


**Effluent Quality Assessment**

# Military Point Aerated Lagoon

Bay County

NPDES #FL0002631

Sampled May 16, 18 and 20, 2011

September 2011

**Biology Section**
**Bureau of Laboratories**
**Division of Environmental Assessment and Restoration**

Quality Manual No. 870346G
NELAC Certification No. E31780

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Military Point Aerated Lagoon, Lagoon Rd, Tyndall AFB, Bay County, Florida, 32403. NPDES #FL0002631. Effluent grab samples for biological and chemical analyses for this facility were collected on May 16, 2011. Effluent grab samples for bioassays for this facility were collected on May 16, 18 and 20, 2011.

## Introduction

Military Point Aerated Lagoon is an industrial wastewater treatment facility providing secondary treatment of wastewater from two industrial facilities. (See Appendix F for detailed facility information provided by Kim Allen of FDEP Northwest District.)

## Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-001 by Nathan Mulkey, Rick Abad and Corinna Clanton (FDEP Northwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/bars/sas/sop/index.htm.

See Appendix A for the completed chain of custody form.

The 7-day chronic definitive toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_05, TA07_09, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

An aliquot of the algal growth potential (AGP) sample was salinity-adjusted with artificial sea salts from an apparent salinity of approximately 0.76 parts per thousand (ppth) to a salinity of approximately 7.2 ppth to meet the salinity requirement of the marine AGP test (7 ppth).

## Results and Discussion

- **Toxicity Test Results**
  Tests were performed May 17– 24, 2011.

  *Ceriodaphnia dubia* 7- day chronic definitive bioassay – NOEC: 100 %
  IC25: > 100 % *

  *Pimephales promelas* 7-day chronic definitive bioassay – NOEC: 100 %
  IC25: > 100 %

  The bioassay samples were not chronically toxic to the test organisms.

  * Due to data smoothing, the statistical package calculated the IC20 and IC25 as less than 100% sample. The mean reproduction in the controls is 15.6 neonates per adult and the mean reproduction in the 100% sample is 15.8 neonates per adult; therefore, the IC concentrations are greater than 100% sample.

  See Appendix B for bioassay bench sheets. See Appendix C for results of the last 20 standard reference toxicant (SRT) tests and the bench sheets and statistical analyses of the SRT tests that correspond to these facility tests. See Appendix D for test organism receipts.

- **Algal Growth Potential**
  The effluent Algal Growth Potential (AGP) was 13.4 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Schultz (1987) determined that AGP values above 5.0 mg dry weight/L represent a “problem” threshold for

fresh receiving waters, implying nutrient enrichment. The ratios of total nitrogen to total phosphorus and inorganic nitrogen to orthophosphate suggest that the effluent is nitrogen-limited.

The effluent Algal Growth Potential (AGP) was 33.6 mg dry wt/L of the saltwater species *Dunaliella tertiolecta*. Raschke and Schultz determined that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication, Marshall Faircloth, et. al. FDEP, with Ron Raschke USEPA Region 4 1987).

See Table 1 for AGP results and qualifiers.

- **Chemistry Results**
  Total residual chlorine was not detected in any of the three bioassay samples in the laboratory. Total ammonia (0.867, 0.909, and 1.075 mg N /L, respectively, in sample 1, sample 2 and sample 3) was detected in the bioassay samples in the laboratory. The total ammonia concentration in the effluent sample collected and preserved for chemical analysis was 1.0 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.03 mg/L.

  Aluminum, arsenic, copper, iron, molybdenum, nickel, selenium, and zinc were detected in the effluent at levels that comply with Class III marine water quality criteria (62-302.530, F.A.C.) or permit conditions. Antimony, cadmium, lead, and silver were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

  The effluent's dissolved oxygen (DO) level (2.1 mg/L) failed to meet the minimum Class III marine criterion or the facility's permitted limit.

  See Table 2 for results of analytes detected in the effluent, corresponding limits, and qualifiers. See Appendix E for a complete list of chemical analyses performed. See Appendix B for bioassay lab equipment.

## Conclusion

The effluent samples collected from the EFF-1 NPDES sampling point for Outfall D-001 for this facility on May 16, 18, and 20, 2011, were not chronically toxic to either test species during the 7-day chronic definitive bioassays. The effluent AGP results were greater than the "problem" threshold for both fresh and marine receiving waters, suggesting that nutrient enrichment may be an issue. Since the receiving waters are Class III marine, the marine threshold would apply. The effluent's dissolved oxygen concentration failed to meet both the minimum Class III marine criterion and the facility's permitted limit. Additional effluent water quality samples collected on May 16, 2011, did not exceed any applicable water quality standards or violate any permit conditions.

## Literature Cited

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

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

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

**Table 1a. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus for samples collected from the Military Point Aerated Lagoon on May 16, 2011.**

| Military Point Aerated Lagoon NPDES# FL0002631 | | | | | |
|---|---|---|---|---|---|
| Location | AGP (measured) | Predicted AGP (TSIN) ± 20% | Predicted AGP (TN) ± 20% | Inorganic N:P ratio | Total N:P ratio |
| D-001 | 13.4 | 38.2 ± 7.6 | 114.2 ± 22.8 | 3.5 | 4.6 |

**Table 1b. Measured algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected from the Military Point Aerated Lagoon on May 16, 2011.**

| Military Point Aerated Lagoon NPDES# FL0002631 | | | |
|---|---|---|---|
| Location | AGP (measured) | Inorganic N:P ratio | Total N:P ratio |
| D-001 | 33.6 * | 3.5 | 4.6 |

* - sample salinity adjusted to 7.2 ppth

**Table 2. Effluent limits, Class III Criteria for predominantly marine waters, chemical and microbiological data, and qualifiers for samples collected from the Military Point Aerated Lagoon on May 16, 2011.**

| Military Point Aerated Lagoon NPDES# FL0002631 | Class III Criteria | Effluent Limits | D-001 | |
|---|---|---|---|---|
| **Metals (µg/L unless otherwise noted)** | | | | |
| Aluminum | ≤ 1500 | ≤ 10,000 p | 2800 | |
| Antimony | ≤ 4,300 | ≤ 4,300 p | 0.95 | I |
| Arsenic | ≤ 50 | ≤ 36 p | 6.25 | |
| Cadmium | ≤ 8.8 | - | 0.076 | I |
| Calcium (mg/L) | - | - | 55.8 | |
| Chromium-III | - | - | 3.6 | |
| Copper | ≤ 3.7 | ≤ 21 p | 2.89 | |
| Iron | ≤ 300 | ≤ 1,100 p | 470 | |
| Lead | ≤ 8.5 | ≤ 8.5 p | 0.72 | I |
| Magnesium (mg/L) | - | - | 25.7 | |
| Molybdenum | - | Report | 5.42 | |
| Mercury | ≤ 0.025 | ≤ 0.025 s | 0.12 | U |
| Nickel | ≤ 8.3 | Report | 4.85 | |
| Selenium | ≤ 71 | - | 1.4 | |
| Silver | ≤ 2.3 | - | 0.027 | I |
| Zinc | ≤ 86 | ≤ 86 p | 25 | |
| **Nutrients (mg/L)** | | | | |
| Ortho-phosphate | - | - | 0.29 | |
| Total Phosphorus | - | Report | 0.66 | |
| Total Ammonia | - | Report | 1.0 | |
| Un-ionized Ammonia | - | Report | 0.03 | c |
| Nitrate and Nitrite | - | Report | 0.004 | U |
| Total Kjeldahl Nitrogen | - | Report | 3.0 | |
| Organic Nitrogen | - | - | 2.0 | c |
| Total Nitrogen | - | Report | 3.002 | c |
| **General Physical and Chemical Parameters** | | | | |
| Dissolved Oxygen (mg/L) | ≥ 4.0 | ≥ 5.0 | 2.1 | |
| pH (SU) | 6.5 - 8.5 | 6.5 - 8.5 | 7.6 | |
| Conductivity (µmhos/cm) | - | - | 1896 | |
| Temperature (°C) | - | Report | 26.5 | |
| Salinity | - | - | 0.93 | c |
| Total Residual Chlorine (mg/L) | ≤ 0.01 | - | 0.03 | £QU |
| Chlorophyll *a* (µg/L) - Corrected | - | - | 1.4 | I |
| Phaeophytin (µg/L) | - | - | 0.67 | U |
| Total Suspended Solids (mg/L) | - | - | 10 | |
| Color (pt-Co) | - | Report | 680 | |
| Chloride (mg/L) | - | - | 190 | |
| Cyanide (µg/L) | ≤ 1.0 | - | 0.005 | UJ |
| Fluoride (mg/L) | ≤ 5.0 | - | 0.16 | |
| Sulfate (mg/L) | - | - | 350 | |
| Flow (MGD) | - | 37 a | 20.96 | a* |
| Hardness (mg $CaCO_3$) | - | - | 245.17 | c |
| **Microbiology (Number of colony forming units/100ml)** | | | | |
| Fecal Coliforms ¥ | ≤ 400s # | ≤ 800 s | 4 | B |

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

c - Value is calculated

p - 24- hour composite

s - Single sample

B - Results based on colony counts outside the acceptance range

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

J - Estimated value

Q - Sample held beyond normal holding time

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

¥ - Fecal coliform analysis performed by UWF Overflow Laboratories

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

£ - measurement taken in the FDEP laboratory

* - Monthly PCS data average, monitored from 5-31-2010 to 4-30-2011

# Florida Department of Environmental Protection

## Central Laboratory Sample Submittal Form

Event ID *

**Request Number: RQ-2011-05-16-38**
FYI3 Sampling Inspection for Military Point Aerated Lagoon

Requester: Edward Smith
Field Report Prepared By: N. Mulkey
Collected By: Nathan Mulkey / Ricke Abad
Send Final Report To: Toni Edwards
Sampling Agency: FDEP

**Customer: NW-DIST**
**Project ID: FYI3**
**PMAS: 1143**

| Lab ID * | Location | Comp / Grab | Collection (begin) Date Time Eastern Central | Collection (end) Date Time Eastern Central | Bottle Group(s)** |
|---|---|---|---|---|---|
| | Military Point | ☐ Comp ☑ Grab | Date 5/16/11 Time 1135 (Central) | | A |
| | Field ID: Effluent D-001 | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L): 2.09 | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C): 26.50 | pH: 7.57 | Sample Depth ☐ m ☐ ft: 1896 | ☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm) NPDES Number |
| | Latitude: 30.11962 ☑ dd ☐ dms | Longitude: 85.63038 ☑ dd ☐ dms | Comments | | |

| Lab ID * | Location | Comp / Grab | Collection (begin) Date Time Eastern Central | Collection (end) Date Time Eastern Central | Bottle Group(s)** |
|---|---|---|---|---|---|
| | Military Point | ☐ Comp ☑ Grab | Date 5/16/11 Time 1130 (Central) | | A |
| | Field ID: TOX 1 | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L): 2.09 | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C): 26.50 | pH: 7.57 | Sample Depth ☐ m ☐ ft: 1896 | ☐ Salinity (PPTh) ☑ Sp Conductance (umho/cm) NPDES Number |
| | Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms | Comments | | |

| Lab ID * | Location | Comp / Grab | Collection (begin) Date Time Eastern Central | Collection (end) Date Time Eastern Central | Bottle Group(s)** |
|---|---|---|---|---|---|
| | Military Point | ☐ Comp ☐ Grab | Date 5/16/11 Time 1200 (Central) | | B |
| | Field ID: Blank | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number |
| | Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms | Comments | | |

| Lab ID * | Location | Comp / Grab | Collection (begin) Date Time Eastern Central | Collection (end) Date Time Eastern Central | Bottle Group(s)** |
|---|---|---|---|---|---|
| | | ☐ Comp ☐ Grab | Date Time Central | | |
| | Field ID | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number |
| | Latitude: ☐ dd ☐ dms | Longitude: ☐ dd ☐ dms | Comments: 2 biosassay Reid in Tox by J.D. 10:20 5.17.11 | | |

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| [illegible] | 5/16/11 | Fed Ex | ABB | 05-17-11 ABB | | | | |

* 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

Request Number: RQ-~~2009-11-09-16~~ 2011-05-16-38 Event ID *

~~Choctawhatchee~~ Bay

Requester: ~~William Chandler~~ Field Report Prepared By:

Customer: NW-DIST Collected By: Send Final Report To ~~Cindy Branch~~

Project ID: ~~DISCRETIONARY~~ FY13 Sampling Agency: FDEP

PMAS: ~~1000~~ 1143

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab ID * | Location: Military Point Aerated Lagoon | | ☐ Comp ☑ Grab | Collection (begin) Date: 5/8/11 Time: 10:30 Eastern Central | | Collection (end) Date Time Eastern Central | | Bottle Group(s)** | A |
| | Field ID: TOX 2 | | 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)** | |
| | 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)** | |
| | 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)** | |
| | 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 biossay Recd in Tox by JD 934 5.19.11 | | | | | |

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| Corinne Clar | 5/18/11:05pm | FedEx | | | | | CYRC | 5/19/11 910A |



* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

05-16-38

# Florida Department of Environmental Protection

## Central Laboratory Sample Submittal Form

Request Number: RQ-2011~~-05-02-16~~

~~Pensacola and Perdido Rivers~~

Event ID *

Requester: ~~Cheryl Dewitt~~ Field Report Prepared By:

Customer: NW-DIST

Project ID: ~~DISCRETIONARY~~ FY13 Collected By: Send Final Report To: ~~Cheryl Dewitt~~

PMAS: ~~4300~~ 1143 Sampling Agency: FDEP

| Lab ID * | Location | | | ☐ Comp ☑ Grab | Collection (begin) Date Time Eastern Central | Collection (end) Date Time Eastern Central | Bottle Group(s)** |
|---|---|---|---|---|---|---|---|
| | Military Point Aerated Lagoon | | | | 5/20/11 7:12 (Central) | | |
| | Field ID | | | Tot Res Chlorine (mg/L) | Diss Oxygen (mg/L) | Storet Station Number | |
| | JOX3 | | | | | | A |
| | Matrix (include type e.g. Salt, Fresh, etc) | Temp (C) | pH | Sample Depth ☐ m ☐ ft | ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) | NPDES Number | |
| | Latitude ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments | | | |

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

| Lab ID * | Location | | | ☐ Comp ☐ Grab | Collection (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 ☐ dd ☐ dms | Longitude ☐ dd ☐ dms | | Comments | | | |

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

| Relinquished By: | Date/Time | Shipping Method: | Received By: | Date/Time | Relinquished By: | Date/Time | Received By: | Date/Time |
|---|---|---|---|---|---|---|---|---|
| Corinna Champion | 5/20 | Hand delivered | Kara Long | 5:20.11 3:45pm | | | | 5:20 11 3:35 |

* Shaded Areas for Lab use only

** Please see reverse side for Bottle Group information

last revised October 1, 2003

## Appendix B. Bench Sheets

**FDEP Biology Laboratory - Chronic Definitive Bench Sheet**

*Ceriodaphnia dubia*

Facility: Military ~~Dark~~ KC Point
Address: Lagoon Rd., Tyndall AFB
County: Bay
NPDES Permit #: FL0002631
Contact/District: Kim Allen/ NWD

LIMS entry: MF 6.7.11 verified: KC 6.7.11

Diluent/ Batch: 20% DMW /5.11.11 Test Days Used: 0 - 6
20% DMW /_____ Test Days Used: _____

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

Organism: *Ceriodaphnia dubia*
Organism Batch #: 5.17.11
Organism age : <24hr hours
Feeding: Prior to Test and Daily
Food: ☒ YCT ☐ *P. subcapitata*
Food Batch: 2.11.11 4.18.11
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-2011-05-17-13 | 1351253 | 5.16.11 / 1230 | 5.17.11 / 1020 |
| Test Day 2 | 2 | TLH-2011-05-19-76 | 1352517 | 5.18.11 / 1130 | 5.19.11 / 0910 |
| Test Day 4 | 3 | TLH-2011-05-20-50 | 1352747 | 5.20.11 / 0812 | 5.20.11 / 1535 |

| Batch # | 5-11-11 | | NA | NA | NA | | | |
|---|---|---|---|---|---|---|---|---|
| **Water Quality Parameters** | 20% DMW | 20% DMW | Sample 1 | Sample 2 | Sample 3 | Other: | Measured By: | Verified by: |
| Field Total Residual $Cl_2$ (mg/L): | NA | NA | not measured | | | | n/a | KC |
| Lab Total Residual $Cl_2$ (mg/L): | <0.03 | | <0.03 | <0.03 | 0.04 | | JD/KC | KC |
| Alkalinity (mg/L as $CaCO_3$): | 80 | | 259 | 263 | 265 | | KC | KC |
| Hardness (mg/L as $CaCO_3$): | 87 | | 237 | 237 | 235 | | KC | KC |
| Total Ammonia (mg/L as N): | <0.017 | | 0.867 | 0.909 | 1.075 | | BA/MF | KC |
| Conductivity: (µmhos) mmhos: | 180 | | 1800 | 1809 | 1882 | | MF | KC |
| Salinity (ppth): | n/a | | n/a | n/a | n/a | | n/a | KC |

