10	10	10	10	10	10	9 10	9
.125	A	B 5	10	10	10	10	10	10	10	9 10
	B	B 6	10	10	10	10	10	10	10	10
	C	B 7	10	10	10	10	10	10	9 10	9
	D	B 8	10	10	10	10	10	6 4D	6	6
.25	A	B 9	10	10	10	10	10	10	10	10
	B	B 10	10	10	10	10	10	10	10	10
	C	B 11	10	10	10	10	10	9 10	9	9
	D	B 12	10	10	10	10	10	10	10	10
.5	A	B 13	10	9 10	9	9	9	9	9	9
	B	B 14	10	10	10	10	10	10	10	10
	C	B 15	10	10	10	10	10	10	10	10
	D	B 16	10	9 10	9	9	9	9	9	9
1.0	A	B 17	10	1 9D	1	1	1	1	1	1
	B	B 18	10	1 9D	1	0 1D	—	—	—	—
	C	B 19	10	1 9D	1	1	1 +3D	1	1	1
	D	B 20	10	0 10D	—	—	—	—	—	—
2.0	A	B 21	10	0 10D						
	B	B 22	10	0 10D						
	C	B 23	10	0 10D						
	D	B 24	10	0 10D						
	A		10							
	B		10							
	C		10							
	D		10							
Loaded by (0 hr): BA		Checked by:								
Verified by (0 hr):										
Concentrations prepared by:										—

Comments:

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revised 7/16/08 MF

Chronic SRT Parameters Benchsheet

P. promelas and M. beryllina SOP TA07_09 and TA-07_15 parameter pg. 1

Start Date: 1.27.09 End Date: 2/3/09

Start Time: 1300 End Time: 1100

conc = concentration rep = replicate circle umhos or mmhos

Test Day ↓	Conc.	New Sample Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos) mmhos	Salinity ppth	Old Sample Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos) mmhos	Salinity ppth
Day 0	Control	A	8.0	24.7	7.8	330	<1						
	.125	A	8.0	24.7	7.8	569	<1						
	.25	A	8.0	24.7	7.8	843	<1						
	.5	A	8.1	25.0	7.8	1341	<1						
	1.0	A	8.1	25.5	7.6	2340	1.15						
	2.0	A	8.1	25.9	7.6	4220	2.20						
		A											
	Measured by		JD	JD	JD	JD	JD						
	Recorded by		JD	JD	JD	JD	JD						
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 1	Control	B	8.1	24.3	6.8	351	0.10	B	7.8	24.9	6.4	352	<1
	.125	B	8.0	24.1	6.7	652	0.26	B	7.8	24.9	6.4	631	<1
	.25	B	8.0	24.0	6.7	893	0.39	B	7.9	24.8	6.2	887	<1
	.5	B	8.1	24.0	6.8	1403	0.66	B	8.0	24.8	6.2	1397	<1
	1.0	B	8.1	24.0	6.7	2360	1.18	B	7.9	24.7	6.4	2400	124
	2.0	B	—	—	—	—	—	B	7.9	24.6	5.9	4440	231
		B						B					
	Measured by		ADR	ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR	ADR
	Recorded by		ADR	ADR	ADR	ADR	ADR		ADR	ADR	ADR	ADR	ADR
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 2	Control	C	7.9	24.0	7.7	342	<1	C	7.6	24.4	6.6	357	<1
	.125	C	7.9	24.0	7.7	588	<1	C	7.6	24.6	6.8	665	<1
	.25	C	7.9	24.0	7.7	860	<1	C	7.6	24.4	6.6	905	<1
	.5	C	7.9	24.1	7.6	1378	<1	C	7.6	24.4	6.3	1441	<1
	1.0	C	7.9	24.0	7.5	2320	1.2	C	7.6	25.0	6.4	2450	1.22
		C						C					
		C						C					
	Measured by		JD	JD	JD	JD	JD		JD	JD	JD	JD	JD
	Recorded by		ADR	ADR	ADR	ADR	ADR		JD	JD	JD	JD	JD
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 3	Control	D	7.9	24.0	5.6	345	<1	D	7.5	25.1	6.5	350	<1
	.125	D	7.7	24.0	6.5	581	<1	D	7.5	25.0	5.3	616	<1
	.25	D	7.8	24.0	6.7	884	<1	D	7.4	25.4	6.2	899	<1
	.5	D	7.8	24.0	6.0	1408	<1	D	7.4	25.1	5.8	1428	<1
	1.0	D	7.8	24.0	6.4	2370	1.20	D[C]	7.5	25.2	5.8	2400	1.21
		D						D					
		D						D					
	Measured by		ADR	ADR	ADR	ADR	ADR		JD	JD	JD	JD	JD
	Recorded by		ADR	ADR	ADR	ADR	ADR		JD	JD	JD	JD	JD

Comments:

For salinity <1 ppth insert <1. For salinity > 1 ppth, conductivity measurement is not required if salinity probe is functional.

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Chronic SRT Parameters Benchsheet