Test Incubated in: Incubator #: 2

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 25.5 max 27.4 mean –
Room B246 min. 21.9 max. 23.4 mean –
Test min.____ max.____ mean____

Loaded by: KC

| Test Replicates | Loaded from culture vial |
|---|---|
| 1 | B16 |
| 2 | A25 |
| 3 | C9 |
| 4 | A7 |
| 5 | A24 |
| 6 | A16 |
| 7 | A21 |
| 8 | A26 |
| 9 | A23 |
| 10 | A5 |

| Results MF → 53.1% MF | |
|---|---|
| Control % CV: | ~~53%~~ 53.1% |
| Dunnetts PMSD: | 52.8% |
| Reproduction NOEC: | 100% |
| Reproduction LOEC: | >100% |
| Survival NOEC: | 100% |
| Survival LOEC: | >100% |
| $ICP_{20}$: | 81.9 |
| * $ICP_{25}$: | 89.9 |

Investigators' signatures
Marshall Faircloth
Bree Alexander
Kayla Cox
James Darish
Stig Miller
REVIEWER

**Comments:** * Due to data smoothing, the Statistical Package calculated The IC20 & IC25 as less than 100% sample. The mean reproduction IN the controls is 15.6 neonates/adult and the mean reproduction IN the 100% concentration is 15.8 neonates/adult. therefore the IC concentrations are >100% sample. MF 6.7.11

nnnnn43

Test Page 1 of 6 PAGE revised 07/15/08 MF

## FDEP Biology Laboratory - Chronic Definitive Bench Sheet

*Ceriodaphnia dubia* Survival and Reproduction

SOP TA07_05

Facility: Military Point

LIMS Sample #: 1351253 for lab sample #1

Start Date: 5-17-11 Time: 1050

End Date: 5-23-11 Time: 1300

| 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 | 5 | 1 | 4 | 6 | 4 | 3 | 0 | 0 | 4 | 4 | 31 | 10 | 3.1 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 4 | 2 | 8 | 6 | 6 | 6 | 4 | 1 | 2 | 7 | 46 | 10 | 4.6 |
| | 6 | 8 | 6 | 14 | 9 | 13 | 10 | X0 | 0 | 10 | 9 | 79 | 9 | 7.9 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 17 | 9 | 26 | 21 | 23 | 19 | 4 | 1 | 16 | 20 | 156 | 9 (10) | 15.6 |

| Conc. | Day | Replicate Number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total neonates | Surviving adults | Neonates per adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6.25% | 0* | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 6 | 3 | 5 | 7 | 4* | 6 | 0 | 0 | 6 | 5 | 42 | 10 | 4.2 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 mf | 10 | 0.4 |
| | 5 | 10 | 6 | 8 | 11 | 11 | 6 | 9 | 0 | 7 | 7 | 75 | 10 | 7.5 |
| | 6 | 19 | 11 | 13 | 16 | 16 | 16 | 12 | X | 12 | 17 | mf 10 132 | 9 | 13.2 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 35 | 20 | 26 | 34 | 31 | 28 | 25 | 0 | 25 | 29 | 253 | 9 (10) | 25.3 |

Organisms loaded by: KC

| Day | Counted/ verified by: | Concentrations prepared by: |
|---|---|---|
| 0 | BA | MF |
| 1 | BA | KC/BA |
| 2 | BA | BA |
| 3 | BA | BA |
| 4 | MF | MF |
| 5 | ~~BA~~ | ~~BA~~ |
| 6 | BA | |
| 7 | | |
| 8 | | |

| Concentration | Mean neonates /adult | % survival |
|---|---|---|
| Control | 15.6 | 90 |
| 6.25% | 25.3 | 90 |
| 12.50% | 20.5 | 80 |
| 25% | 26.5 | 100 |
| 50% | ~~27.1 24.7 BA~~ 27.1 | 100 |
| 100% | 15.8 | 90 |

Mean neonates 27.1 BA

Test acceptability

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

**Comments:** *STray mark mF 5-21-11 (#) = original total female - MF 5-24-11 used to divide total neonate,

*Day 0 is test initiation day
X = Dead (original organism)

## FDEP Biology Laboratory - Chronic Definitive Bench Sheet

*Ceriodaphnia dubia* Survival and Reproduction

SOP TA07_05

Facility: Military Point

LIMS Sample # : 1351253 for lab sample #1

Start Date: 5.17.11 Time: 1050

End Date: 5-23-11 Time: 1300

| Conc. | Day | Replicate Number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total neonates | Surviving Adults | Neonates per adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12.50% | 0* | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 7 | 3 | 5 | 5A | 0 | 6 | 5 | 0 | 5 | 5 | 41 | 9 | 4.1 |
| | 4 | 0 | 0 | 0 | X | 4 | M | 0 | 3 | 0 | 0 | 7 | 8 | 0.7 |
| | 5 | 10 | 9 | 12 | | 8 | | 7 | 1 | 7 | 7 | 61 | 8 | 6.1 |
| | 6 | 18 | 11 | 14 | | 13 | | 13 | 0 | 13 | 14 M | 96 | 8 | 9.6 |
| | 7 | | | | | | | Transferred by MF | | | BA | | | |
| | 8 | | | | ↓ | | ↓ | | | | | | | |
| | Total | 35 | 23 | 31 | 5 | 25 | 6 | 25 | 4 | 25 | 26 | 205 | 8 (10) | 20.5 |

| Conc. | Day | Replicate Number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total neonates | Surviving Adults | Neonates per adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25% | 0* | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 6 | 5 | 7 | 8 | 6 | 2 | 6 | 0 | 6 | 6 | 53 | 10 | 5.3 |
| | 4 | 0 | 0 | 0 | 1S | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 11 | 11 | 12 | 8 | 11 | 4 | 13 | 0 | 11 | 8 | 89 | 10 | 8.9 |
| | 6 | 13 | 13 | 14 | 13 | 18 | 9 | 12 | 3 | 12 | 16 | 123 | 10 | 12.3 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 30 | 29 | 33 | 30 | 35 | 15 | 31 | 3 | 29 | 30 | 265 | 10 | 26.5 |

| Conc. | Day | Replicate Number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total neonates | Surviving Adults | Neonates per adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50% | 0* | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 6 | 7 | 0 | 5 | 0 | 6A | 5 | 0 | 6 | 4 | 39 | 10 | 3.9 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 7 | 11 | 0 | 9 | 0 | 11 | 12 | 0 | 12 | 9 | 71 | 10 | 7.1 |
| | 6 | 12 | 15 | 0M | 15 | 0* | 18 | 16 | 0 | 16 | 15 | 107 | 10 | 10.7 |
| | 7 | | | | | | | | MF Ferment amiss | | | | | |
| | 8 | | | | | | | | | SMF | | | | |
| | Total | 25 | 33 | 0 | 29 | 0 | 35 | 33 | 0 | 34 | 28 | 217 | 10 (8) | ~~27.1~~ 27.1 BA |

| Conc. | Day | Replicate Number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | Total neonates | Surviving Adults | Neonates per adult |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100% | 0* | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 5 | 5 | 6 | 6 | 3 | 2 | 6 | X0 | 5 | 3 | 41 | 9 | 4.1 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | \| | 0 | 0 | 0 | 9 | 0 |
| | 5 | 8 | 8 | 3 | ~~6~~ 5 | 5 | 6 | 6 | \| | 5 | 6 | 53 | 9 | 5.3 |
| | 6 | 9 | 5 | 9 | 13 | 7 | 4 | 8 | \| | 7 | 2 | 64 | 9 | 6.4 |
| | 7 | | | | | | | | \| | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 22 | 18 | 18 | 25 | 15 | 12 | 20 | 0 | 17 | 11 | 158 | 9 (10) | 15.8 |

**Comments:** (A) squished during transfer BA 5 20.11

S = Split 25% Day 4 rep 4 MF 5-21-11

m = 12.5% Rep C Day 4 missing MF 5-21-11

* IDed as male 5-24-11 by M. Hayn – MF 5-24-11

Total neonates per adult for the 50% concentration is divided by the 8 Females MF 5-24-11

(#) on total line ~~# of females used~~ to divide total neonates. MF 5-24-11

*Day 0 is test initiation day

X = Dead (original organism)

## Appendix B. (continued)

**FDEP Biology Laboratory - Chronic Definitive Bench Sheet**

*Ceriodaphnia dubia* Parameters

Facility: Military Point SOP TA07_05

LIMS Sample #: 1351253 for lab sample 1

Circle µmhos-cm or mmhos-cm

| Test Day ↓ | | Concentration | New Sample | | | | | | Old Sample | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Test Replicate | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) | | Test Replicate | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) | |
| Day 0 | sample | Control | M | 8.1 | 24.2 | 8.2 | 180 | | | | | | | |
| | 1 | 6.25% | M | 8.1 | 24.4 | 8.2 | 292 | | | | | | | |
| | 1 | 12.5% | M | 8.1 | 24.5 | 8.3 | 398 | | | | | | | |
| | 1 | 25% | M | 8.1 | 24.5 | 8.4 | 599 | | | | | | | |
| | 1 | 50% | M | 8.1 | 24.4 | 8.4 | 1000 | | | | | | | |
| | 1 | 100% | M | 8.1 | 24.6 | 8.5 | 1800 | | | | | | | |
| | Measured by: | | | MF | MF | MF | MF | | | | | | | |
| | Recorded by: | | | MF | MF | MF | MF | | | | | | | |
| Day 1 | sample: | Control | M | 8.0 | 24.0 | 7.7 | 178 | | M | 7.9 | 24.0 | 7.6 | 208 | |
| | 1 | 6.25% | M | 8.1 | 24.0 | 7.7 | 293 | | M | 8.0 | 24.0 | 7.5 | 321 | |
| | 1 | 12.5% | M | 8.2 | 24.0 | 7.8 | 403 | | M | 8.1 | 24.0 | 7.2 | 437 | |
| | 1 | 25% | M | 8.3 | 24.0 | 7.7 | 618 | | M | 8.1 | 24.0 | 7.3 | 650 | |
| | 1 | 50% | M | 8.4 | 24.0 | 7.7 | 1022 | | M | 8.2 | 24.0 | 6.9 | 1093 | |
| | 1 | 100% | M | 8.5 | 24.0 | 7.8 | 1740 | | M | 8.4 | 24.0 | 6.9 | 1810 | |
| | Measured by: | | | KC | KC | KC | KC | | | KC | KC | KC | KC | |
| | Recorded by: | | | KC | KC | KC | KC | | | KC | KC | KC | KC | |
| Day 2 | sample: | Control | M | 7.9 | 24.0 | 7.7 | 175 | | M | 7.8 | 24.0 | 7.0 | 190 | |
| | 2 | 6.25% | M | 7.9 | 24.1 | 7.5 | 275 | | M | 8.0 | 24.0 | 7.3 | 319 | |
| | 2 | 12.5% | M | 7.9 | 24.5 | 7.4 | 376 | | M | 8.1 | 24.0 | 7.6 | 432 | |
| | 2 | 25% | M | 8.0 | 24.6 | 7.3 | 586 | | M | 8.2 | 24.0 | 7.8 | 654 | |
| | 2 | 50% | M | 8.0 | 24.6 | 7.2 | 1002 | | M | 8.3 | 24.0 | 7.8 | 1083 | |
| | 2 | 100% | M | 7.9 | 25.0 | 7.3 | 1809 | | M | 8.4 | 24.0 | 7.8 | 1874 | |
| | Measured by: | | | BA | BA | BA | BA | | | BA | BA | BA | BA | |
| | Recorded by: | | | BA | BA | BA | BA | | | BA | BA | BA | BA | |
| Day 3 | sample: | Control | M | ~~17380~~ | 24.0 | 7.8 | 173 | | M | 7.9 | 24.0 | 7.7 | 186 | |
| | 2 | 6.25% | M | 8.0 | 24.9 | 7.8 | 288 | | M | 8.1 | 24.0 | 7.5 | 302 | |
| | 2 | 12.5% | M | 8.1 | 25.0 | 7.7 | 396 | | M | 8.1 | 24.0 | 7.4 | 408 | |
| | 2 | 25% | M | 8.1 | 24.9 | 7.7 | 597 | | M | 8.2 | 24.0 | 7.6 | 622 | |
| | 2 | 50% | M | 8.0 | 24.7 | 7.6 | 992 | | M | 8.3 | 24.0 | 7.7 | 1053 | |
| | 2 | 100% | M | 7.9 | 24.9 | 7.7 | 1741 | | M | 8.5 | 24.0 | 7.5 | 1813 | |
| | Measured by: | | | KC | BA | KC | KC | | | KC | KC | KC | KC | |
| | Recorded by: | | | KC | BA | KC | KC | | | KC | KC | KC | KC | |

**Comments:**

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

Test Page 4 of 6 PAGE 000046 revised 07/15/08 MF

## Appendix B. (continued)

**FDEP Biology Laboratory - Chronic Definitive Bench Sheet**

*Ceriodaphnia dubia* Parameters

SOP TA07_05

Facility: Military Point

LIMS Sample #: 1354253 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 4 | sample: | Control | M | 8.2 | 24.4 | 7.7 | 177 | MF~~M~~A | 8.2 | 24.5 | 7.8 | 190 |
| | 3 | 6.25% | M | 8.2 | 24.9 | 8.0 | 287 | MF~~M~~A | 8.3 | 24.1 | 7.9 | 320 |
| | 3 | 12.5% | M | 8.2 | 25.0 | 8.0 | 393 | MF~~M~~A | 8.3 | 24.1 | 8.1 | 430 |
| | 3 | 25% | M | 8.1 | 24.9 | 7.9 | 607 | MF~~M~~A | 8.3 | 24.7 | 8.1 | 661 |
| | 3 | 50% | M | 8.1 | 24.7 | 7.8 | 1011 | MF~~M~~A | 8.3 | 24.6 | 8.3 | 1055 |
| | 3 | 100% | M | 7.8 | 24.4 | 7.6 | 1882 | MF~~M~~A | 8.2 | 25.1 | 7.6 | 1883 |
| | 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 | 25.2 | 7.7 | 179 | M | 7.9 | 24.7 | 7.2 | 189 |
| | 3 | 6.25% | M | 8.0 | 25.9 | 7.0 | 299 | M | 8.0 | 24.6 | 7.2 | 319 |
| | 3 | 12.5% | M | 8.1 | 25.9 | 7.1 | 406 | M | 8.0 | 24.6 | 7.2 | 438 |
| | 3 | 25% | M | 8.1 | 25.8 | 7.2 | 604 | M | 8.1 | 24.8 | 7.3 | 646 |
| | 3 | 50% | M | 8.0 | 25.7 | 7.0 | 1024 | M | 8.2 | 25.0 | 7.2 | 1048 |
| | 3 | 100% | M | 8.0 | 25.7 | 6.8 | 1824 | M | 8.3 | 25.4 | 7.1 | 1817 |
| | 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 | | | | | M | 7.7 | 25.2 | 7.2 | 176 |
| | 3 | 6.25% | M | | | | | M | 7.8 | 25.0 | 6.9 | 290 |
| | 3 | 12.5% | M | | | | | M | 8.0 | 24.9 | 7.1 | 392 |
| | 3 | 25% | M | | | | | M | 8.1 | 25.0 | 6.7 | 586 |
| | 3 | 50% | M | | | | | M | 8.2 | 25.2 | 6.8 | 983 |
| | 3 | 100% | M | | | | | M | 8.4 | 25.4 | 6.7 | 1724 |
| | Measured by: | | | | | | | | KC | BA | KC | KC |
| | Recorded by: | | | | | | | | KC | BA | KC | KC |
| Day 7 | sample: | Control | M | | | | | M | | | | |
| | 3 | 6.25% | M | | | | | M | | | | |
| | 3 | 12.5% | M | | | | | M | | | | |
| | 3 | 25% | M | | | | | M | | | | |
| | 3 | 50% | M | | | | | M | | | | |
| | 3 | 100% | M | | | | | M | | | | |
| | Measured by: | | | | | | | | | | | |
| | Recorded by: | | | | | | | | | | | |