P. promelas and M. beryllina SOP TA07_09 and TA-07_15 parameter pg. 2

Start Date: 1-27-09 End Date: 2-3-09

Start Time: 1310 End Time: 1100

conc = concentration rep = replicate

Test Day ↓	Conc.	New Sample Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos mmhos	Salinity ppth	Old Sample Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos mmhos	Salinity ppth	pH
Day 4	Control	A	8.0	24.0	7.5	355	–	A	~~8.0~~	24.9	6.2	362	–	7.4
	.125	A	8.0	24.0	7.3	598	–	A	.125	24.6	6.2	593	–	7.4
	.25	A	8.0	24.0	7.3	874	–	A	.25	24.8	6.2	899	–	7.4
	.5	A	7.9	24.0	7.2	1389	–	A	.5	24.7	5.8	1421	–	7.4
	1.0	A	8.0	24.1	7.0	2420	1.21	A	1.0 (A)	24.9	5.2	2.400	1.21	7.4
	2.0	A						A						
		A						A						
	Measured by		JD	JD	JD	JD	JD			JD	JD	JD	JD	
	Recorded by		JD	JD	JD	JD	JD			JD	JD	JD	JD	
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity	
Day 5	Control	B	7.8	24.0	7.6	353	–	B	7.6	25.1	6.8	349	–	
	.125	B	7.7	24.0	7.7	597	–	B	7.6	25.0	6.4	597	–	
	.25	B	7.8	24.0	7.6	855	–	B	7.5	25.1	6.2	877	–	
	.5	B	7.8	24.0	7.5	1357	–	B	7.5	25.1	4.9	1395	–	
	1.0	~~B~~ C	7.8	24.0	7.5	2340	1.18	~~B~~ C	7.5	25.1	4.9	2420	1.22 ppt	
	2.0	B						B						
		B						B						
	Measured by			JD	JD	JD	JD		JD	JD	JD	JD	JD	
	Recorded by			JD	JD	JD	JD		JD	JD	JD	JD	JD	
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity	
Day 6	Control	C	7.9	24.0	7.6	350	–	C	7.5	25.0	6.8	346	–	
	.125	C	7.9	24.0	7.5	583	–	C	7.5	25.4	6.4	596	–	
	.25	C	7.9	24.0	7.5	884	–	C	7.5	25.5	6.5	862	–	
	.5	C	7.9	24.1	7.6	1447	–	C	7.6	25.0	6.5	1366	–	
	1.0	C	7.9	24.1	7.5	2420	1.22	C	7.6	25.0	6.0	2380	DO x 1.2 (B)	
		C						C						
		C						C						
	Measured by		JD	JD	JD	JD	JD		JD	JD	JD	JD	JD	
	Recorded by		JD	JD	JD	JD	JD		JD	JD	JD	JD	JD	
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity	
Day 7	Control							D	7.6	24.1	6.1	306	–	
	.125							D	7.5	24.2	6.0	612	–	
	.25							D	7.6	24.2	6.3	924	–	
	.5							D	7.6	24.3	6.6	1476	–	
	1.0							D	7.6	24.2	6.6	2520	1.25 ppt	
								D						
								D						
	Measured by								JD	JD	JD	JD	JD	
	Recorded by								JD	JD	JD	JD	JD	

(A) PH column Day 4 Old Sample transcription error rewritten @ side J.D.

(B) Day 6, ed, Salinity, Transcription error. J.D. 2.2.09

For salinity <1 ppth insert <1. For salinity > 1 ppth, conductivity measurement is not required if salinity probe is functional.

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* Weights

SOP TA06_21

Organism: (*P. promelas*) *M.beryllina* (circle one)

Concentration: µg/L (g/L) (circle one)

mean wt = fish wt divided by 10

convert g to mg: move decimal 3 places to right

Concentration	Replicate	Pan #	Pan wt. (g)	Pan + Fish (g)	Fish wt. (g)	Original # of fish	Mean wt. (mg)
Control	A	17	0.02013	0.02354	0.00341	10	.341
	B	18	3087 0.02987 30	0.02535	0.00448	10	.448
	C	19	0.01923	0.02321	0.00398	10	.398
	D	20	0.02342	0.02760	0.00418	10	.418
.125	A	21	0.02385	0.02728	0.00343	10	.343
	B	22	0.02276	0.02636	0.00360	10	.360
	C	23	0.02354	0.02647	0.00293	10	.293
	D	24	0.02261	0.02513	0.00252	10	.252
.25	A	25	0.02394	0.02810	0.00416	10	.416
	B	26	0.02247	0.02632	0.00385	10	.385
	C	27	0.02114	0.02492	0.00378	10	.378
	D	28	0.02110	0.02567	0.00457	10	.457
.5	A	29	0.01921	0.02254	0.00333	10	.333
	B	30	0.02159	0.02441	0.00282	10	.282
	C	31	0.02270	0.02578	0.00308	10	.308
	D	32	0.02202	0.02660	0.00458	10	.458
1.0	A	33	0.02196	0.02310	0.00114	10	.114
	B	—				10	.
	C	34	0.02084	0.02297	0.00213	10	.213
	D	—				10	
2.0	A					10	
	B					10	
	C					10	
	D					10	
	A					10	
	B					10	
	C					10	
	D					10	
		Weighed by:	JD	JD			

Comments:

Note: Pan number (#) refers to actual Pan number.

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina* QC

SOPs TA07_09, TA07_14 and TA06_21

all weights in grams

Empty Pan Weights Date: 2.2.09 Weighed by: JD

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5	0.02350 JD ~~0.02347~~	@ 0.02350 JD ~~0.02343~~
after Pan 10	0.02353	@ 0.02350
after Pan 15	0.02354	@ 0.02350
after Pan 20	0.02353	@ 0.02350
after Pan 25	0.02353	@ 0.02350
after Pan 30		@
after Pan 35		@
after Pan 40		@
after Pan 45		@
after Pan 48		@

	Measured Value	S-weight Value
S-weights	0.0998	@ 0.01
	0.04001	@ 0.04

Balance: Ohaus 250D Ser# 1125481084

S-Weights: BIO-S-Weights-01

Fish + Pan Weights Date: 2.9.09 Weighed by: JD

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5	0.02353	@ 0.02354
after Pan 10	0.02353	@ 0.02354
after Pan 15	0.02350	@ 0.02354
after Pan 20	0.02355	@ 0.02354
after Pan 25		@
after Pan 30		@
after Pan 35		@
after Pan 40		@
after Pan 45		@
after Pan 48		@

	Measured Value	S-weight Value
S-weights	0.02	@ 0.02
	0.05004	@ 0.05

Drying Oven ID: VWR #2

Temperature °C: 95

Drying Hours: 8

Note: Pan number (5, 10, etc.) refers to sequence of weighing as actual Pan #s may differ.

Comments:

PAGE 00 013

revised 7/16/08 MF

Bioassay Instrument ID

Test ID: P. promelas chronic set Dates: Jan. 27 – Feb. 3, 2009

METER / DEVICE	ID	SOP	Parameter	Method	√used
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G	✓
Accumet AR-10 pH Meter	93312105	TA06_23	pH	SM 4500 H+	✓
Mettler-Toledo SevenMulti Conductivity Meter	SN 1225117049 Probe H04257	TA06_25	Conductivity Salinity	SM 2510 B SM 2520 B	✓
Denver Model 225 ISE with ammonia probe	SN K01377	TA06_17	Ammonia	SM 4500 NH3 F	✓
Thermometer (DO probe)	YSI 5750 SN 05J1720	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400	✓
Hach Pocket Colorimeter II	05050C026378	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Alkalinity (Hach Kit)	No SN	TA06_08	Alkalinity	SM 2320 B	✓
Hardness (Hach Kit)	No SN	TA06_09	Hardness	SM 2340 C	✓
OHAUS Balance 250D	1125481084	TA06_21 TA06_27	Weight	-	✓
S-Weights	BIO-S-WEIGHTS-01	NA	Balance check	-	✓
Drying Oven				-	✓

SM-2530B modified to allow use of electronic and non-mercury filled thermometers.

Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT) MF wrong day — 2/19/09

Entered by M. Faircloth 3/19/09

V 1.1 6/12/08 MF

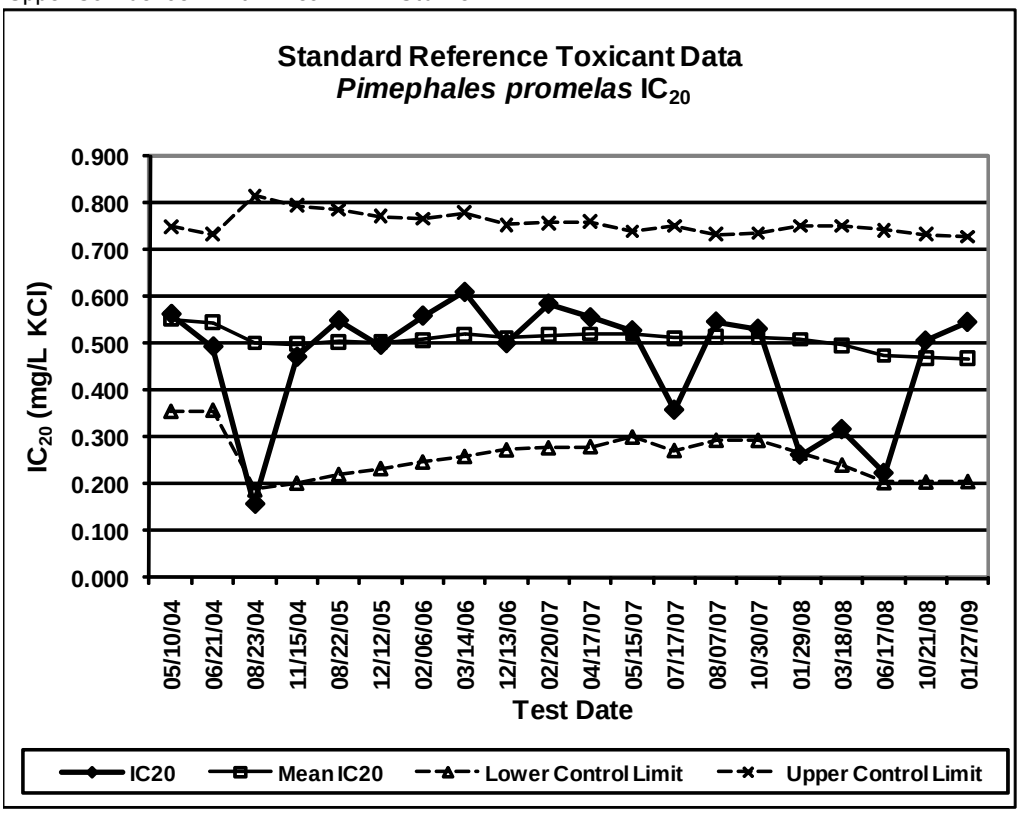
PAGE 00 014

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 7-Day Chronic Toxicity
Pimephales promelas (fathead minnow) - Potassium Chloride (KCl)

Date	IC20	Mean IC20	Std Dev	Lower Control Limit	Upper Control Limit	Date
05/10/04	0.563	0.553	0.10	0.355	0.751	05/10/04
06/21/04	0.494	0.546	0.09	0.358	0.734	06/21/04
08/23/04	0.157	0.503	0.16	0.190	0.815	08/23/04
11/15/04	0.472	0.499	0.15	0.204	0.795	11/15/04
08/22/05	0.549	0.504	0.14	0.222	0.786	08/22/05
12/12/05	0.497	0.503	0.13	0.234	0.772	12/12/05
02/06/06	0.559	0.508	0.13	0.248	0.767	02/06/06
03/14/06	0.610	0.520	0.13	0.260	0.780	03/14/06
12/13/06	0.501	0.514	0.12	0.274	0.754	12/13/06
02/20/07	0.585	0.518	0.12	0.278	0.758	02/20/07
04/17/07	0.556	0.521	0.12	0.281	0.761	04/17/07
05/15/07	0.528	0.521	0.11	0.301	0.741	05/15/07
07/17/07	0.358	0.513	0.12	0.273	0.753	07/17/07
08/07/07	0.547	0.514	0.11	0.294	0.734	08/07/07
10/30/07	0.531	0.515	0.11	0.294	0.736	10/30/07
01/29/08	0.263	0.509	0.12	0.267	0.752	01/29/08
03/18/08	0.317	0.497	0.13	0.242	0.752	03/18/08
06/17/08	0.223	0.474	0.13	0.205	0.743	06/17/08
10/21/08	0.506	0.470	0.13	0.206	0.734	10/21/08
01/27/09	0.546	0.468	0.13	0.207	0.729	01/27/09