**Comments:**

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

Test Page 5 of 6

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revised 07/15/08 MF

## Appendix B. (continued)

Test ID: Military Point Cadubia Dates: 5.17.11 – 5.23.11

| METER / DEVICE | ID | SOP | Parameter | Method | √ used |
|---|---|---|---|---|---|
| YSI Model 58 Dissolved Oxygen Meter | 90H018262 | TA06_04 | Dissolved Oxygen | SM 4500 O G | ✓ |
| YSI DO Probe | 5905 | 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 | ✓ |
| Traceable Thermometer | #1-SN101686412 #2-SN221295527 #3-SN240116020 #4-SN80361795 (#5) SN61990624 | 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 | - | |
| | | | | | |

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: Kara Cox 5.25.11

V 1.1 9/21/10 MF/jd

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## Appendix B. (continued)

**FDEP Biology Laboratory - Chronic Bioassay Bench Sheet**

*Pimphales promelas or Menidia beryllina*

Facility: Military Point
Address: Lagoon Road, Tyndall AFB
County: Bay
NPDES Permit #: FL ~~0021601~~ 0002631 KC
Contact/District: Kim Allen / 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: 5.17.11 ~~5.17.11~~ JD Time: 1315
End Date: 5.24.11 Time: 0900

Diluent/ Batch:
MHW / 5.9.11 Test Days Used: 0-7
MHW / _____ Test Days Used: _____
ASW / _____ Test Days Used: _____
ASW / _____ Test Days Used: _____

Organism age : ~~24-48~~ days JD
Feeding Prior to Test and Daily
Artemia Lot # : 23613
Chamber size : 1000 ml
Test volume : 500 ml

| Artemia Batch # | | Day 3 | 97-11 |
|---|---|---|---|
| Day 0 | 94-11 | Day 4 | 98-11 |
| Day 1 | 95-11 | Day 5 | 99-11 |
| Day 2 | 96-11 | Day 6 | 100-11 |

| Sample Received | Lab Sample # | LIMS Job # | LIMS Sample # | Collection Date/Time | Received Date/Time |
|---|---|---|---|---|---|
| Test Day 0 | 1 | TLH-2011-05-173 | 1351253 | 5.16.11/1230 | 5.17.11/1020 |
| Test Day 2 | 2 | TLH-2011-05-197 | 1352517 | 5.18.11/1130 | 5.19.11/0910 |
| Test Day 4 | 3 | TLH-2011-05-20-50 | 1352747 | 5.20.11/0812 | 5.20.11/1535 |

| Water Quality Parameters | Field Chlorine (mg/L) | | | Lab Chlorine (mg/L) | | | Alkalinity (mg/L as $CaCO_3$) | | | Hardness (mg/L as $CaCO_3$) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample #: | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Sample: | not measured | | | <0.03 | <0.03 | 0.04 | 259 | 263 | 265 | 237 | 237 | 235 |
| Diluent/Control: | | | | <0.03 | <0.03 | <0.03 | 80 | 80 | 80 | 89 | 89 | 89 |
| Method: | n/a | n/a | n/a | Hach | Hach | Hach | Hach | Hach | Hach | Hach | Hach | Hach |
| Measured by: | n/a | n/a | n/a | JD | KC | KC | KC | KC | KC | KC | KC | KC |
| Verified by: | KC | KC | KC | KC | KC | KC | KC | KC | KC | KC | KC | KC |

| | Conductivity (circle one) (µmhos-cm) mmhos-cm) | | | Ammonia (mg/L) | | | Salinity (ppth) | | |
|---|---|---|---|---|---|---|---|---|---|
| Lab Sample#: | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| Sample: | 1784 | 1772 | 1797 | 0.867 | 0.909 | 1.075 | | n/a | |
| Diluent/Control: | 336 | 342 | 351 | <0.017 | <0.017 | <0.017 | | n/a | |
| Method: | Mettler | Mettler | Mettler | Denver | Denver | Denver | Mettler | Mettler | Mettler |
| Measured by: | JD | JD | JD | BA | BA | MF | | n/a | |
| Verified by: | KC | KC | KC | KC | KC | KC | KC | KC | KC |

lims Entry - 5-27-11
Verification - 6/7/11 -KC

| Statistics | |
|---|---|
| Growth NOEC: | 100 % |
| Growth LOEC: | >100% |
| Growth $IC_{20}$: | >100% |
| Growth $IC_{25}$: | >100% |
| Ctrl % CV: | 5.87% |
| Dunnetts PMSD: | 20.4% |
| Survival NOEC: | 100% |
| Survival LOEC: | >100% |

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 5 min. 24.3 max. 26.6 mean —
Water bath # ___ min. _____ max. _____ mean _____
Room B246 min. 21.9 max. 23.7 mean —

Investigators' signatures
James Daniel
Kayla Fox
Bruce Black
Marshall Faircloth
Liz Miller
REVIEWER

Comments:

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revised 08/24/06 MF/SP

## Appendix B. (continued)

### Chronic Bioassay Survival Benchsheet

Facility: M. Hay Pt. T

LIMS Sample Number: 1351253
(for Lab Sample # 1)

**Department of Environmental Protection**
**Biology Laboratory Chronic Screening Bioassay**
***P. promelas* SOP TA07_09 *M. beryllina* SOP TA07_14**

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

| | | TEST DAY | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Concentration | Replicate | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Control | A | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | B | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9 10D |
| | C | 10 | 10 | 10 | 10 | 10 | 8 2D | 8 | 8 |
| | D | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sample 6.25 % | A | 10 | 10 | 10 | 10 | 10 | 8 2D | 8 | 8 |
| | B | 10 | 10 | 10 | 10 | 9 1D | 9 | 9 | 9 |
| | C | 10 | 10 | 8 2D | 8 | 8 | 8 | 8 | 8 |
| | D | 10 | 10 | 10 | 10 | 10 | 9 1D | 9 | 9 |
| Sample 12.5 % | A | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | B | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | C | 10 | 10 | 10 | 10 | 9 1D | 9 | 9 | 9 |
| | D | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sample 25 % | A | 10 | 10 | 10 | 9 1D | 9 | 7 2D | 7 | 7 |
| | B | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | C | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | D | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sample 50 % | A | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | B | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | C | 10 | 10 | 9 1D | 9 | 9 | 8 1D | 8 | 8 |
| | D | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sample 100 % | A | 10 | 10 | 10 | 10 | 10 | 10 | 9 1D | 9 |
| | B | 10 | 10 | 10 | 9 1D | 9 | 9 | 9 | 9 |
| | C | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| | D | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| Sample % | A | 10 | | | | | | | |
| | B | 10 | | | | | | | |
| | C | 10 | | | | | | | |
| | D | 10 | | | | | | | |
| Loaded by: KC | Checked by: | | JD | JD | JD | JD | JD | JD | JD |
| Verified by: DA | | | | | | | | | |

**Comments:**

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## Appendix B. (continued)

### Chronic Bioassay Parameters Benchsheet

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

Sample Source: Millers Point — Start Date: 5/17/11 — End Date: 5.24.11

LIMS Sample #: 13512533 (for Lab sample #1) — Start Time: 1315 — End Time: 0900

conc = concentration — rep = replicate — circle umhos or mmhos

| Test Day | | | Before Renewal | | | | | | After Renewal | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ↓ | | Conc. | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos mmhos | Salinity ppth | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos mmhos | Salinity ppth |
| Day 0 | sample: | Control | A | 8.1 | 25.4 | 7.7 | 336 | | | | | | | |
| | 1 | 6.25% | A | 8.2 | 25.9 | 7.8 | 434 | | | | | | | |
| | 1 | 12.5% | A | 8.2 | 25.9 | 7.8 | 547 | | | | | | | |
| | 1 | 25% | A | 8.3 | 25.9 | 7.9 | 739 | | | | | | | |
| | 1 | 50% | A | 8.4 | 25.9 | 8.1 | 1144 | | | | | | | |
| | 1 | 100% | A | 8.5 | 25.9 | 7.7 | 1784 | | | | | | | |
| | 1 | | A | | | | | | | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | | | | | |
| | Recorded by: | | | JD | JD | JD | JD | | | | | | | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 1 | sample: | Control | B | 7.8 | 25.5 | 6.0 | 355 | | B | 7.7 | 24.4 | 7.5 | 349 | |
| | 1 | 6.25% | B | 7.8 | 25.4 | 7.3 | 457 | | B | 7.9 | 24.5 | 7.4 | 437 | |
| | 1 | 12.5% | B | 8.0 | 25.6 | 7.7 | 575 | | B | 8.0 | 24.0 | 7.4 | 528 | |
| | 1 | 25% | B | 8.1 | 25.3 | 7.4 | 755 | | B | 8.1 | 24.0 | 7.6 | 715 | |
| | 1 | 50% | B | 8.2 | 25.4 | 7.1 | 1141 | | B | 8.2 | 24.0 | 7.6 | 1070 | |
| | 1 | 100% | B | 8.4 | 25.7 | 6.4 | 1787 | | B | 8.4 | 24.0 | 7.4 | 1752 | |
| | 1 | | B | | | | | | B | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | JD | JD | JD | JD | |
| | Recorded by: | | | JD | JD | JD | JD | | | JD | JD | JD | JD | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 2 | sample: | Control | C | 8.0 | 24.8 | 6.6 | 340 | | C | 8.2 | 24.3 | 7.5 | 342 | |
| | 2 | 6.25% | C | 7.9 | 25.5 | 5.9 | 433 | | C | 8.2 | 24.1 | 7.4 | 430 | |
| | 2 | 12.5% | C | 7.9 | 25.9 | 6.1 | 536 | | C | 8.1 | 24.1 | 7.2 | 535 | |
| | 2 | 25% | C | 8.0 | 25.8 | 5.9 | 720 | | C | 8.1 | 24.0 | 7.1 | 711 | |
| | 2 | 50% | C | 8.0 | 25.8 | 5.5 | 1077 | | C | 8.0 | 24.0 | 7.1 | 1072 | |
| | 2 | 100% | C | 8.2 | 259 | 5.5 | 1765 | | C | 7.9 | 24.1 | 7.2 | 1772 | |
| | 2 | | C | | | | | | C | | | | | |
| | Measured by: | | | KC | KC | KC | KC | | | JD | JD | JD | JD | |
| | Recorded by: | | | KC | KC | KC | KC | | | JD | JD | JD | JD | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 3 | sample: | Control | D | 7.6 | 25.5 | 6.4 | 354 | | D | 7.6 | 24.0 | 6.7 | 327 | |
| | 2 | 6.25% | D | 7.6 | 25.2 | 5.2 | 449 | | D | 7.7 | 24.0 | 7.1 | 419 | |
| | 2 | 12.5% | D | 7.6 | 25.4 | 5.0 | 564 | | D | 7.8 | 24.0 | 7.3 | 518 | |
| | 2 | 25% | D | 7.6 | 25.9 | 4.6 | 756 | | D | 7.8 | 24.0 | 7.4 | 804 | |
| | 2 | 50% | D | 7.7 | 25.3 | 4.1 | 1117 | | D | 7.9 | 24.7 | 7.5 | 1076 | |
| | 2 | 100% | D | 7.9 | 25.4 | 4.1 | 1841 | | D | 7.8 | 25.4 | 7.6 | 1818 | |
| | 2 | | D | | | | | | D | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | JD | JD | JD | JD | |
| | Recorded by: | | | JD | JD | JD | JD | | | JD | JD | JD | JD | |

Comments: (A) 25.0 - KC -

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

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## Appendix B. (continued)

### Chronic Bioassay Parameters Benchsheet

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

Sample Source: Military Point — Start Date: 5.17.11 — End Date: 5.24.11

LIMS Sample #: 13512533 (for Lab sample #1) — Start Time: 1315 — End Time: 0900

conc = concentration — rep = replicate

| Test Day | | | Before Renewal | | | | | | | After Renewal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Conc. | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos mmhos | Salinity ppth | | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos mmhos | Salinity ppth | |
| Day 4 | sample: | Control | A | 7.9 | 25.7 | 6.4 | 350 | | | A | 8.0 | 25.5 | 7.4 | 351 | | |
| | 3 | 6.25% | A | 7.9 | 25.8 | 6.5 | 446 | | | A | 8.0 | 25.9 | 7.8 | 443 | | |
| | 3 | 12.5% | A | 7.8 | 25.9 | 6.4 | 546 | | | A | 8.0 | 25.5 | 7.8 | 551 | | |
| | 3 | 25% | A | 7.8 | 25.9 | 6.2 | 740 | | | A | 8.0 | 25.7 | 7.6 | 739 | | |
| | 3 | 50% | A | 7.9 | 25.9 | 5.5 | 1113 | | | A | 8.0 | 25.3 | 7.5 | 1053 | | |
| | 3 | 100% | A | 8.0 | 25.9 | 5.3 | 1841 | | | A | 7.8 | 25.1 | 6.6 | 1797 | | |
| | 3 | | A | | | | | | | A | | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | Recorded by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity | |
| Day 5 | sample: | Control | B | 7.7 | 25.5 | 6.7 | 348 | | | B | 7.8 | 25.3 | 7.8 | 345 | | |
| | 3 | 6.25% | B | 7.7 | 25.5 | 6.5 | 446 | | | B | 7.9 | 25.3 | 7.8 | 449 | | |
| | 3 | 12.5% | B | 7.7 | 25.3 | 6.3 | 548 | | | B | 7.9 | 25.2 | 7.7 | 555 | | |
| | 3 | 25% | B | 7.8 | 25.5 | 6.2 | 747 | | | B | 7.9 | 25.4 | 7.6 | 749 | | |
| | 3 | 50% | B | 7.9 | 25.0 | 5.7 | 1082 | | | B | 7.9 | 25.3 | 7.5 | 1094 | | |
| | 3 | 100% | B | 8.1 | 24.6 | 5.1 | 1812 | | | B | 7.9 | 25.8 | 6.4 | 1826 | | |
| | 3 | | B | | | | | | | B | | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | Recorded by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity | |
| Day 6 | sample: | Control | C | 7.4 | 24.8 | 5.8 | 350 | | | C | 7.7 | 25.5 | 7.1 | 331 | | |
| | 3 | 6.25 | C | 7.6 | 24.9 | 6.0 | 435 | | | C | 7.8 | 25.6 | 7.0 | 431 | | |
| | 3 | 12.5 | C | 7.6 | 24.5 | 5.9 | 531 | | | C | 7.8 | 25.5 | 7.0 | 533 | | |
| | 3 | 25 | C | 7.6 | 24.7 | 5.8 | 709 | | | C | 7.8 | 25.6 | 6.9 | 718 | | |
| | 3 | 50 | C | 7.8 | 24.8 | 5.6 | 1051 | | | C | 7.8 | 25.4 | 6.1 | 1055 | | |
| | 3 | 100% | C | 8.0 | 24.9 | 5.2 | 1732 | | | C | 7.7 | 25.5 | 5.2 | 1765 | | |
| | 3 | | C | | | | | | | C | | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | Recorded by: | | | JD | JD | JD | JD | | | | JD | JD | JD | JD | | |
| | | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity | |
| Day 7 | sample: | Control | D | 7.9 | 25.2 | 6.4 | 322 | | | D | | | | | | |
| | 3 | 6.25% | D | 7.5 | 24.8 | 5.7 | 416 | | | D | | | | | | |
| | 3 | 12.5% | D | 7.5 | 24.8 | 5.5 | 510 | | | D | | | | | | |
| | 3 | 25% | D | 7.5 | 25.6 | 5.5 | 694 | | | D | | | | | | |
| | 3 | 50% | D | 7.9 | 25.6 | 6.0 | 1018 | | | D | | | | | | |
| | 3 | 100% | D | 7.9 | 25.7 | 5.2 | 1681 | | | D | | | | | | |
| | 3 | | | | | | | | | D | | | | | | |
| | Measured by: | | | JD | JD | JD | JD | | | | | | | | | |
| | Recorded by: | | | 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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## Appendix B. (continued)

### Chronic Bioassay Weighing Benchsheet

Facility: Military Point

LIMS Sample Number: 1351253 (for Lab Sample # 1)