Means are from all SRT tests, up to 20 tests..
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev



Appendix H

Habitat Assessment Field Sheets

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FD9000-26 MARINE PHYSICAL/CHEMICAL CHARACTERIZATION FIELD DATA SHEET (4/25/00)

LAT/LONGS:	STORET STATION NUMBER:	DATE (M/D/Y):	TIME	RECEIVING BODY OF WATER:
30 07 36.8 / 85 38 57.7	32030M14	1/26/09	1000	St. Andrews Bay

REMARKS:	COUNTY:	SITE LOCATION:	FIELD ID/NAME:
Control Site	Bay	Point off Palmetto	MP-Control

RIPARIAN ZONE/INSTREAM FEATURES

Predominant Land-Use in Watershed (specify relative percent in each category):

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

Local Watershed Erosion (check box): None ☑ Slight ☐ Moderate ☐ Heavy ☐

Local Watershed NPS Pollution (check box): No evidence ☑ Slight ☐ Moderate potential ☐ Obvious sources ☐

Width of riparian vegetation (m) on least buffered side:

Draw aerial view sketch of sampling area including habitats and community types

Artificially Channelized ☑ no ☐ recent, severe ☐ some recovery ☐ mostly recovered, more sinuous

Artificially Impounded ☐ yes

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

Tide Types and Times

High	:	AM / PM	0944	:	AM / PM
Low	:	AM / PM	0740	:	AM / PM

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

SEDIMENT/SUBSTRATE

Sediment Odors: Normal: ☒ Sewage: ☐ Petroleum: ☐ Chemical: ☐ Anaerobic: ☐ Other: ☐ _____

Sediment Oils: Absent: ☒ Slight: ☐ Moderate: ☐ Profuse: ☐

Sediment Deposition: Sludge: ☐ Sand smothering: none ☐ slight ☐ moderate ☐ severe ☐ Silt smothering: none ☐ slight ☐ moderate ☐ severe ☐ Other:

Substrate Types	% coverage	# times sampled	method	Substrate Types	% coverage	# times sampled	method
Seagrass				Sand			
Rock or Shell Rubble				Mud/Muck/Silt			
Aquatic Vegetation				Other:	Sand/mud	5	PONAR

Community Types

Mangroves ☐ Oyster bars ☐ Reef ☐ Natural beach ☒ Other: ☐ _____

WATER QUALITY	Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	Sal	DO %	Secchi (m):
Top	0.333	14.38	8.13	9.11	39538	25.24	104.4	2.8
Mid-depth	3.245	14.44	8.09	8.02	47776	31.27	95.2	
Bottom	6.590	14.67	8.00	8.02	49550	32.40	96.3	

System Type : Stream: ☐ (1st - 2nd order / 3rd - 4th order / 5th - 6th order / 7th order or greater) Estuary: ☐ Other: ☒ Bay

Water Odors (check box): Normal: ☒ Sewage: ☐ Petroleum: ☐ Chemical: ☐ Other: ☐ _____

Water Surface Oils (check box): None: ☒ Sheen: ☐ Globs: ☐ Slick: ☐

Clarity (check box): Clear: ☒ Slightly turbid: ☐ Turbid: ☐ Opaque: ☐

Color (check box): Tannic: ☒ Green (algae): ☐ Clear: ☐ Other: ☐ _____

Weather Conditions/Notes:
Fog
Cloudy / Light wind from north
Ice flat

Abundance:	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☐	☐
Fish	☐	☐	☐	☐
Aquatic Macrophytes	☐	☐	☐	☐
Iron/sulfur Bacteria	☐	☐	☐	☐

Substrate sample collected @ 10:15

SAMPLING TEAM:	SIGNATURE:	DATE:
Nathan Mulkey, Rick Alsad	Nathan Mulkey	1/26/09

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE BENTHIC HABITAT ASSESSMENT FIELD DATA SHEET

SUBMITTING AGENCY CODE: DEP / SUBMITTING AGENCY NAME: FDEP	STORET STATION NUMBER: 32030M14	DATE (M/D/Y): 1/26/09	RECEIVING BODY OF WATER: St. Andrew Bay

REMARKS:	LOCATION: Military Pt Control off Pinnetta	FIELD ID/NAME: Military Pt Control

Habitat Parameter / score	Excellent	Good	Fair	Poor
Littoral Alterations 9	None—Unaltered shoreline. **9-10 points**	Mostly natural shoreline, but with occasional riprap. **6-8 points**	Shoreline consisting mostly of riprap and vertical seawalls. **3-5 points**	Shoreline consisting almost entirely of vertical seawalls. **0-2 points**
Community Types Observed ~~15~~ 20	At least four communities observed from the following list: mangrove swamp, marsh, oyster bar, grass bed, reef, saltern, natural beach, or tidal creek. **38-50 points**	Two or three communities observed from those listed. **26-37 points**	One community observed from those listed. **13-25 points**	No communities observed from those listed. **0-12 points**
Tidal Fluctuation 3	>0.75 m. **4-5 points**	0.5 - 0.75 m. **3 points**	0.25 - 0.5 m. **2 points**	<0.25 m. **0-1 point**
Freshwater Discharges/ Alterations 9	Only natural runoff.. **9-10 points**	Mostly natural runoff, but with a few, small stormwater sources. **6-8 points**	Considerable stormwater discharge from local roads, parking lots, etc. **3-5 points**	Extensive manmade discharges, especially from canals draining large tracts of land. **0-2 points**
Flow and Wave Action 9	Light to moderate wave action present except under the harshest weather conditions. Flow unrestricted by manmade structures. **9-10 points**	—	—	Heavy wave action sometimes present even during average weather conditions, or flow restricted by manmade structures so that velocities are very high. **0-2 points**
Sediment Type ~~8~~ 7	Combination of sand, gravel, and shell. **12-15 points**	Primarily sand, with small areas of mud. **8-11 points**	Mixture of sand and mud, or well-aerated mud only. **4-7 points**	Anaerobic mud. **0-3 points**