*P. promelas* and *M. beryllina* Bench Sheet
SOP TA06_21

| | | | mean wt = fish wt divided by 10<br>convert g to mg: move decimal 3 places to right | | | | |
|---|---|---|---|---|---|---|---|
| Concentration | Replicate | Pan # | Pan wt. g | Pan + Fish g | Fish wt. g | Original # Fish | Mean wt. mg |
| Control | A | 1 | 0.02251 | 0.02946 | 0.00695 | 10 | .695 |
| | B | 2 | 0.02165 | 0.02854 | 0.00689 | 10 | .689 |
| | C | 3 | 0.02283 | 0.02894 | 0.00611 | 10 | .611 |
| | D | 4 | 0.02199 | 0.02851 | 0.00652 | 10 | .652 |
| sample 6.25 % | A | 5 | 0.02237 | 0.02918 | 0.00681 | 10 | .681 |
| | B | 6 | 0.02176 | 0.02844 | 0.00668 | 10 | .668 |
| | C | 7 | 0.02233 | 0.02863 | 0.00630 | 10 | .630 |
| | D | 8 | 0.02128 | 0.02869 | 0.00741 | 10 | .741 |
| sample 12.5 % | A | 9 | 0.02164 | 0.02894 | 0.00730 | 10 | .730 |
| | B | 10 | 0.02146 | 0.02886 | 0.00740 | 10 | .740 |
| | C | 11 | 0.02183 | 0.02905 | 0.00722 | 10 | .722 |
| | D | 12 | 0.02138 | 0.02988 | 0.00850 | 10 | .850 |
| sample 25 % | A | 13 | 0.02192 | 0.02752 | 0.00560 | 10 | .560 |
| | B | 14 | 0.02118 | 0.02896 | 0.00778 | 10 | .778 |
| | C | 15 | 0.02219 | 0.03064 | 0.00845 | 10 | .845 |
| | D | 16 | 0.02196 | 0.02992 | 0.00796 | 10 | .796 |
| sample 50 % | A | 17 | 0.02296 | 0.03168 | 0.00872 | 10 | .872 |
| | B | 18 | 0.02324 | 0.03076 | 0.00752 | 10 | .752 |
| | C | 19 | 0.02236 | 0.02812 | 0.00576 | 10 | .576 |
| | D | 20 | 0.02138 | 0.02804 | 0.00666 | 10 | .666 |
| sample 100 % | A | 21 | 0.02236 | 0.02925 | 0.00689 | 10 | .689 |
| | B | 22 | 0.02238 | 0.03049 | 0.00811 | 10 | .811 |
| | C | 23 | 0.02267 | 0.03024 | 0.00757 | 10 | .757 |
| | D | 24 | 0.02111 | 0.02988 | 0.00877 | 10 | .877 |
| sample % | A | | | | | 10 | |
| | B | | | | | 10 | |
| | C | | | | | 10 | |
| | D | | | | | 10 | |
| | Weighed by initials: | | JD | JD | revised 7/16/08 mf | | |

Comments:

Balance: Ohaus 250D Ser# 1125481084
S-Weights: BIO-S-Weights-01

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

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## Appendix B. (continued)

### Chronic Bioassay Weighing Benchsheet

Quality Control

Facility: Military Point

LIMS Sample Number: 1351253
(for Lab Sample # 1)

*P. promelas and M. beryllina* Bench sheet
SOPs TA07_09, TA07_14 and TA06_21

| | |
|---|---|
| Drying Oven ID: | ER034000 |
| Temperature °C: | 100 |
| Hours: | 8 |

Tare weighed by: JD
Final weighed by: JD

Tare Weighing Date: 5.23.11 Final Weighing Date: 5.25.11

| | | | Measured Value (g) | | S-weight Value (g) |
|---|---|---|---|---|---|
| Tare Pan 1 after Pan 5 (g) | 0.02250 | @ 0.02251 | S-weights | @ | 0.01 |
| Tare Pan 1 after Pan 10 (g) | 0.02250 | @ 0.02251 | at tare | @ | 0.03 |
| Tare Pan 1 after Pan 15 (g) | 0.02251 | @ 0.02251 | S-weights | @ | 0.100 JD |
| Tare Pan 1 after Pan 20 (g) | 0.02252 | @ 0.02251 | at final | @ | 0.05 JD |
| Tare Pan 1 after Pan 25 (g) | 0.02251 | @ 0.02251 | | | |
| Tare Pan 1 after Pan 30 (g) | | @ | Balance: Ohaus 250D Ser# 1125481084 | | |
| Tare Pan 1 after Pan 35 (g) | | @ | S-Weights: BIO-S-Weights-01 | | |
| Tare Pan 1 after Pan 40 (g) | | @ | | | |
| Tare Pan 1 after Pan 45 (g) | | @ | | | |
| Tare Pan 1 after Pan 48 (g) | | @ | | | |
| Final Pan 1 after Pan 5 (g) | 0.02948 | @ 0.02946 | | | |
| Final Pan 1 after Pan 10 (g) | 0.02949 | @ 0.02946 | | | |
| Final Pan 1 after Pan 15 (g) | 0.02948 | @ 0.02946 | | | |
| Final Pan 1 after Pan 20 (g) | 0.02946 | @ 0.02946 | | | |
| Final Pan 1 after Pan 25 (g) | 0.02946 | @ 0.02946 | | | |
| Final Pan 1 after Pan 30 (g) | | @ | | | |
| Final Pan 1 after Pan 35 (g) | | @ | | | |
| Final Pan 1 after Pan 40 (g) | | @ | | | |
| Final Pan 1 after Pan 45 (g) | | @ | | | |
| Final Pan 1 after Pan 48 (g) | | @ | | | |

Note: Pan numbers (5, 10, etc.) for Tare and Final refers to sequence of weighing as actual Pan #s may differ.

Comments:

revised 7/16/08 MF

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**Appendix B. (continued)**

Test ID: Military Point P. prawn Dates: 5.17.11 – 5.24.11

| METER / DEVICE | ID | SOP | Parameter | Method | v used |
|---|---|---|---|---|---|
| YSI Model 58 Dissolved Oxygen Meter | 90H018262 | TA06_04 | Dissolved Oxygen | SM 4500 O G | ✓ |
| YSI DO Probe | 5905 | 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 | ✓ |
| Traceable Thermometer | #1-SN101686412 #2-SN221295527 #3-SN240116020 #4-SN80361795 #5 SN61990624 | TA06_05 | Temperature | SM-2530B modified DEP SOP-001/01 FT1400 | ✓ #5 |
| 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 | - | ✓ |
| | | | | | |

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)

D. 5.25.11

V1.1 9/21/10 MF/jd

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## Appendix C. SRT Bench Sheets and Statistical Analysis

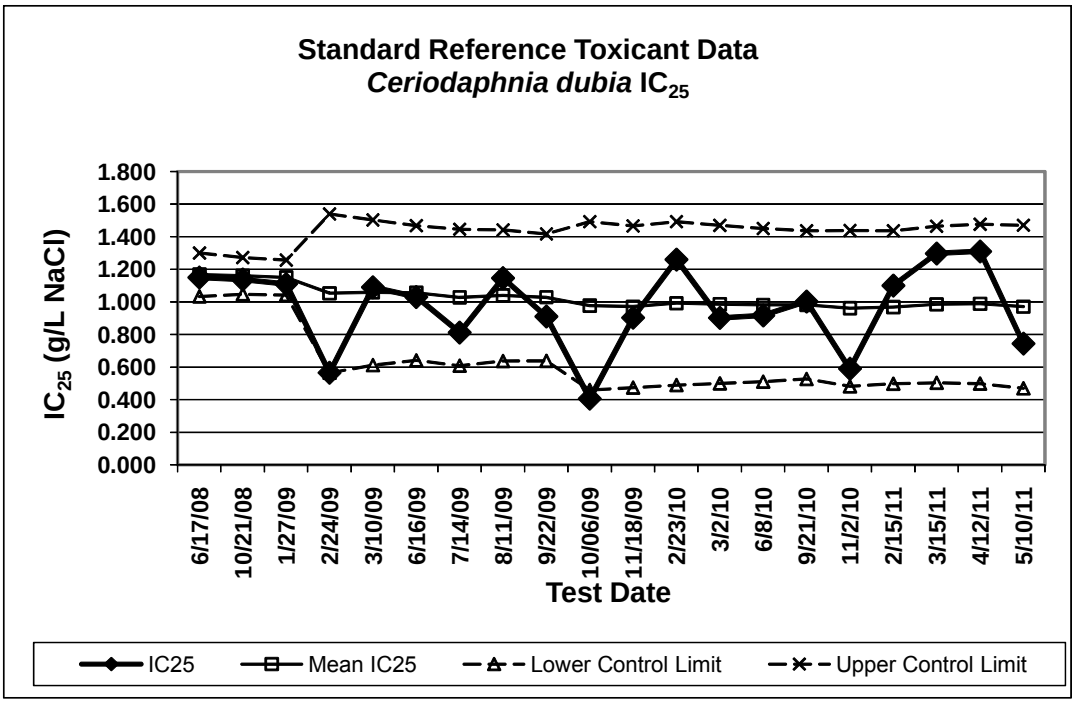
Florida Department of Environmental Protection
Bureau of Laboratories

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

| Date | IC25 | Mean IC25 | Std Dev | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|
| 6/17/08 | 1.150 | 1.17 | 0.07 | 1.03 | 1.30 |
| 10/21/08 | 1.138 | 1.16 | 0.06 | 1.05 | 1.27 |
| 1/27/09 | 1.110 | 1.15 | 0.05 | 1.04 | 1.26 |
| 2/24/09 | 0.565 | 1.05 | 0.24 | 0.57 | 1.54 |
| 3/10/09 | 1.090 | 1.06 | 0.22 | 0.61 | 1.50 |
| 6/16/09 | 1.030 | 1.05 | 0.21 | 0.64 | 1.47 |
| 7/14/09 | 0.812 | 1.03 | 0.21 | 0.61 | 1.45 |
| 8/11/09 | 1.146 | 1.04 | 0.20 | 0.64 | 1.44 |
| 9/22/09 | 0.911 | 1.03 | 0.19 | 0.64 | 1.42 |
| 10/06/09 | 0.406 | 0.98 | 0.26 | 0.46 | 1.49 |
| 11/18/09 | 0.903 | 0.97 | 0.25 | 0.47 | 1.47 |
| 2/23/10 | 1.260 | 0.99 | 0.25 | 0.49 | 1.49 |
| 3/2/10 | 0.902 | 0.98 | 0.24 | 0.50 | 1.47 |
| 6/8/10 | 0.917 | 0.98 | 0.23 | 0.51 | 1.45 |
| 9/21/10 | 1.002 | 0.98 | 0.23 | 0.53 | 1.44 |
| 11/2/10 | 0.590 | 0.96 | 0.24 | 0.48 | 1.44 |
| 2/15/11 | 1.100 | 0.97 | 0.23 | 0.50 | 1.44 |
| 3/15/11 | 1.297 | 0.98 | 0.24 | 0.50 | 1.46 |
| 4/12/11 | 1.310 | 0.99 | 0.24 | 0.50 | 1.48 |
| 5/10/11 | 0.744 | 0.97 | 0.25 | 0.47 | 1.47 |

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

EPA 75th Percentile %CV for Reproduction **45%**
Lab %CV Reproduction **24.7%**

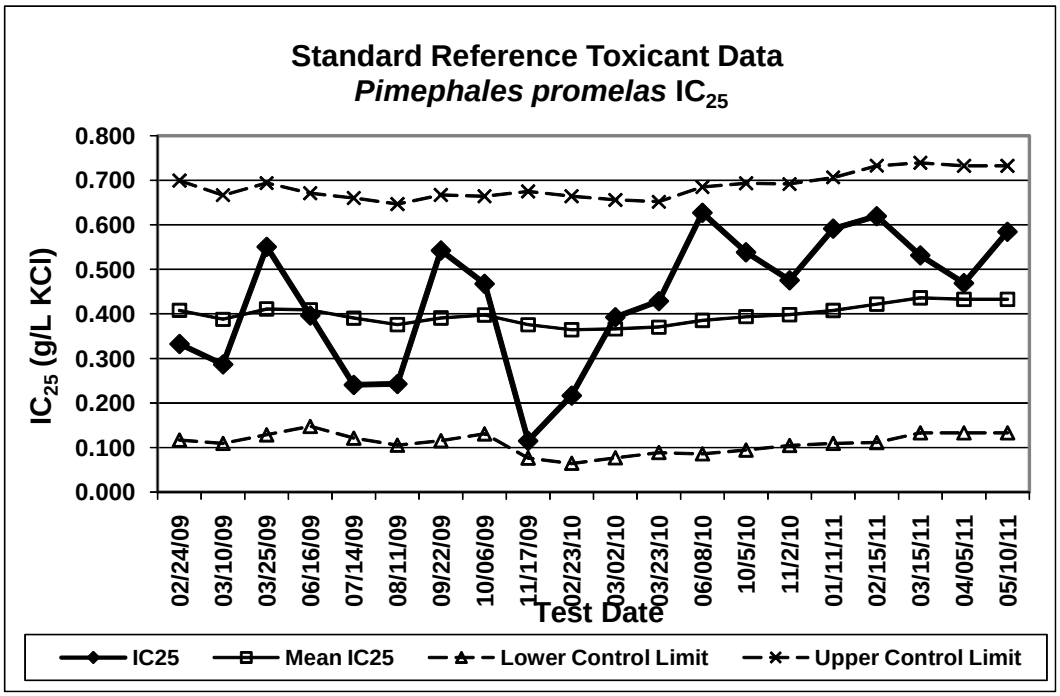


**Appendix C. (continued)**

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 | IC25 | Mean IC25 | Std Dev | Lower Control Limit | Upper Control Limit |
|---|---|---|---|---|---|
| 02/24/09 | 0.333 | 0.408 | 0.15 | 0.117 | 0.700 |
| 03/10/09 | 0.287 | 0.388 | 0.14 | 0.109 | 0.667 |
| 03/25/09 | 0.551 | 0.411 | 0.14 | 0.129 | 0.694 |
| 06/16/09 | 0.397 | 0.410 | 0.13 | 0.148 | 0.671 |
| 07/14/09 | 0.241 | 0.391 | 0.13 | 0.121 | 0.660 |
| 08/11/09 | 0.243 | 0.376 | 0.14 | 0.105 | 0.647 |
| 09/22/09 | 0.543 | 0.391 | 0.14 | 0.115 | 0.667 |
| 10/06/09 | 0.468 | 0.398 | 0.13 | 0.131 | 0.664 |
| 11/17/09 | 0.115 | 0.376 | 0.15 | 0.076 | 0.676 |
| 02/23/10 | 0.217 | 0.365 | 0.15 | 0.064 | 0.665 |
| 03/02/10 | 0.393 | 0.366 | 0.14 | 0.077 | 0.656 |
| 03/23/10 | 0.429 | 0.370 | 0.14 | 0.089 | 0.652 |
| 06/08/10 | 0.628 | 0.385 | 0.15 | 0.086 | 0.685 |
| 10/05/10 | 0.539 | 0.394 | 0.15 | 0.094 | 0.694 |
| 11/02/10 | 0.476 | 0.398 | 0.15 | 0.105 | 0.692 |
| 01/11/11 | 0.592 | 0.408 | 0.15 | 0.109 | 0.707 |
| 02/15/11 | 0.620 | 0.422 | 0.16 | 0.111 | 0.733 |
| 03/15/11 | 0.532 | 0.436 | 0.15 | 0.133 | 0.740 |
| 04/05/11 | 0.470 | 0.433 | 0.15 | 0.133 | 0.733 |
| 05/10/11 | 0.585 | 0.433 | 0.15 | 0.133 | 0.733 |

Means are from the last 20 SRTs.
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev



## FDEP Biology Laboratory - Chronic SRT Bench Sheet

*Ceriodaphnia dubia*

Diluent/ Batch: 20% DMW / 5-6-11 MF Test Days Used: 0-6
20% DMW / _____ Test Days Used: _____
Toxicant/ Batch: NaCl / 5-9-11 3g/L

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

Organism: *Ceriodaphnia dubia*
Organism Batch #/ Age: 5-10-11 / <24 hr.
Feeding: Prior to Test and Daily
Food: ☑ YCT ☑ *P. subcapitata*
Food Batch: 2-11-11 4-18-11
Chamber size: 30 mL
Test Volume: 20 mL

Start Date: 5-10-11 Time: 1030
End Date: 5.16.11 Time: 1445

| Batch: | 5-6-11 | | | | |
|---|---|---|---|---|---|
| **Water Quality Parameters** | 20% DMW | 20% DMW | Other | Measured by: | Verified by: |
| Lab Total Residual $Cl_2$ (mg/L): | <0.03 | | | KC | KC |
| Alkalinity (mg/L as $CaCO_3$): | 94 | | | KC | KC |
| Hardness (mg/L as $CaCO_3$): | 83 | | | KC | KC |
| Total Ammonia (mg/L as N): | <0.017 | | | BA | KC |
| Conductivity (µmhos-cm) mmhos-cm : | 177 | | | MF | KC |

| Results | |
|---|---|
| Control % CV: | 6.48% |
| Dunnetts PMSD: | 16.3% |
| Reproduction NOEC: | 0.593/L |
| Reproduction LOEC: | 0.893/L |
| Survival NOEC: | 2.0g/L |
| Survival LOEC: | 3.0g/L |
| $IC_{20}$: | 0.6663/L |
| $IC_{25}$: | 0.7446/L |

Loaded by:

| Day | Concentrations prepared by | Counted by |
|---|---|---|
| 0 | MF | BA |
| 1 | KC | KC |
| 2 | KC | KC |
| 3 | BA | KC |
| 4 | BA | MF |
| 5 | BA | KC |
| 6 | — | KC |
| 7 | | |
| 8 | | |

| Test Replicate | Loaded from culture vial |
|---|---|
| 1 | A7 |
| 2 | A25 |
| 3 | B15 |
| 4 | B17 |
| 5 | B21 |
| 6 | B23 |
| 7 | C10 |
| 8 | C12 |
| 9 | C17 |
| 10 | C21 |

**Comments:**

**Investigators' signatures**
Marshall Fairchild
Bruce Alonso
Kara Cox
James Daniels

REVIEWER

Test Incubated in: Incubator: # 2
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min 25.3 max 27.3 mean —
Room B246 ___ min 22.1 max 23.1 mean —
Test min._____ max._____ mean_____

~~000055~~

## Appendix C. (continued)

*Ceriodaphnia dubia* Survival and Reproduction

Start Date: 05.10.11 Time: 1030 Loaded by: MF
End Date: 5.16.11 Time: 1445 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 | 3 | 2 | 2 | 2 | 1 | 6 | 3 | 2 | 5 | 3 | 29 | 10 | 2.9 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 9 | 9 | 9 | 10 | 8 | 8 | 5 | 10 | 5 | 7 | 80 | 10 | 8.0 |
| | 6 | 12 | 14 | 15 | 15 | 18 | 13 | 16 | 16 | 18 | 19 | 156 | 10 | 15.6 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 24 | 25 | 26 | 27 | 27 | 27 | 24 | 28 | 28 | 29 | 265 | 10 | 26.5 |
| 0.59% | 0 | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 4 | 5 | 6 | 5 | 6 | 6 | 6 | 5 | 6 | 3 | 52 | 10 | 5.2 |
| | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 8 | 9 | 10 | 6 | 8 | 8 | 11 | 9 | 9 | 8 | 86 | 10 | 8.6 |
| | 6 | 13 | 3 | 0 | 8 | 11 | 12 | 8 | 14 | 10 | 8 | 87 | 10 | 8.7 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 25 | 17 | 16 | 19 | 25 | 26 | 25 | 28 | 25 | 19 | 225 | 10 | 22.5 |
| 0.89% | 0 | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 3 | 0 | 6 | 6 | 0 | 6 | 3 | 5 | 6 | 4 | 39 | 10 | 3.9 |
| | 4 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 8 | 10 | 0.8 |
| | 5 | 7 | 0 | 5 | 6 | 13 | 8 | 7 | 8 | M 6 | 6 | 66 | 10 | 6.6 |
| | 6 | 11 | 0 | 6 | 7 | 0 | 6 | 6 | 7 | 7 | 11 | 61 | 10 | 6.1 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 21 | 0 | 17 | 19 | 21 | 20 | 16 | 20 | 19 | 21 | 174 | 10 | 17.4 |

**Comments:**

~~000056~~

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## Appendix C. (continued)

**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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 1 | 4 | 1 | 5 | 5 | 3 | 4 | 4 | 7 | 6 | 40 | 10 | 4.0 |
| 1.3% ppt B | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 4 | 7 | 5 | 7 | 6 | 4 | 5 | 7 | 11 | 8 | 64 | 10 | 6.4 |
| | 6 | 0 | 2 | 3 | 4 | 8 | 3 | 2 | 3 | 4 | 1 | 30 | 10 | 3.0 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 5 | 13 | 9 | 16 | 19 | 10 | 11 | 14 | 22 | 15 | 134 | 10 | 13.4 |
| | 0 | | | | | | | | | | | | 10 | |
| | 1 | | | | | | | | | | | | 10 | |
| | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 3 | 1 | 2 | 0 | 0 | 3 | 2 | 0 | 0 | 4 | 0 | 12 | 10 | 1.2 |
| 2.0 ppt B | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 |
| | 5 | 1 | 7 | 2 | 4 | 7 | 7 | 4 | 8 | 4 | 5 | 49 | 10 | 4.9 |
| | 6 | 2 | X | 0 | 0 | 1 | 0 | X | 0 | 0 | 0 | 3 | 8 | 0.3 |
| | 7 | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | |
| | Total | 4 | 9 | 2 | 4 | 11 | 9 | 4 | 8 | 8 | 5 | 64 | ~~10~~ 8 | 6.4 |
| | 0 | | | | | | | | | | | | 10 | |
| | 1 | | | | | | X | | | | | | 9 | |
| | 2 | X | X | X | 0 | 0 | \| | X | X | 0 | X | 0 | 3 | 0 |
| | 3 | \| | \| | \| | X | X | \| | \| | \| | X | \| | 0 | 0 | 0 |
| 3.0 ppt | 4 | \| | \| | \| | \| | \| | \| | \| | \| | \| | \| | | | |
| | 5 | \| | \| | \| | \| | \| | \| | \| | \| | \| | \| | | | |
| | 6 | \| | \| | \| | \| | \| | \| | \| | \| | \| | \| | | | |
| | 7 | \| | \| | \| | \| | \| | \| | \| | \| | \| | \| | | | |
| | 8 | \| | \| | \| | \| | \| | \| | \| | \| | \| | \| | | | |
| | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Comments:**

~~000057~~

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## Appendix C. (continued)

**FDEP Biology Laboratory - Chronic SRT Bench Sheet**

*Ceriodaphnia dubia* Parameters

| Test Day ↓ | Conc. | New Sample Replicate | New Sample pH (su) | New Sample Temp (°C) | New Sample DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) | Old Sample Replicate | Old Sample pH (su) | Old Sample Temp (°C) | Old Sample DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Day 0 | Control | M | 7.8 | 24.2 | 8.2 | 177 | | | | | |
| | 0.59 | M | 7.8 | 25.1 | 8.2 | 1315 | | | | | |
| | 0.89 | M | 7.8 | 25.0 | 8.1 | 1856 | | | | | |
| | 1.3 | M | 7.8 | 24.8 | 8.1 | 2660 | | | | | |
| | 2.0 | M | 7.9 | 24.5 | 8.0 | 3860 | | | | | |
| | 3.0 | M | 7.9 | 25.0 | 8.0 | 5550 | | | | | |
| | Measured by: | | MF | MF | MF | MF | | | | | |
| | Recorded by: | | MF | MF | MF | MF | | | | | |
| Day 1 | Control | M | 8.0 | 24.0 | 7.9 | 166 | A | 8.0 | 24.0 | 7.8 | 176 |
| | 0.59 | M | 8.0 | 24.0 | 8.0 | 1237 | A | 8.0 | 24.3 | 7.8 | 1264 |
| | 0.89 | M | 8.1 | 24.0 | 8.4 | 1830 | A | 8.0 | 24.2 | 7.9 | 1792 |
| | 1.3 | M | 8.1 | 24.1 | 7.8 | 2540 | A | 8.1 | 24.4 | 7.8 | 2620 |
| | 2.0 | M | 8.1 | 24.0 | 7.8 | 3680 | A | 8.1 | 24.0 | 7.7 | ~~3880~~ (A) |
| | 3.0 | M | 8.1 | 24.1 | 8.0 | 5330 | A | 8.1 | 24.2 | 7.8 | 5400 |
| | Measured by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| | Recorded by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| Day 2 | Control | M | 7.8 | 24.3 | 7.9 | 170 | A | 8.0 | 25.1 | 7.7 | 177 |
| | 0.59 | M | 7.6 | 24.0 | 8.1 | 1283 | A | 8.1 | 25.1 | 7.8 | 1273 |
| | 0.89 | M | 7.6 | 24.1 | 8.1 | 1858 | A | 8.1 | 24.8 | 7.8 | 1806 |
| | 1.3 | M | 7.7 | 24.0 | 8.1 | 2660 | A | 8.2 | 24.7 | 7.8 | 2560 |
| | 2.0 | M | 7.7 | 24.1 | 8.1 | 3730 | A | 8.2 | 25.0 | 7.8 | 3780 |
| | 3.0 | M | 7.7 | 24.2 | 8.1 | 5500 | A | 8.2 | 25.0 | 7.8 | 5430 |
| | Measured by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| | Recorded by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| Day 3 | Control | M | 8.0 | 24.0 | 7.9 | 167 | A | 8.0 | 24.0 | 8.0 | 179 |
| | 0.59 | M | 8.0 | 24.0 | 7.9 | 1253 | A | 8.1 | 24.0 | 8.1 | 1305 |
| | 0.89 | M | 8.0 | 24.0 | 8.0 | 1774 | A | 8.1 | 24.0 | 7.8 | 1888 |
| | 1.3 | M | 8.1 | 24.0 | 8.1 | 2560 | A | 8.1 | 24.0 | 8.0 | 2680 |
| | 2.0 | M | 8.1 | 24.0 | 8.1 | 3680 | A | 8.1 | 24.0 | 8.0 | 3850 |
| | 3.0 | M | — | — | — | — | A | 8.1 | 24.0 | 7.9 | 5540 |
| | Measured by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| | Recorded by: | | KC | KC | KC | KC | | KC | KC | KC | KC |

**Comments:** (A) 3800-KC-

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

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## Appendix C. (continued)

**FDEP Biology Laboratory - Chronic SRT Bench Sheet**

*Ceriodaphnia dubia* Parameters

| Test Day | Conc. | New Sample Replicate | New Sample pH (su) | New Sample Temp (°C) | New Sample DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) | Old Sample Replicate | Old Sample pH (su) | Old Sample Temp (°C) | Old Sample DO (mg/L) | Conductivity (µmhos/cm) (mmhos/cm) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Day 4 | Control | M | 8.1 | 25.5 | 8.2 | 180 | A | 8.1 | 25.1 | 7.6 | 185 |
| | 0.59 | M | 8.1 | 25.5 | 8.3 | 1340 | A | 8.0 | 25.2 | 7.7 | 1343 |
| | 0.89 | M | 8.0 | 25.3 | 8.0 | 1930 | A | 8.0 | 25.4 | 7.7 | 1895 |
| | 1.3 | M | 8.0 | 25.5 | 8.1 | 2770 | A | 8.0 | 25.2 | 7.7 | 2720 |
| | 2.0 | M | 8.0 | 25.5 | 7.9 | 4000 | A | 8.0 | 25.4 | 7.8 | 3930 |
| | | M | | | | | | | | | |
| | Measured by: | | MF | MF | MF | MF | | MF | MF | MF | MF |
| | Recorded by: | | MF | MF | MF | MF | | MF | MF | MF | MF |
| Day 5 | Control | M | 8.0 | 24.7 | 7.8 | 168 | A | 8.0 | 25.1 | 7.6 | 178 |
| | 0.59 | M | 8.0 | 24.8 | 7.6 | 1261 | A | 8.1 | 25.3 | 7.6 | 1319 |
| | 0.89 | M | 8.0 | 25.2 | 7.6 | 1795 | A | 8.1 | 25.3 | 7.6 | 1879 |
| | 1.3 | M | 8.0 | 24.3 | 7.7 | 2590 | A | 8.1 | 25.3 | 7.7 | 2680 |
| | 2.0 | M | 8.0 | 25.6 | 7.7 | 3730 | A | 8.1 | 25.4 | 7.7 | 3860 |
| | | M | | | | | | | | | |
| | Measured by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| | Recorded by: | | KC | KC | KC | KC | | KC | KC | KC | KC |
| Day 6 | Control | M | | | | | A | 8.0 | 24.3 | 7.8 | 185 |
| | 0.59 | M | | | | | A | 8.0 | 24.4 | 7.8 | 1350 |
| | 0.89 | M | | | | | A | 7.9 | 24.6 | 7.8 | 1900 |
| | 1.3 | M | | | | | A | 8.0 | 24.6 | 7.7 | 2750 |
| | 2.0 | M | | | | | A | 8.0 | 24.5 | 7.7 | 3840 |
| | | M | | | | | | | | | |
| | Measured by: | | | | | | | MF | MF | MF | MF |
| | Recorded by: | | | | | | | MF | MF | MF | MF |
| Day 7 | Control | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | Measured by: | | | | | | | | | | |
| | Recorded by: | | | | | | | | | | |
| Day 8 | Control | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | | M | | | | | | | | | |
| | Measured by: | | | | | | | | | | |
| | Recorded by: | | | | | | | | | | |

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

~~AAA59~~

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## Appendix C. (continued)

Bioassay Instrument ID

Test ID: May C.dubia Chronic SRT Dates: 5.10.11 - 5.16.11

| 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+ | ✓ |
| Metller-Toledo SevenMulti Conductivity Meter | SN 1225117049 Probe H04257 | TA06_25 | Conductivity | SM 2510 B | ✓ |
| | | | Salinity | 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 | - | |
| | | | | | |

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)

Karen Cox entered 5.17.11

V 1.1 6/12/08 MF

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## Appendix C. (continued)

### 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 5.10.11 Test Days Used: 0-7 Start Date: 5.10.11 Time: 1300

Diluent/ Batch: _____ Test Days Used: _____ End Date: 5.17.11 Time: 0900

Toxicant/ Batch # : KCl / 5.9.11 Organism Batch #/ Age: 5.10.11 / <24hRS.

Artemia Lot # : 23613

| Artemia Batch # | Day 2 89-11 | Day 5 92-11 |
|---|---|---|
| Day 0 87-11 | Day 3 90-11 | Day 6 93-11 |
| Day1 88-11 | Day 4 91-11 | |

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 | KC | KC |
| Alkalinity (mg/L as $CaCO_3$): | 80 | | HACH | KC | KC |
| Hardness (mg/L as $CaCO_3$): | 89 | | HACH | KC | KC |
| Total Ammonia (mg/L as N): | <0.017 | | DENVER | BA | KC |
| Conductivity (µmhos-cm) mmhos-cm: | 336 | | METTLER | JD | KC |

| Statistics | |
|---|---|
| Growth NOEC: | 0.5g |
| Growth LOEC: | 1g |
| Growth $IC_{20}$: | 0.556 |
| Growth $IC_{25}$: | 0.585 |
| Ctrl % CV: | 13.4% |
| Dunnetts PMSD: | 21.9% |
| Survival NOEC: | 0.5g |
| Survival LOEC: | 1g |

Test incubated in : [✓] Incubator # 5

[ ] Waterbath #____

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 5 min. 25.6 max. 27.1 mean —

Water bath # ___ min.____ max.____ mean____

Room B246 min. 22.1 max. 23.1 mean —

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

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

Investigators' signatures

Kara Cox

Bree Abbe

Jane Davis

Marshall Faircloth

REVIEWER

**Comments:**

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## Appendix C. (continued)