TOTAL SCORE ~~50~~ 57

COMMENTS: Small amount of shell & gravel

ANALYSIS DATE: 1/26/09	ANALYST: Rick Abad	SIGNATURE: Rick Abad

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FD9000-26 MARINE PHYSICAL/CHEMICAL CHARACTERIZATION FIELD DATA SHEET (4/25/00)

LAT/LONGS:	STORET STATION NUMBER:	DATE (M/D/Y):	TIME	RECEIVING BODY OF WATER:
30° 07' 28.9" 85° 37' 51.8	320304A2+	1/26/09	1200	St. Andrews Bay

REMARKS:	COUNTY:	SITE LOCATION:	FIELD ID/NAME:
West of Boil	Bay	Military Pt. AWT Diffuser Discharge	MP Test 1

RIPARIAN ZONE/INSTREAM FEATURES

Predominant Land-Use in Watershed (specify relative percent in each category):

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

Local Watershed Erosion (check box): None ☑ Slight ☐ Moderate ☐ Heavy ☐

Local Watershed NPS Pollution (check box): No evidence ☑ Slight ☐ Moderate potential ☐ Obvious sources ☐

Width of riparian vegetation (m) on least buffered side:

Draw aerial view sketch of sampling area including habitats and community types

Artificially Channelized ☑ no ☐ recent, severe ☐ some recovery ☐ mostly recovered, more sinuous

Artificially Impounded ☐ yes

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

Tide Types and Times

High: 944 AM (PM) : ____ AM PM

Low: 710 (AM) PM : ____ AM PM

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

SEDIMENT/SUBSTRATE

Sediment Odors: Normal: ☐ Sewage: ☐ Petroleum: ☐ Chemical: ☑ Anaerobic: ☐ Other: ☐

Sediment Oils: Absent: ☑ Slight: ☐ Moderate: ☐ Profuse: ☐

Sediment Deposition: Sludge: ☐ Sand smothering: none ☐ slight ☐ moderate ☐ severe ☐ Silt smothering: none ☐ slight ☐ moderate ☐ severe ☐ Other:

Substrate Types	% coverage	# times sampled	method	Substrate Types	% coverage	# times sampled	method
Seagrass				Sand			
Rock or Shell Rubble				Mud/Muck/Silt			
Aquatic Vegetation				Other: Shell Hash		5	grab

Community Types

Mangroves ☐ Oyster bars ☐ Reef ☐ Natural beach ☐ Other: ☐

WATER QUALITY	Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	Sal	D.O%	Secchi (m):
Top	0.350	14.33	8.15	9.23	40400	25.78	105.6	2.0
Mid-depth	3.412	14.68	8.10	7.99	48400	31.45	95.0	
Bottom	6.841	14.55	8.07	7.92	49340	32.26	94.9	

System Type: Stream: ☐ (1st - 2nd order, 3rd - 4th order, 5th - 6th order, 7th order or greater) Estuary: ☐ Other: ☑ Sandy

Water Odors (check box): Normal: ☐ Sewage: ☐ Petroleum: ☐ Chemical: ☑ Other: ☐

Water Surface Oils (check box): None: ☑ Sheen: ☐ Globs: ☐ Slick: ☐

Clarity (check box): Clear: ☐ Slightly turbid: ☑ Turbid: ☐ Opaque: ☐

Color (check box): Tannic: ☑ Green (algae): ☐ Clear: ☐ Other: ☐

Weather Conditions/Notes:
Slight rain, mostly cloudy

Abundance:	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☐	☐
Fish	☐	☐	☐	☐
Aquatic Macrophytes	☐	☐	☐	☐
Iron/sulfur Bacteria	☐	☐	☐	☐

SAMPLING TEAM:	SIGNATURE:	DATE:
Rick Abadi, Nathan Mulkey		1/26/09

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE BENTHIC HABITAT ASSESSMENT FIELD DATA SHEET

SUBMITTING AGENCY CODE: / SUBMITTING AGENCY NAME:	STORET STATION NUMBER:	DATE (M/D/Y):	RECEIVING BODY OF WATER:

REMARKS:	LOCATION:	FIELD ID/NAME:
West of Boil	Military Point AWT	

Habitat Parameter / score	Excellent	Good	Fair	Poor
Littoral Alterations 9	None—Unaltered shoreline. **9-10 points**	Mostly natural shoreline, but with occasional riprap. **6-8 points**	Shoreline consisting mostly of riprap and vertical seawalls. **3-5 points**	Shoreline consisting almost entirely of vertical seawalls. **0-2 points**
Community Types Observed 20	At least four communities observed from the following list: mangrove swamp, marsh, oyster bar, grass bed, reef, saltern, natural beach, or tidal creek. **38-50 points**	Two or three communities observed from those listed. **26-37 points**	One community observed from those listed. **13-25 points**	No communities observed from those listed. **0-12 points**
Tidal Fluctuation 3	>0.75 m. **4-5 points**	0.5 - 0.75 m. **3 points**	0.25 - 0.5 m. **2 points**	<0.25 m. **0-1 point**
Freshwater Discharges/ Alterations 9	Only natural runoff.. **9-10 points**	Mostly natural runoff, but with a few, small stormwater sources. **6-8 points**	Considerable stormwater discharge from local roads, parking lots, etc. **3-5 points**	Extensive manmade discharges, especially from canals draining large tracts of land. **0-2 points**
Flow and Wave Action 9	Light to moderate wave action present except under the harshest weather conditions. Flow unrestricted by manmade structures. **9-10 points**	—	—	Heavy wave action sometimes present even during average weather conditions, or flow restricted by manmade structures so that velocities are very high. **0-2 points**
Sediment Type 5	Combination of sand, gravel, and shell. **12-15 points**	Primarily sand, with small areas of mud. **8-11 points**	Mixture of sand and mud, or well-aerated mud only. **4-7 points**	Anaerobic mud. **0-3 points**