**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)

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

**Comments:**

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revised 7/16/08 MF

## Appendix C. (continued)

### Chronic SRT Parameters Benchsheet

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

Start Date: 5.20.11 End Date: 5.27.11

Start Time: 1300 End Time: 0900

conc = concentration rep = replicate circle umhos or mmhos

| Test Day | | Before Renewal | | | | | | | After Renewal | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Conc. | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos) mmhos | Salinity ppth | | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity (umhos) mmhos | Salinity ppth |
| Day 0 | Control | A | 8.1 | 25.9 | 8.3 | 336 | | | | | | | | |
| | .125 | A | 8.2 | 25.8 | 7.1 | 582 | | | | | | | | |
| | .25 | A | 8.2 | 25.4 | 7.1 | 851 | | | | | | | | |
| | .5 | A | 8.2 | 25.7 | 7.3 | 1321 | | | | | | | | |
| | 1 | A | 8.2 | 25.9 | 7.5 | ~~2220~~ 2320 JD | | | | | | | | |
| | 2 | A | 8.3 | 25.9 | 7.7 | 4210 | | | | | | | | |
| | | A | | | | | | | | | | | | |
| | Measured by | | JD | JD | JD | JD | | | | | | | | |
| | Recorded by | | JD | JD | JD | JD | | | | | | | | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 1 | Control | B | 8.2 | 24.9 | 7.7 | 323 | | | B | 8.0 | 25.1 | 7.7 | 322 | |
| | .125 | B | 8.1 | 24.8 | 7.4 | 539 | | | B | 8.0 | 25.1 | 7.5 | 562 | |
| | .25 | B | 8.1 | 24.5 | 7.3 | 796 | | | B | 8.0 | 25.0 | 7.4 | 807 | |
| | .5 | B | 8.1 | 24.8 | 7.3 | 1256 | | | B | 8.0 | 25.6 | 7.1 | 1263 | |
| | 1 | B | 8.1 | 24.7 | 7.4 | 2150 | | | B | 8.0 | 24.8 | 7.2 | 2210 | |
| | 2 | B | 8.1 | 24.9 | 7.4 | 4040 | | | B | 8.1 | 24.7 | 7.4 | 4040 | |
| | | B | | | | | | | B | | | | | |
| | Measured by | | JD | JD | JD | JD | | | | JD | JD | JD | JD | |
| | Recorded by | | JD | JD | JD | JD | | | | JD | JD | JD | JD | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 2 | Control | C | 7.7 | 25.7 | 6.0 | 332 | | | C | 7.7 | 25.5 | 7.4 | 334 | |
| | .125 | C | 7.7 | 25.5 | 5.8 | 570 | | | C | 7.7 | 25.4 | 6.6 | 580 | |
| | .25 | C | 7.7 | 26.6 | 6.0 | 825 | | | C | 7.7 | 25.3 | 6.7 | 825 | |
| | .5 | C | 7.8 | 25.8 | 6.1 | 1280 | | | C | 7.8 | 24.8 | 6.8 | 1310 | |
| | 1 | C | 7.9 | 25.6 | 7.0 | 2270 | | | C | 7.9 | 24.5 | 7.1 | 2280 | |
| | 2 | BA | 8.0 | 25.6 | 7.2 | 4110 | | | C | | | | | |
| | | C | | | | | | | C | | | | | |
| | Measured by | | JD | JD | JD | JD | | | | JD | JD | JD | JD | |
| | Recorded by | | JD | JD | JD | JD | | | | JD | JD | JD | JD | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 3 | Control | D | 7.3 | 24.5 | 5.8 | 329 | | | D | 7.5 | 25.9 | 7.0 | 332 | |
| | .125 | D | 7.4 | 24.3 | 5.0 | 565 | | | D | 7.5 | 25.9 | 6.0 | 560 | |
| | .25 | D | 7.4 | 24.2 | 5.0 | 804 | | | D | 7.6 | 25.7 | 6.7 | 812 | |
| | .5 | D | 7.4 | 24.6 | 5.6 | 1293 | | | D | 7.7 | 25.6 | 6.8 | 1270 | |
| | 1 | BA | 7.5 | 24.3 | 6.1 | 2250 | | | BA | 7.8 | 25.0 | 6.9 | 2230 | |
| | | D | | | | | | | D | | | | | |
| | | D | | | | | | | D | | | | | |
| | Measured by | | JD | JD | JD | JD | | | | JD | JD | JD | JD | |
| | Recorded by | | JD | JD | JD | 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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## Appendix C. (continued)

### Chronic SRT Parameters Benchsheet

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

Start Date: 5.10.11 End Date: 5.17.11

Start Time: 1300 End Time: 0900

conc = concentration rep = replicate

| Test Day | | Before Renewal | | | | | | After Renewal | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Conc. | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos/mmhos | Salinity ppth | Test Rep. | pH (su) | Temp (°C) | DO (mg/L) | Conductivity umhos/mmhos | Salinity ppth |
| Day 4 | Control | A | 7.6 | 24.8 | 6.6 | 338 | | A | 7.8 | 25.0 | 7.9 | 330 | |
| | 0.125 | A | 7.6 | 25.1 | 6.8 | 568 | | A | 7.8 | 25.2 | 7.9 | 575 | |
| | 0.25 | A | 7.6 | 25.1 | 6.6 | 833 | | A | 7.8 | 25.1 | 7.6 | 822 | |
| | 0.5 | A | 7.6 | 24.8 | 6.6 | 1297 | | A | 7.8 | 25.5 | 7.7 | 1332 | |
| | 1.0 | A | 7.6 | 24.7 | 7.2 | 2300 | | A | 7.8 | 25.5 | 8.2 | 2320 | |
| | | A | | | | | | A | | | | | |
| | | A | | | | | | A | | | | | |
| | Measured by | | MF | MF | MF | MF | — | | MF | MF | MF | MF | |
| | Recorded by | | MF | MF | MF | MF | — | | MF | MF | MF | MF | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 5 | Control | B | 7.9 | 24.0 | 7.4 | 318 | | B | 7.7 | 25.1 | 7.6 | 330 | |
| | 0.125 | B | 7.9 | 24.3 | 7.2 | 544 | | B | 7.8 | 25.2 | 7.3 | 601 | |
| | 0.25 | B | 7.9 | 24.6 | 6.9 | 771 | | B | 7.8 | 25.1 | 7.1 | 850 | |
| | 0.5 | B | 7.9 | 24.7 | 7.4 | 1229 | | B | 7.9 | 25.6 | 7.5 | 1365 | |
| | 1.0 | B | 7.9 | 24.4 | 7.6 | 2150 | | B | 7.9 | 24.9 | 8.3 | ~~1654~~ (A) | |
| | | B | | | | | | B | | | | | |
| | | B | | | | | | B | | | | | |
| | Measured by | | KC | KC | KC | KC | | | KC | KC | KC | KC | |
| | Recorded by | | KC | KC | KC | KC | | | KC | KC | KC | KC | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 6 | Control | C | 7.7 | 24.0 | 7.1 | 317 | | C | 7.7 | 24.1 | 7.4 | 329 | |
| | .125 | C | 7.8 | 24.5 | 7.2 | 551 | | C | 7.7 | 24.2 | 7.2 | 588 | |
| | .25 | C | 7.8 | 24.3 | 7.1 | 795 | | C | 7.8 | 25.2 | 7.5 | 854 | |
| | .5 | C | 7.8 | 24.5 | 7.2 | 1263 | | C | 7.8 | 25.3 | 7.5 | 1346 | |
| | 1 | A & | 7.9 | 24.9 | 7.4 | 2080 | | A & | 7.9 | 25.0 | 7.6 | 2250 | |
| | | C | | | | | | C | | | | | |
| | | C | | | | | | C | | | | | |
| | Measured by | | JD | JD | JD | JD | | | JD | JD | JD | JD | |
| | Recorded by | | JD | JD | JD | JD | | | JD | JD | JD | JD | |
| | | Rep | pH | Temp | DO | Conductivity | Salinity | Rep | pH | Temp | DO | Conductivity | Salinity |
| Day 7 | Control | D | 7.3 | 24.1 | 5.1 | 342 | | D | | | | | |
| | .125 | D | 7.4 | 24.1 | 5.2 | 591 | | D | | | | | |
| | .25 | D | 7.3 | 24.2 | 5.2 | 846 | | D | | | | | |
| | .5 | ~~JD~~ D | 7.4 | 24.0 | 5.3 | 1334 | | D | | | | | |
| | 1 | A | 7.6 | 24.1 | 7.4 | 2260 | | D | | | | | |
| | | | | | | | | D | | | | | |
| | | | | | | | | D | | | | | |
| | Measured by | | JD | JD | JD | JD | | | | | | | |
| | Recorded by | | JD | JD | JD | JD | | | | | | | |

(A) 2280-KC -

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

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## Appendix C. (continued)

**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 | 9 | 0.02267 | 0.03071 | 0.00804 | 10 | .804 |
| | B | 10 | 0.02328 | 0.03017 | 0.00689 | 10 | .689 |
| | C | 11 | 0.02249 | 0.02849 | 0.00600 | 10 | .600 |
| | D | 12 | 0.02318 | 0.02979 | 0.00661 | 10 | .661 |
| .125 | A | 13 | 0.02287 | 0.02870 | 0.00583 | 10 | .583 |
| | B | 14 | 0.02222 | 0.02677 | 0.00455 | 10 | .455 |
| | C | 15 | 0.02142 | 0.02815 | 0.00673 | 10 | .673 |
| | D | 16 | 0.02227 | 0.02975 | 0.00748 | 10 | .748 |
| .25 | A | 17 | 0.02112 | 0.02659 | 0.00547 | 10 | .547 |
| | B | 18 | 0.02135 | 0.02764 | 0.00629 | 10 | .629 |
| | C | 19 | 0.02062 | 0.02688 | 0.00626 | 10 | .626 |
| | D | 20 | 0.02076 | 0.02877 | 0.00801 | 10 | .801 |
| .5 | A | 21 | 0.02086 | 0.02749 | 0.00663 | 10 | .663 |
| | B | 22 | 0.02198 | 0.02823 | 0.00625 | 10 | .625 |
| | C | 23 | 0.02169 | 0.02832 | 0.00663 | 10 | .663 |
| | D | 24 | 0.02240 | 0.02762 | 0.00522 | 10 | .522 |
| 1 | A | — | — | — | — | 10 | — |
| | B | 25 | 0.02272 | 0.02354 | 0.00082 | 10 | .082 |
| | C | — | — | — | — | 10 | — |
| | D | — | — | — | — | 10 | — |
| | 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.

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revised 8/24/06 MF/SP

## Appendix C. (continued)

**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: 5.16.11 Weighed by: JD

| | Pan 1 wt. | Pan 1 initial wt. |
|---|---|---|
| after Pan 5 | 0.02267 @ | 0.02267 |
| after Pan 10 | 0.02267 @ | 0.02267 |
| after Pan 15 | 0.02267 JD @ | 0.02267 |
| after Pan 20 | ~~0.02266 @~~ | ~~0.02267~~ |
| after Pan 25 | @ JD | |
| after Pan 30 | @ | |
| after Pan 35 | @ | |
| after Pan 40 | @ | |
| after Pan 45 | @ | |
| after Pan 48 | @ | |

| | Measured Value | S-weight Value |
|---|---|---|
| S-weights | 0.00488 @ | 0.01 |
| | 0.02993 @ | 0.03 |

Balance: Ohaus 250D Ser# 1125481084

S-Weights: BIO-S-Weights-01

**Fish + Pan Weights** Date: 5.25.11 Weighed by: JD

| | Pan 1 wt. | Pan 1 initial wt. |
|---|---|---|
| after Pan 5 | 0.03071 @ | 0.03071 |
| after Pan 10 | 0.03074 @ | 0.03071 |
| after Pan 15 | 0.03074 @ | 0.03071 |
| after Pan 20 | 0.03074 JD @ | 0.03071 |
| after Pan 25 | ~~0.03073~~ JD @ | |
| after Pan 30 | @ | |
| after Pan 35 | @ | |
| after Pan 40 | @ | |
| after Pan 45 | @ | |
| after Pan 48 | @ | |

| | Measured Value | S-weight Value |
|---|---|---|
| S-weights | 0.01003 @ | 0.01 |
| | 0.05004 @ | 0.05 |

Drying Oven ID: ER034000

Temperature °C: 100

Drying Hours: 8

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

**Comments:**

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revised 7/16/08 MF

**Appendix C. (continued)**

Test ID: P. promelas Chronic SRT Dates: 5.10.11 – 5.17.11

| METER / DEVICE | ID | SOP | Parameter | Method | v used |
|---|---|---|---|---|---|
| YSI Model 58 Dissolved Oxygen Meter | 90H018262 | TA06_04 | Dissolved Oxygen | SM 4500 O G | ✓ |
| YSI DO Probe | 5905 | 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 | ✓ |
| Traceable Thermometer | #1-SN1016866412 #2-SN221295527 #3-SN240116020 #4-SN80361795 (#5) SN61990624 | 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 | - | ✓ |
| | | | | | |

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 5/24/11 by KC

V 1.1 9/21/10 MF/jd

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## Appendix D. Test Organism Receipts

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

### Shipment Record

**State of Florida Aquaculture Certificate Number AQ0668007**

Shipping Date: 5/9/11

Ship to: FDEP

P.O. No: _____

| Species | Quantity | Age | Brood/Lot Number | Temp. (°C) | pH (S.U.) | Salinity (‰) |
|---|---|---|---|---|---|---|
| *Mysidopsis bahia* | | | | | | |
| | | | | | | |
| *Menidia beryllina* | | | | | | |
| | | | | | | |
| | | | | | | Hardness mg/L |
| *Cyprinella leedsi* | 150 ac | 12 DAYS | CL110527 | 25 | 7.8 | 80 |
| | | | | | | |
| *Pimephales promelas* | 600 | <24 hrs | FM110508-1650 | 25 | 7.8 | 80 |
| | | | | | | |
| *Ceriodaphnia dubia* | | | | | | |
| | | | | | | |
| *Daphnia magna* | | | | | | |
| | | | | | | |
| YCT | | | | | | |
| *P. subcapitata* | | | | | | |

Packed by: PM

Shipped Via: FedEx

Notes: _____

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

## Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

### Shipment Record

**State of Florida Aquaculture Certificate Number AQ0668007**

Shipping Date: 5/16/11

Ship to: FDEP

P.O. No:

| Species | Quantity | Age | Brood/Lot Number | Temp. (°C) | pH (S.U.) | Salinity (‰) |
|---|---|---|---|---|---|---|
| *Mysidopsis bahia* | 150 | 4 DAYS | MS 110512 | 25 | 7.9 | 20 |
| *Menidia beryllina* | | | | | | |
| | | | | | | Hardness mg/L |
| *Cyprinella leedsi* | 100 | 11 DAYS | CL 110505 | 25 | 7.8 | 80 |
| *Pimephales promelas* | ~~400~~ 300 | <24 HRS | FM 110515-1655 | 25 | 7.8 | 80 |
| *Ceriodaphnia dubia* | | | | | | |
| *Daphnia magna* | | | | | | |
| YCT | | | | | | |
| *P. subcapitata* | | | | | | |

Packed by: PM

Shipped Via:

Notes: CL must be less than 12 days

Thank you for your order.

4569 Samuel Street · Sarasota, FL 34233 · Tel: 941-925-3594 · Fax: 941-922-3874 · Web: www.biologylab.com

**Appendix E. Chemical Analyses performed on the effluent from the Military Point Aerated Lagoon Outfall D-001, sampled on May 16, 2011.**