TOTAL SCORE 55

COMMENTS: some shell & sand

ANALYSIS DATE:	ANALYST:	SIGNATURE:

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FD9000-26 MARINE PHYSICAL/CHEMICAL CHARACTERIZATION FIELD DATA SHEET (4/25/00)

LAT/LONGS:	STORET STATION NUMBER:	DATE (M/D/Y):	TIME	RECEIVING BODY OF WATER:
N30 07 28.9 W85 37518		1/26/09	1400	St. Andrews Bay

REMARKS:	COUNTY:	SITE LOCATION:	FIELD ID/NAME:
East of Boil		Military Pt. dWT Diffuser Discharge	MP-Test 2

RIPARIAN ZONE/INSTREAM FEATURES

Predominant Land-Use in Watershed (specify relative percent in each category):

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

Local Watershed Erosion (check box): None ☐ Slight ☐ Moderate ☐ Heavy ☐

Local Watershed NPS Pollution (check box): No evidence ☐ Slight ☐ Moderate potential ☐ Obvious sources ☐

Width of riparian vegetation (m) on least buffered side:

Draw aerial view sketch of sampling area including habitats and community types

Artificially Channelized ☐ no ☐ recent, severe ☐ some recovery ☐ mostly recovered, more sinuous

Artificially Impounded ☐ yes

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

Tide Types and Times

high : 944 AM (PM) : AM PM

low : 740 (AM) PM : AM PM

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

SEDIMENT/SUBSTRATE

Sediment Odors: Normal: ☐ Sewage: ☐ Petroleum: ☐ Chemical: ✓ Anaerobic: ☐ Other: ☐ ____

Sediment Oils: Absent: ✓ Slight: ☐ Moderate: ☐ Profuse: ☐

Sediment Deposition: Sludge: ☐ Sand smothering: none ☐ slight ☐ moderate ☐ severe ☐ Silt smothering: none ☐ slight ☐ moderate ☐ severe ☐ Other:

Substrate Types	% coverage	# times sampled	method	Substrate Types	% coverage	# times sampled	method
Seagrass				Sand			
Rock or Shell Rubble				Mud/Muck/Silt			
Aquatic Vegetation				Other: sand/mud		5	ponar

Community Types

Mangroves ☐ Oyster bars ☐ Reef ☐ Natural beach ✓ Other: ☐ ____

WATER QUALITY	Depth (m):	Temp. (°C):	pH (SU):	D.O. (mg/l):	Cond. (µmho/cm) or Salinity (ppt):	Sal	% DO	Secchi (m):
Top	0.335	14.65	8.15	9.22	48948	26.23	106.6	2.5
Mid-depth	3.750	14.53	8.12	8.03	49004	32.02	96.1	
Bottom	7.325	14.61	8.10	8.04	49494	32.38	96.5	

System Type : Stream: ☐ (1st - 2nd order 3rd - 4th order 5th - 6th order 7th order or greater) Estuary: ☐ Other: ✓ Bay

Water Odors (check box): Normal: ☐ Sewage: ☐ Petroleum: ☐ Chemical: ✓ Other: ☐ ____

Water Surface Oils (check box): None: ✓ Sheen: ☐ Globs: ☐ Slick: ☐

Clarity (check box): Clear: ☐ Slightly turbid: ✓ Turbid: ☐ Opaque: ☐

Color (check box): Tannic: ✓ Green (algae): ☐ Clear: ☐ Other: ☐ ____

Weather Conditions/Notes:
Partly cloudy

Abundance:

	Absent	Rare	Common	Abundant
Periphyton	☐	☐	☐	☐
Fish	☐	☐	☐	☐
Aquatic Macrophytes	☐	☐	☐	☐
Iron/sulfur Bacteria	☐	☐	☐	☐

SAMPLING TEAM:	SIGNATURE:	DATE:
Nathan Mulkey, Rick Abad	R Abad	1/26/09

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
MARINE BENTHIC HABITAT ASSESSMENT FIELD DATA SHEET

SUBMITTING AGENCY CODE: DEP / SUBMITTING AGENCY NAME: NWFDEP	STORET STATION NUMBER:	DATE (M/D/Y): 1/26/09	RECEIVING BODY OF WATER: St. Andrew Bay

REMARKS: Bird Rookery	LOCATION: Military Point Area	FIELD ID/NAME: MP-Test 2

Habitat Parameter / score	Excellent	Good	Fair	Poor
Littoral Alterations 9	None—Unaltered shoreline. **9-10 points**	Mostly natural shoreline, but with occasional riprap. **6-8 points**	Shoreline consisting mostly of riprap and vertical seawalls. **3-5 points**	Shoreline consisting almost entirely of vertical seawalls. **0-2 points**
Community Types Observed 20	At least four communities observed from the following list: mangrove swamp, marsh, oyster bar, grass bed, reef, saltern, natural beach, or tidal creek. **38-50 points**	Two or three communities observed from those listed. **26-37 points**	One community observed from those listed. **13-25 points**	No communities observed from those listed. **0-12 points**
Tidal Fluctuation 3	>0.75 m. **4-5 points**	0.5 - 0.75 m. **3 points**	0.25 - 0.5 m. **2 points**	<0.25 m. **0-1 point**
Freshwater Discharges/ Alterations 9	Only natural runoff.. **9-10 points**	Mostly natural runoff, but with a few, small stormwater sources. **6-8 points**	Considerable stormwater discharge from local roads, parking lots, etc. **3-5 points**	Extensive manmade discharges, especially from canals draining large tracts of land. **0-2 points**
Flow and Wave Action 9	Light to moderate wave action present except under the harshest weather conditions. Flow unrestricted by manmade structures. **9-10 points**	—	—	Heavy wave action sometimes present even during average weather conditions, or flow restricted by manmade structures so that velocities are very high. **0-2 points**
Sediment Type 5	Combination of sand, gravel, and shell. **12-15 points**	Primarily sand, with small areas of mud. **8-11 points**	Mixture of sand and mud, or well-aerated mud only. **4-7 points**	Anaerobic mud. **0-3 points**

TOTAL SCORE 55

COMMENTS: Some Shell + Sand

ANALYSIS DATE:	ANALYST:	SIGNATURE:

Appendix I-1

Benthic macroinvertebrates collected from ponar samples at a Control Site and 2 Test Sites bracketing the Military Point Regional facility's effluent discharge pipe (D-001). Taxa collected and density (average number of individuals/m^2) rounded to the nearest individual (Control Site n = 3 samples/site; 2 Test Sites n = 5 samples/site). See SOP LT 7100 sect. 4.2.1 for method on collapsing taxa.

	Control	Test Site 1	Test Site 2
Annelida			
Polychaeta			
Aglaophamus sp.	28	8	-
Aphelochaeta sp.	28	-	-
Apoprionospio dayi	74	-	-
Aricidea fragilis	14	-	-
Aricidea taylori	-	-	33
Armandia maculata	14	208	25
Axiothella sp.	417	-	-
Bispira melanostigma	-	-	25
Capitella capitata	-	-	8
Ceratonereis irritabilis	14	-	-
Chaetopterus variopedatus	-	-	67
Chrysopetalum heteropalea	14	-	92
Clymenella torquata	417	-	-
Diopatra neotridens	-	17	-
Eupolymnia sp.	486	-	30
Exogone sp.	-	-	9
Fabricinuda trilobata	42	-	-
Fauveliopsidae	14	-	-
Galathowenia oculata	28	-	8
Glycera sp.	83	8	25
Glycinde solitaria	-	67	8
Goniada littorea	14	-	-
Magelona pettiboneae	-	-	17
Maldanidae	-	8	33
Malmgreniella maccrayae	-	33	-
Mediomastus ambiseta	181	83	325
Megalomma pigmentum	-	-	8
Melinna sp.	56	-	-
Minuspio multibranchiata	-	-	31
Minuspio perkinsi	-	67	-
Monticellina sp.	-	8	-
Nereis micromma	14	-	34
Notomastus latericeus	680	508	59
Onuphis sp.	-	-	25
Ophelia sp.	14	-	-
Paradialychone sp.	167	-	-
Paramphinome sp.	-	8	-

Appendix I-1 (continued)

Paraprionospio sp.	-	25	-
Phyllodoce sp.	-	-	8
Phyllodoce arenae	42	-	-
Prionospio heterobranchia	133	-	11
Sabellaria floridensis	-	-	8
Scoletoma sp.	42	-	25
Scoletoma verrilli	42	58	133
Sigambra tentaculata	-	17	92
Spiochaetopterus costarum	-	8	-
Spiophanes duplex	15	-	-
Sthenelais sp.	-	-	8
Sthenolepis sp.	-	-	34
Streblosoma hartmanae	-	-	20
Syllis sp.	-	-	181
Terebellides stroemi	208	-	67
Typosyllis sp.	-	-	18
Arthropoda			
Crustacea			
Amphipoda			
Ampelisca sp.	-	-	75
Ampelisca sp. C	375	59	-
Aoridae	250	17	17
Ericthonius sp.	28	-	-
Isaeidae	-	-	25
Listriella sp.	28	-	-
Listriella barnardi	-	-	42
Monocorophium acherusicum	-	-	33
Monocorophium sp. A	-	-	17
Brachyura			
Unidentified Brachyura	-	-	8
Cumacea			
Leucon	-	25	-
Oxyurostylis smithi	28	-	-
Decapoda			
Diogenidae	14	-	-
Pinnixa sp.	14	-	58
Pinnotheres sp.	-	-	25
Polyonyx gibbesi	-	-	67
Isopoda			
Xenanthura brevitelson	-	-	17
Tanaidacea			
Kalliapseudes macsweenyi	333	-	17
Leptochelia sp.	-	-	17
Pseudonototanais sp. B	-	-	17
Chaetognatha			
Unidentified Chaetognatha	-	-	8
Chordata			

Appendix I-1 (continued)

Branchiostoma	42	-	-
Cnidaria			
Hydrozoa	-	-	8
Echinodermata			
Amphiuridae	-	53	-
Ophiuridae	-	131	17
Ophiuroidea	28	-	8
Synaptidae	-	25	-
Mollusca			
Bivalvia			
Cardiomya gemma	14	-	-
Chione elevata	29	-	-
Cyrenoida floridana	29	-	-
Lucinidae	29	11	-
Lyonsia floridana	14	-	-
Macoma tenta	-	22	-
Mactridae	-	11	-
Nuculana acuta	72	11	21
Nuculana concentrica	-	11	-
Parvilucina crenella	-	-	53
Tellina versicolor	258	-	21
Veneridae	-	-	21
Gastropoda			
Aplysia sp.	14	-	-
Cantharus cancellarius	-	-	8
Crepidula plana	-	-	8
Nassarina sp.	14	-	-
Naticidae	14	13	-
Olivella perplexa	14	-	75
Parvanachis obesa	-	13	17
Pyramidellidae	-	-	8
Nemertea			
Unidentified Nemertea	236	425	217
Sipuncula			
Phascolion sp.	-	-	92

Appendix I-2

Benthic macroinvertebrates collected in ponar samples at a Control Site and 2 Test Sites bracketing the Military Point Regional facility's effluent discharge pipe (D-001). Taxa collected and total number of individuals counted (Control Site n=3 samples/site; 2 Test Sites n = 5 samples/site).