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:35 | EFFLUENT D-001 | AGP/LN | Algal Growth Potential-Salinity Adjusted | 33.6 | | mg DryWt/L | 3 | 3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | AGP/LN | Algal Growth Potential | 13.4 | | mg DryWt/L | 0.3 | 0.9 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Chlorophyll/Grain Size/BOD | Chlorophyll-a, Corrected | 1.4 | I | ug/L | 0.92 | 2.8 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Chlorophyll/Grain Size/BOD | Phaeophytin-a | 0.67 | U | ug/L | 0.67 | 2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Overflow | Fecal Coliforms-Membrane Filter | 4 | B | cfu/100 mL | 1 | 1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Aluminum | 2800 | | ug/L | 15 | 60 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Magnesium | 25.7 | | mg/L | 0.04 | 0.16 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Cadmium | 0.076 | I | ug/L | 0.05 | 0.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Copper | 2.89 | | ug/L | 0.5 | 1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Nickel | 4.85 | | ug/L | 0.25 | 1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Molybdenum | 5.42 | | ug/L | 0.15 | 0.6 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Selenium | 1.4 | | ug/L | 0.2 | 0.8 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Sodium | 309 | | mg/L | 2.5 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Zinc | 25 | | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Lead | 0.72 | I | ug/L | 0.2 | 0.8 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Silver | 0.027 | I | ug/L | 0.025 | 0.1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Arsenic | 6.25 | | ug/L | 0.25 | 1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Chromium | 3.6 | | ug/L | 0.3 | 1.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Calcium | 55.8 | | mg/L | 0.075 | 0.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Mercury | 0.12 | U | ug/L | 0.12 | 0.5 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Iron | 470 | | ug/L | 30 | 120 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Metals | Antimony | 0.95 | I | ug/L | 0.25 | 1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Sulfate | 350 | | mg SO4/L | 2 | 5 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Ammonia-N | 1 | | mg N/L | 0.01 | 0.02 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Cyanide | 0.005 | UJ | mg CN/L | 0.005 | 0.02 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | NO2NO3-N | 0.004 | U | mg N/L | 0.004 | 0.01 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Alkalinity | 235 | | mg CaCO3/L | 0.65 | 2.5 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Fluoride | 0.16 | | mg F/L | 0.035 | 0.1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | TSS | 10 | | mg/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Total-P | 0.66 | | mg P/L | 0.005 | 0.05 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Kjeldahl Nitrogen | 3 | | mg N/L | 0.08 | 0.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Chloride | 190 | | mg Cl/L | 2 | 5 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Color (true) | 680 | | PCU | 20 | 60 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | Organic Carbon | 94 | | mg C/L | 1 | 5 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Nutrients | O-Phosphate-P | 0.29 | | mg P/L | 0.02 | 0.05 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | 1,3-Dichloropropene | 0.21 | UJ | ug/L | 0.21 | 0.84 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Toxaphene | 0.75 | U | ug/L | 0.75 | 3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Chlorpyrifos Methyl | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Ethion | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Fonofos | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Metribuzin | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Naled | 0.89 | U | ug/L | 0.89 | 3.6 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Parathion Ethyl | 0.17 | U | ug/L | 0.17 | 0.67 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Aldrin | 0.01 | U | ug/L | 0.01 | 0.04 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Beta-BHC | 0.027 | U | ug/L | 0.027 | 0.11 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Chlorpyrifos Ethyl | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Metolachlor | 0.56 | U | ug/L | 0.56 | 2.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Norflurazon | 0.17 | U | ug/L | 0.17 | 0.67 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Endosulfan II | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Endosulfan Sulfate | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Heptachlor | 0.01 | U | ug/L | 0.01 | 0.04 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Heptachlor Epoxide | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Diazinon | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Prometryn | 0.17 | U | ug/L | 0.17 | 0.67 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | DDE-p,p' | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Methoxychlor | 0.05 | U | ug/L | 0.05 | 0.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Azinphos Methyl | 0.22 | UJ | ug/L | 0.22 | 0.89 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | DDD-p,p' | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Ametryn | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Hexazinone | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Malathion | 0.17 | U | ug/L | 0.17 | 0.67 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Parathion Methyl | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Chlordane | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Metalaxyl | 0.28 | U | ug/L | 0.28 | 1.1 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Mevinphos | 0.22 | U | ug/L | 0.22 | 0.89 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Alpha-BHC | 0.01 | U | ug/L | 0.01 | 0.04 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | DDT-p,p' | 0.03 | U | ug/L | 0.03 | 0.12 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Delta-BHC | 0.01 | U | ug/L | 0.01 | 0.04 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Dieldrin | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Ethoprop | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Fenamiphos | 0.22 | U | ug/L | 0.22 | 0.89 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Simazine | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Endosulfan I | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Endrin | 0.05 | U | ug/L | 0.05 | 0.2 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Endrin Aldehyde | 0.02 | U | ug/L | 0.02 | 0.08 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Alachlor | 0.67 | UJ | ug/L | 0.67 | 2.7 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Atrazine | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Bromacil | 0.22 | U | ug/L | 0.22 | 0.89 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Phorate | 0.056 | U | ug/L | 0.056 | 0.22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Gamma-BHC | 0.01 | U | ug/L | 0.01 | 0.04 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Pesticides | Butylate | 0.22 | UJ | ug/L | 0.22 | 0.89 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,4-Dinitrophenol | 16 | U | ug/L | 16 | 65 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,1,1-Trichloroethane | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Chloroethane | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,4-Dimethylphenol | 11 | U | ug/L | 11 | 43 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,6-Dinitrotoluene | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2-Chlorophenol | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Acenaphthene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Di-n-butyl phthalate | 5.4 | U | ug/L | 5.4 | 22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Fluoranthene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Nitrobenzene | 2.2 | U | ug/L | 2.2 | 8.7 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,2-Dichloropropane | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,3-Dichlorobenzene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Chloroform | 2 | U | ug/L | 2 | 10 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Methylene chloride | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Tetrachloroethene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 43 | U | ug/L | 43 | 170 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 4-Nitrophenol | 16 | U | ug/L | 16 | 65 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 16 | U | ug/L | 16 | 65 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Di-n-octyl phthalate | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Diethyl phthalate | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Hexachlorobutadiene | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Hexachloroethane | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Pentachlorophenol | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,1-Dichloroethane | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,2-Dichlorobenzene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Chlorobenzene | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Fluorene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Hexachlorocyclopentadiene | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | N-Nitrosodimethylamine | 2.2 | U | ug/L | 2.2 | 8.7 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,2-Dichloroethane | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,4-Dichlorobenzene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Carbon tetrachloride | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Chloromethane | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Toluene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Trichloroethene | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2-Chloronaphthalene | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzo(a)anthracene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Hexachlorobenzene | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Vinyl chloride | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,4-Dinitrotoluene | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 1.1 | U | ug/L | 1.1 | 4.3 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzidine | 110 | U | ug/L | 110 | 430 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 3.3 | U | ug/L | 3.3 | 13 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Butyl benzyl phthalate | 5.4 | U | ug/L | 5.4 | 22 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Isophorone | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 2.2 | U | ug/L | 2.2 | 8.7 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Phenol | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Pyrene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2,4-Dichlorophenol | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 2.2 | U | ug/L | 2.2 | 8.7 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Anthracene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzo(a)pyrene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Naphthalene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Phenanthrene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,1,2-Trichloroethane | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | trans-1,2-Dichloroethene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 2-Nitrophenol | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Acenaphthylene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 1.1 | U | ug/L | 1.1 | 4.3 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Chrysene | 0.22 | U | ug/L | 0.22 | 0.87 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Dimethyl phthalate | 11 | U | ug/L | 11 | 43 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | 1,1-Dichloroethene | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Priority Organic Pollutants | Benzene | 2 | U | ug/L | 2 | 10 |
| 5/16/2011 12:35 | EFFLUENT D-001 | Field Parameter | Dissolved Oxygen | 2.09 | | mg/L | | |
| 5/16/2011 12:35 | EFFLUENT D-001 | Field Parameter | Specific Conductance | 1896 | | umhos/cm | | |
| 5/16/2011 12:35 | EFFLUENT D-001 | Field Parameter | pH | 7.57 | | | | |
| 5/16/2011 12:35 | EFFLUENT D-001 | Field Parameter | Temperature | 26.5 | | C | | |
| 5/16/2011 12:30 | TOX 1 | Toxicology | Bioassay-Chron-Def-FW-Fish, IC25 | 100 | L | IC25 | | |
| 5/16/2011 12:30 | TOX 1 | Toxicology | Bioassay-Chron-Def-FW-C.dubia, IC25 | 100 | L | IC25 | | |
| 5/16/2011 12:30 | TOX 1 | Toxicology | Bioassay-Chron-Def-FW-Fish, NOEC | 100 | | NOEC | | |
| 5/16/2011 12:30 | TOX 1 | Toxicology | Bioassay-Chron-Def-FW-C.dubia, NOEC | 100 | | NOEC | | |
| 5/16/2011 12:30 | TOX 1 | Field Parameter | Dissolved Oxygen | 2.09 | | mg/L | | |
| 5/16/2011 12:30 | TOX 1 | Field Parameter | Specific Conductance | 1896 | | umhos/cm | | |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 12:30 | TOX 1 | Field Parameter | Temperature | 26.5 | | C | | |
| 5/16/2011 12:30 | TOX 1 | Field Parameter | pH | 7.57 | | | | |
| 5/16/2011 13:00 | BLANK | Metals | Cadmium | 0.05 | U | ug/L | 0.05 | 0.2 |
| 5/16/2011 13:00 | BLANK | Metals | Nickel | 0.25 | U | ug/L | 0.25 | 1 |
| 5/16/2011 13:00 | BLANK | Metals | Zinc | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 13:00 | BLANK | Metals | Selenium | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Metals | Calcium | 0.075 | U | mg/L | 0.075 | 0.3 |
| 5/16/2011 13:00 | BLANK | Metals | Silver | 0.025 | U | ug/L | 0.025 | 0.1 |
| 5/16/2011 13:00 | BLANK | Metals | Molybdenum | 0.15 | U | ug/L | 0.15 | 0.6 |
| 5/16/2011 13:00 | BLANK | Metals | Mercury | 0.12 | U | ug/L | 0.12 | 0.5 |
| 5/16/2011 13:00 | BLANK | Metals | Aluminum | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 13:00 | BLANK | Metals | Arsenic | 0.25 | U | ug/L | 0.25 | 1 |
| 5/16/2011 13:00 | BLANK | Metals | Antimony | 0.25 | U | ug/L | 0.25 | 1 |
| 5/16/2011 13:00 | BLANK | Metals | Iron | 30 | U | ug/L | 30 | 120 |
| 5/16/2011 13:00 | BLANK | Metals | Chromium | 0.3 | U | ug/L | 0.3 | 1.2 |
| 5/16/2011 13:00 | BLANK | Metals | Lead | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Metals | Magnesium | 0.04 | U | mg/L | 0.04 | 0.16 |
| 5/16/2011 13:00 | BLANK | Metals | Copper | 0.5 | U | ug/L | 0.5 | 1 |
| 5/16/2011 13:00 | BLANK | Metals | Sodium | 0.5 | U | mg/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Nutrients | Sulfate | 0.2 | U | mg SO4/L | 0.2 | 0.5 |
| 5/16/2011 13:00 | BLANK | Nutrients | Total-P | 0.004 | U | mg P/L | 0.004 | 0.01 |
| 5/16/2011 13:00 | BLANK | Nutrients | Kjeldahl Nitrogen | 0.08 | U | mg N/L | 0.08 | 0.2 |
| 5/16/2011 13:00 | BLANK | Nutrients | Fluoride | 0.035 | U | mg F/L | 0.035 | 0.1 |
| 5/16/2011 13:00 | BLANK | Nutrients | Chloride | 0.2 | U | mg Cl/L | 0.2 | 0.5 |
| 5/16/2011 13:00 | BLANK | Nutrients | Alkalinity | 0.65 | U | mg CaCO3/L | 0.65 | 2.5 |
| 5/16/2011 13:00 | BLANK | Nutrients | Ammonia-N | 0.01 | U | mg N/L | 0.01 | 0.02 |
| 5/16/2011 13:00 | BLANK | Nutrients | Organic Carbon | 1 | U | mg C/L | 1 | 5 |
| 5/16/2011 13:00 | BLANK | Nutrients | O-Phosphate-P | 0.004 | U | mg P/L | 0.004 | 0.01 |
| 5/16/2011 13:00 | BLANK | Nutrients | Cyanide | 0.005 | U | mg CN/L | 0.005 | 0.02 |
| 5/16/2011 13:00 | BLANK | Nutrients | NO2NO3-N | 0.004 | U | mg N/L | 0.004 | 0.01 |
| 5/16/2011 13:00 | BLANK | Nutrients | Color (true) | 2 | U | PCU | 2 | 6 |
| 5/16/2011 13:00 | BLANK | Pesticides | Alachlor | 0.66 | UJ | ug/L | 0.66 | 2.6 |
| 5/16/2011 13:00 | BLANK | Pesticides | Endrin Aldehyde | 0.022 | U | ug/L | 0.022 | 0.088 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 13:00 | BLANK | Pesticides | Atrazine | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Chlorpyrifos Methyl | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Diazinon | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Beta-BHC | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Endosulfan Sulfate | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | Ethion | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Ethoprop | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Metalaxyl | 0.28 | U | ug/L | 0.28 | 1.1 |
| 5/16/2011 13:00 | BLANK | Pesticides | Parathion Methyl | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Chlordane | 0.22 | U | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | DDT-p,p' | 0.033 | U | ug/L | 0.033 | 0.13 |
| 5/16/2011 13:00 | BLANK | Pesticides | Heptachlor | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Heptachlor Epoxide | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | Fonofos | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Metolachlor | 0.55 | U | ug/L | 0.55 | 2.2 |
| 5/16/2011 13:00 | BLANK | Pesticides | Metribuzin | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Mevinphos | 0.22 | U | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | Parathion Ethyl | 0.17 | U | ug/L | 0.17 | 0.66 |
| 5/16/2011 13:00 | BLANK | Pesticides | Endosulfan I | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | 1,3-Dichloropropene | 0.21 | U | ug/L | 0.21 | 0.85 |
| 5/16/2011 13:00 | BLANK | Pesticides | Azinphos Methyl | 0.22 | UJ | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | Hexazinone | 0.11 | U | ug/L | 0.11 | 0.44 |
| 5/16/2011 13:00 | BLANK | Pesticides | Alpha-BHC | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Methoxychlor | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Butylate | 0.22 | UJ | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | Naled | 0.88 | U | ug/L | 0.88 | 3.5 |
| 5/16/2011 13:00 | BLANK | Pesticides | Phorate | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Aldrin | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Gamma-BHC | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Toxaphene | 0.83 | U | ug/L | 0.83 | 3.3 |
| 5/16/2011 13:00 | BLANK | Pesticides | Chlorpyrifos Ethyl | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Fenamiphos | 0.22 | U | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | Norflurazon | 0.17 | U | ug/L | 0.17 | 0.66 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 13:00 | BLANK | Pesticides | DDD-p,p' | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | DDE-p,p' | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | Delta-BHC | 0.011 | U | ug/L | 0.011 | 0.044 |
| 5/16/2011 13:00 | BLANK | Pesticides | Dieldrin | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | Endosulfan II | 0.022 | U | ug/L | 0.022 | 0.088 |
| 5/16/2011 13:00 | BLANK | Pesticides | Endrin | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Bromacil | 0.22 | U | ug/L | 0.22 | 0.88 |
| 5/16/2011 13:00 | BLANK | Pesticides | Malathion | 0.17 | U | ug/L | 0.17 | 0.66 |
| 5/16/2011 13:00 | BLANK | Pesticides | Prometryn | 0.17 | U | ug/L | 0.17 | 0.66 |
| 5/16/2011 13:00 | BLANK | Pesticides | Simazine | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Pesticides | Ametryn | 0.055 | U | ug/L | 0.055 | 0.22 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,6-Dinitrotoluene | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2-Chlorophenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Acenaphthylene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzidine | 100 | U | ug/L | 100 | 400 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Diethyl phthalate | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Isophorone | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | N-Nitrosodiphenylamine/ Diphenylamine | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Nitrobenzene | 2 | U | ug/L | 2 | 8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,1,1-Trichloroethane | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,2-Dichlorobenzene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,3-Dichlorobenzene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,4-Dinitrophenol | 15 | U | ug/L | 15 | 60 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 4-Chloro-3-methylphenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 4-Chlorophenyl phenyl ether | 2 | U | ug/L | 2 | 8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Acenaphthene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzo(a)pyrene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzo(b)fluoranthene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzo(k)fluoranthene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Fluoranthene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Hexachlorobutadiene | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Phenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzo(g,h,i)perylene | 0.2 | U | ug/L | 0.2 | 0.8 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Bis(2-chloroisopropyl)ether | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Bis(2-ethylhexyl)phthalate | 15 | U | ug/L | 15 | 60 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Dimethyl phthalate | 10 | U | ug/L | 10 | 40 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Fluorene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Indeno(1,2,3-cd)pyrene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | N-Nitrosodi-n-propylamine | 2 | U | ug/L | 2 | 8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Phenanthrene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,4-Dichlorophenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 3,3'-Dichlorobenzidine | 40 | U | ug/L | 40 | 160 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Bis(2-chloroethoxy)methane | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Dibenzo(a,h)anthracene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | N-Nitrosodimethylamine | 2 | U | ug/L | 2 | 8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Naphthalene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,1,2-Trichloroethane | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,4-Dichlorobenzene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,4-Dinitrotoluene | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Anthracene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzo(a)anthracene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Di-n-octyl phthalate | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Hexachlorobenzene | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Hexachlorocyclopentadiene | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Hexachloroethane | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Pyrene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Benzene | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Carbon tetrachloride | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Chlorobenzene | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Tetrachloroethene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Vinyl chloride | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,4-Dimethylphenol | 10 | U | ug/L | 10 | 40 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2-Chloronaphthalene | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2-Nitrophenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Di-n-butyl phthalate | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,1-Dichloroethene | 0.5 | U | ug/L | 0.5 | 2 |

## Appendix E. (continued)

| Date Sampled | Field ID | Analysis Group | Components | Results | Remarks | Units | MDL | PQL |
|---|---|---|---|---|---|---|---|---|
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,2-Dichloropropane | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Chloroethane | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Chloroform | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Methylene chloride | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | trans-1,2-Dichloroethene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 4-Nitrophenol | 15 | U | ug/L | 15 | 60 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Bis(2-chloroethyl)ether | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Pentachlorophenol | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,1-Dichloroethane | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Chloromethane | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Toluene | 0.5 | U | ug/L | 0.5 | 2 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Trichloroethene | 0.2 | U | ug/L | 0.2 | 1 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,2,4-Trichlorobenzene | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2,4,6-Trichlorophenol | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 2-Methyl-4,6-dinitrophenol | 3 | U | ug/L | 3 | 12 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 4-Bromophenyl phenyl ether | 1 | U | ug/L | 1 | 4 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Butyl benzyl phthalate | 5 | U | ug/L | 5 | 20 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | Chrysene | 0.2 | U | ug/L | 0.2 | 0.8 |
| 5/16/2011 13:00 | BLANK | Priority Organic Pollutants | 1,2-Dichloroethane | 0.2 | U | ug/L | 0.2 | 1 |