	Control	Test Site 1	Test Site 2
Annelida			
Aglaophamus sp.	2	1	-
Ampharetidae	1	-	-
Aphelochaeta sp.	2	-	-
Apoprionospio dayi	5	-	-
Aricidea sp.	-	-	1
Aricidea fragilis	1	-	-
Aricidea taylori	-	-	3
Armandia maculata	1	25	3
Axiothella sp.	1	-	-
Bispira melanostigma	-	-	3
Capitella capitata	-	-	1
Ceratonereis irritabilis	1	-	-
Chaetopterus variopedatus	-	-	8
Chrysopetalum heteropalea	1	-	11
Clymenella torquata	1	-	-
Diopatra neotridens	-	1	-
Eupolymnia sp.	25	-	3
Exogone sp.	-	-	1
Fabricinuda trilobata	2	-	-
Fauveliopsidae	1	-	-
Galathowenia oculata	1	-	1
Glycera sp.	6	1	3
Glycinde solitaria	-	8	1
Goniada littorea	1	-	-
Magelona pettiboneae	-	-	2
Maldanidae	58	1	4
Malmgreniella maccrayae	-	4	-
Mediomastus sp.	12	9	37
Mediomastus ambiseta	1	1	2
Megalomma pigmentum	-	-	1
Melinna sp.	3	-	-
Minuspio multibranchiata	-	-	3
Minuspio perkinsi	-	8	-
Monticellina sp.	-	1	-
Nereis sp.	-	-	2
Nereis micromma	1	-	2

Appendix I-2 (continued)

Notomastus sp.	1	-	2
Notomastus latericeus	48	61	5
Onuphidae	-	1	1
Onuphis sp.	-	-	2
Ophelia sp.	1	-	-
Oweniidae	1	-	-
Paradialychone sp.	8	-	-
Paramphinome sp.	-	1	-
Paraprionospio sp.	-	3	-
Phyllodoce sp.	1	-	1
Phyllodoce arenae	2	-	-
Prionospio sp.	3	-	-
Prionospio heterobranchia	6	-	1
Sabellaria floridensis	-	-	1
Sabellidae	5	-	-
Scoletoma sp.	3	-	3
Scoletoma verrilli	3	7	16
Sigambra tentaculata	-	2	11
Spiochaetopterus costarum	-	1	-
Spionidae	1	-	1
Spiophanes duplex	1	-	-
Sthenelais sp.	-	-	1
Sthenolepis sp.	-	-	4
Streblosoma hartmanae	-	-	2
Syllidae	-	-	2
Syllis sp.	-	-	20
Terebellidae	10	-	1
Terebellides stroemi	15	-	8
Typosyllis sp.	-	-	2
Arthropoda			
Amphipoda			
Ampelisca sp.	26	6	9
Ampelisca sp. C	1	1	-
Aoridae	18	2	2
Ericthonius sp.	2	-	-
Isaeidae	-	-	3
Liljeborgiidae	1	-	-
Listriella sp.	1	-	-
Listriella barnardi	-	-	5
Monocorophium sp.	-	-	3
Monocorophium acherusicum	-	-	2
Monocorophium sp. A	-	-	1
Brachyura			
Unidentified Brachyura	-	-	1
Cumacea			

Appendix I-2 (continued)

Leucon	-	3	-
Oxyurostylis smithi	1	-	-
Unidentified Cumacea	1	-	-
Decapoda			
Diogenidae	1	-	-
Pinnixa sp.	1	-	7
Pinnotheres sp.	-	-	3
Polyonyx gibbesi	-	-	8
Isopoda			
Xenanthura brevitelson	-	-	2
Tanaidacea			
Kalliapseudes macsweenyi	24	-	2
Leptochelia sp.	-	-	2
Pseudonototanais sp. B	-	-	2
Chaetognatha			
Unidentified Chaetognatha	-	-	1
Chordata			
Branchiostoma	3	-	-
Cnidaria			
Hydrozoa	-	-	1
Echinodermata			
Amphiuridae	-	6	-
Ophiurida	-	1	-
Ophiuridae	-	15	2
Ophiuroidea	2	-	1
Synaptidae	-	3	-
Mollusca			
Bivalvia			
Cardiomya gemma	1	-	-
Chione elevata	1	-	-
Cyrenoida floridana	2	-	-
Lucinidae	2	1	4
Lyonsia floridana	1	-	-
Macoma tenta	-	1	-
Mactridae	-	1	-
Nuculana acuta	5	1	2
Nuculana concentrica	-	1	-
Parvilucina crenella	-	-	1
Tellina sp.	3	-	-
Tellina versicolor	14	-	2
Tellinidae	1	1	-
Unidentified Bivalvia	1	2	3
Veneridae	1	-	2
Gastropoda			
Aplysia sp.	1	-	-

Appendix I-2 (continued)

Cantharus cancellarius	-	-	1
Crepidula plana	-	-	1
Nassarina sp.	1	-	-
Naticidae	1	1	-
Olivella perplexa	1	-	9
Parvanachis obesa	-	1	2
Pyramidellidae	-	-	1
Unidentified Gastropoda	-	1	-
Nemertea			
Unidentified Nemertea	17	51	26
Sipuncula			
Phascolion sp.	-	-	10
Unidentified Sipuncula	-	-	1

The Bioassay of the Military Point Regional WWTF effluent sampled on January 26, 2009, NPDES #FL0167959

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 1 6 7 9 5 9 11 12	0 9 0 1 2 6	# B	# S	# 2

Remarks

#

The Priority Pollutants Analysis for Bioassay of the Military Point Regional WWTF effluent sampled on January 26, 2009, NPDES #FL0167959

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 1 6 7 9 5 9 11 12	0 9 0 1 2 6	# X	# S	# 2

Remarks

#

Biological Analyses of the Military Point Regional WWTF effluent sampled on January 26, 2009, NPDES #FL0167959

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 1 6 7 9 5 9 11 12	0 9 0 1 2 6	# S	# S	# 2

Remarks

#