## Appendix F. Facility Summary, Effluent Limits, and Permit Violations Recorded on Discharge Monitoring Report

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

| **PART I: Information gathered prior to sampling event** | |
|---|---|
| **Prepared By:** Kim Allen | **Contact Number:** 595-0553 |
| **Facility Name (as it appears on permit):** Military Point Aerated Lagoon | **Former Names:** |
| **NPDES Permit Number:** FL002631 | **Permit Expiration Date:** 12/2/14 |
| **Physical Address:** Lagoon Road, Tyndall AFB, FL 32403 | |
| **District:** NWD | **County:** Bay |
| **Function of Facility:** Industrial wastewater treatment for Stone Container and Arizona Chemical | |
| **Facility Type:** IW | **Permitted Capacity (MGD):** 37 MGD |
| **Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): Will give when report is finalized.** | |
| **If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months):** | |
| **Description of type of Discharge:** ☒ **Continuous** ☐ **Intermittent** ☐ **Seasonal** ☐ **Rainfall Dependent** ☐ **Other, please specify** | |
| **Description of Sampling Location(s) - actual permit designation of permitted sampling point(s):** EFF-01: Sampling Point at Top of Cascade; I-002: Internal Outfall (Arizona Chemical); BayBack – Background Sampling Station St. Andrews Bay (to be proposed by transparency study required in AO) | |
| **Description of Permitted Outfall(s):** An existing 30 MGD monthly average daily flow (MADF) discharge to St. Andrew Bay (Class III Marine waters), D-001. The St. Andrew Bay Outfall outfall line is approximately 1300 feet in length, discharges at a depth of approximately 17.5 feet and the point of discharge is located approximately at latitude 30° 07' 30" N, longitude 85° 37' 52" W. | |
| **Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility):**<br><br>**WASTEWATER TREATMENT:**<br><br>Military Point Aerated Lagoon's secondary treatment system consists of a 69 acre lagoon divided into 5 cells by 4 curtain walls to direct flow and create an aerated stabilization cells with forty-five, 75 horsepower aerators and a quiescent cell, Cell #5, for solids settling.<br><br>A sludge handling facility, constructed in 1992, consists of two lined ponds, approximately 8.8 acres, the thickening pond is built with 6 inches of concrete over a 20 mil visquine lining and the decant pond is built with a 20 mil PVC lining. Mechanical dewatering will be allowed on a case-by-case basis following the Florida Department of Environmental Protection (DEP) approval. Solids are dredged from the solids settling cell on a routine basis into the sludge handling facility. Decant water is returned to Cell #1 of the 69 acre lagoon. Residuals from the sludge handling facility are land applied at agronomic rates to farm land sites pre-approved by DEP or disposed of by incineration following DEP approval. | |

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## Appendix F. (continued)

**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 |

**See next page…**

## Appendix F. (continued)

### I. Effluent Limitations and Monitoring Requirements

**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 process wastewater, non process wastewater, and stormwater from Outfall D-001. Such discharge shall be limited and monitored by the permittee as specified below and reported in accordance with condition I.E.3.:

| | Discharge Limitations | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|
| Parameters (units) | Monthly Average | Daily Maximum | Other | Monitoring Frequency | Sample Type | Sample Point |
| Biochemical Oxygen Demand-5 (LBS/DAY) | 7,506 | 15,012 | NA | 3/week | Calculated | CALC |
| Flow (MGD) | Report | Report | NA | Continuous | Recorder | EFF-1 |
| pH (SU) | NA | 8.5 | 6.5 min | Continuous | Grab | EFF-1 |
| Oxygen, Dissolved (DO) (MG/L) | NA | NA | 5.0 min. | Daily | Grab | See Note 3 |
| Coliform, Fecal (General) (#/100ML) | NA | 800 | 200 Annual Ave. | Monthly | Grab | EFF-1 |
| Solids, Total Suspended (LBS/DAY) | 7,506 | 15,012 | NA | 3/week | Calculated | CALC |
| Nitrogen, Total (LBS/DAY) | Report | Report | NA | Monthly | Calculated | CALC |
| Whole Effluent Toxicity (Chronic) | See Permit Condition I.A.5 | | | | | EFF-1 |
| Nitrogen, Kjeldahl, Total (as N) (MG/L) | Report | Report | NA | Monthly | 24-hour comp. | EFF-1 |
| Nitrogen, Ammonia, Total (as N) (MG/L) | Report | Report | NA | Monthly | 24-hour comp. | EFF-1 |
| Ammonia, Unionized (as NH3) (MG/L) | Report | Report | NA | Monthly | Calculated | CALC |
| Nitrite plus Nitrate, Total 1 det. (as N) (MG/L) | Report | Report | NA | Monthly | 24-hour comp. | EFF-1 |
| Temperature (DEG.C) | Report | Report | NA | 2/week | Grab | EFF-1 |
| Phosphorus, Total (as P) (LBS/DAY) | Report | Report | NA | Monthly | Calculated | CALC |
| COD mg/l | Report | Report | NA | Weekly | 24-hour comp. | EFF-1 |
| Color (PT-CO) | Report | Report | NA | Monthly | 24-hour comp. | EFF-1 |
| Arsenic, Total Recoverable (UG/L) | 36 | 36 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Aluminum, Total Recoverable (MG/L) | 10.0 | 10.0 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Copper, Total Recoverable (UG/L) | 21 | 21 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Iron, Total Recoverable (MG/L) | 1.10 | 1.10 | NA | Quarterly | 24-hour comp. | EFF-1 |

## Appendix F. (continued)

| | Discharge Limitations | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|
| Parameters (units) | Monthly Average | Daily Maximum | Other | Monitoring Frequency | Sample Type | Sample Point |
| Lead, Total Recoverable (UG/L) | 8.5 | 8.5 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Mercury, Tot. Rec. (UG/L) | 0.025 | 0.025 | NA | Quarterly | Grab | EFF-1 |
| Nickel, Total Recoverable (UG/L) | 8.3 See Note 2 | 8.3 See Note 2 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Antimony, Total Recoverable (UG/L) | 4300 | 4300 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Chromium, Total Recoverable Hexavalent (UG/L) | 50 | 50 | NA | Quarterly | Grab | EFF-1 |
| Molybdenum, Total Recoverable (UG/L) | Report | Report | NA | Quarterly | 24-hour comp. | EFF-1 |
| Zinc, Total Rec. (UG/L) | 86.0 | 86.0 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Chloroform (UG/L) | Report | Report | NA | Quarterly | Grab | EFF-1 |
| 2,3,7,8-Tetrachlorodibenzo-p-dioxin (PG/L) | 0.014 | 0.014 | NA | Quarterly | 24-hour comp. | EFF-1 |
| Turbidity(Background)(NTU) | Report | Report | NA | Weekly | 24-hour comp. | BayBack |
| Turbidity(Effluent)(NTU) | Report | Report | NA | Weekly | 24-hour comp. | EFF-1 |
| Turbidity (Calculated Limit) (NTU) | NA | See I.A.4 | NA | Weekly | Calculated | CALC |
| Transparency See Note 1 | NA | NA | See Note 1 & 62-302.530 (67) | Quarterly | 24-hour comp. | EFF-1 |

Note 1 – Administrative Order AO064NW establishes an interim limit for Transparency and Turbidity as "Report Only". Also, Administrative Order AO064NW requires submittal of a POS which will establish the proper protocol and methodology for sampling and monitoring of Transparency and Turbidity as well as appropriate locations for background sampling and monitoring for Transparency and Turbidity throughout the permit term.

Note 2 - Interim limit for Nickel set by AO064NW is "Report Only" until Mixing Zone (MZ) request for Nickel is reviewed and processed.

Note 3 – Sample is taken from the bottom of the cascade when MP Regional AWTF is not discharging. Location lat 30° 07' 10.9" N, long 85° 37' 49.6" W

I.A.4.

4. The limit for Turbidity shall be calculated as follows:

Limit = Background Turbidity + 29 NTU

Administrative Order AO064NW provides relief for compliance with the Turbidity limit. Also, Administrative Order AO064NW requires submittal of a POS which will establish the proper protocol and methodology for sampling and monitoring of Turbidity and Transparency as well as appropriate locations for background sampling and monitoring for both parameters throughout the permit term.

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

## Appendix F. (continued)

2. During the period beginning on the issuance date and lasting through the expiration date of this permit, the permittee is required to evaluate the compliance with effluent limitations of 40CFR414.111 (OCPSF) for the discharge of toxic pollutants from Outfall I-002 (Arizona Chemical).

The discharge must not exceed the concentration of the toxic pollutants listed below:

| Outfall INT 002 (40CFR414) | Discharge Limitations | | | Monitoring Requirements | | |
|---|---|---|---|---|---|---|
| Parameter (lbs/day) | Daily Max | Mo Ave | Other | Frequency | Samp Type | Sample Point |
| 1. 1,1,1-Trichloroethane | 0.079 | 0.030 | na | semiannually | Grab | INT 002 |
| 2. 1,1,2-Trichloroethane | 0.171 | 0.040 | na | semiannually | Grab | INT 002 |
| 3. 1,1-Dichloroethane | 0.079 | 0.030 | na | semiannually | Grab | INT 002 |
| 4. 1,1-Dichloroethylene | 0.081 | 0.030 | na | semiannually | Grab | INT 002 |
| 5. 1,2,4-Trichlorobenzene | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 6. 1,2-Dichlorobenzene | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 7. 1,2-Dichloroethane | 0.772 | 0.240 | na | semiannually | Grab | INT 002 |
| 8. 1,2-Dichloropropane | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 9. 1,2-trans-Dichloroethylene | 0.089 | 0.030 | na | semiannually | Grab | INT 002 |
| 10. 1,3-Dichlorobenzene | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 11. 1,3-Dichloropropylene | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 12. 1,4-Dichlorobenzene | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 13. 2-Nitrophenol | 0.311 | 0.090 | na | semiannually | Grab | INT 002 |
| 14. 4,6-Dinitro-o-Cresol | 0.373 | 0.100 | na | semiannually | Grab | INT 002 |
| 15. 4-Nitrophenol | 0.775 | 0.220 | na | semiannually | Grab | INT 002 |
| 16. Acenaphthene | 0.063 | 0.026 | na | semiannually | Grab | INT 002 |
| 17. Anthracene | 0.063 | 0.026 | na | semiannually | Grab | INT 002 |
| 18. Benzene | 0.180 | 0.080 | na | semiannually | Grab | INT 002 |
| 19. bis(2-Ethylhexyl)Phthalate | 0.347 | 0.130 | na | semiannually | Grab | INT 002 |
| 20. Carbon Tetrachloride | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 21. Chlorobenzene | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 22. Chloroethane | 0.397 | 0.150 | na | semiannually | Grab | INT 002 |
| 23. Chloroform | 0.437 | 0.150 | na | semiannually | Grab | INT 002 |
| 24. Di-n-Butyl Phthalate | 0.058 | 0.030 | na | semiannually | Grab | INT 002 |
| 25. Diethyl Phthalate | 0.152 | 0.060 | na | semiannually | Grab | INT 002 |
| 26. Dimethyl Phthalate | 0.063 | 0.026 | na | semiannually | Grab | INT 002 |
| 27. Ethylbenzene | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 28. Fluoranthene | 0.073 | 0.030 | na | semiannually | Grab | INT 002 |
| 29. Fluorene | 0.063 | 0.026 | na | semiannually | Grab | INT 002 |
| 30. Hexachlorobenzene | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 31. Hexachlorobutadiene | 0.511 | 0.190 | na | semiannually | Grab | INT 002 |
| 32. Hexachloroethane | 1.068 | 0.260 | na | semiannually | Grab | INT 002 |
| 33. Methyl Chloride | 0.397 | 0.150 | na | semiannually | Grab | INT 002 |
| 34. Methylene Chloride | 0.229 | 0.050 | na | semiannually | Grab | INT 002 |
| 35. Naphthalene | 0.063 | 0.026 | na | semiannually | Grab | INT 002 |
| 36. Nitrobenzene | 8.611 | 3.010 | na | semiannually | Grab | INT 002 |
| 37. Phenanthrene | 0.063 | 0.030 | na | semiannually | Grab | INT 002 |
| 38. Pyrene | 0.065 | 0.030 | na | semiannually | Grab | INT 002 |
| 39. Tetrachloroethylene | 0.221 | 0.070 | na | semiannually | Grab | INT 002 |
| 40. Toluene | 0.100 | 0.040 | na | semiannually | Grab | INT 002 |
| 41. Total Cyanide | 1.614 | 0.564 | na | semiannually | Grab | INT 002 |
| 42. Total Lead | 0.928 | 0.430 | na | semiannually | Grab | INT 002 |
| 43. Total Zinc | 3.510 | 1.410 | na | semiannually | Grab | INT 002 |
| 44. Trichloroethylene | 0.093 | 0.035 | na | semiannually | Grab | INT 002 |
| 45. Vinyl Chloride | 0.231 | 0.130 | na | semiannually | Grab | INT 002 |

## Appendix F. (continued)

| PART I: Continued | |
|---|---|
| **Receiving Waters:**<br>St. Andrews Bay | **Classification (indicate whether fresh or marine):**<br>Class III Marine |

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

c. Sampling Requirements

(1) For each routine test or additional follow-up test conducted, a total of three 24-hr Flow Proportioned Composite samples of final effluent shall be collected and used in accordance with the sampling protocol discussed in EPA-821-R-02-014, Section 8.

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

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

d. Test Requirements

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

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

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

(4) The control water and dilution water shall be moderately hard water as described in EPA-821-R-02-013, Section 7.

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

Administrative Order, AO064NW was issued with the permit on 12/3/09, revised on 12/19/09 and again on 6/11/10. The AO and revisions provide interim limits for nickel, transparency, turbidity and sodium until 12/3/12. The AO requires the facility to submit a mixing zone request for nickel and to perform a transparency study.

**Facility Mixing Zone Details (if applicable):**

(Excerpt from the Draft Permit issued 9/11/09):

Bay County requested a mixing zone (MZ) for both the Military Point WWTP (FL0167959) and the Military Point Industrial Lagoon (FL0002631) as they share the same discharge diffuser pipe. The mixing zone calculations provide for new metals (aluminum, iron and copper) limits for both facilities. The EPA and DEP have reviewed and approved the MZ request. The Military Point WWTP (FL0167959) permit has been issued with the new limits for metals. The metals limits for the Military Point Industrial Lagoon (FL0002631) will remain as approved in the MZ request with the exception of aluminum. The mixing zone calculations for aluminum indicate an end of pipe limit of 2.6 mg/l coinciding with a MZ distance of 2 meters. Sampling data indicate that 2.6 mg/l was not met most of the time throughout the last permit term. Therefore, as a result of a Level I WQBEL and BPJ, the limit was increased to 10 mg/l.

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

## Appendix F. (continued)

| Date | Parameter and Units | Limit | Result |
|---|---|---|---|
| **4/10** | **Dissolved Oxygen (DO) mg/L** | **5.0 mg/L min** | **3.4 mg/L** |

**Describe previous FYI and WQBEL study:**

FDEP Study January 2008: "Effect of the Bay County's Military Point Lagoon and Regional Wastewater Treatment Plant Discharge on the Water Quality of East St. Andrews Bay"

FYI3 – September 2005

**Describe previous or current Enforcement Actions (including WLs):**

Closed Case,OGC#88-0591: Respondent intentionally bypassed untreated domestic wastewater from the Regional Facility and used it to flush septage through the Cherry Street facility which discharged to a permitted industrial wastewater lagoon where the sewage/septage received secondary treatment and was subsequently discharged to St. Andrew Bay. Additionally, Respondent did not comply with the conditions of the General Permit and Department regulations when a subaqueous pipeline was not properly installed as per plans and documents submitted by Respondent with the notice of intent to use the General Permit. Portions of the line do not meet the minimum depth below design grade requirement. Along segments of the new subaqueous line, the crown of the line is below grade but not the depth specified in the approved plans, and other segments of the subaqueous line are above the design grade or suspended above the existing grade. The line has been, and continues to be, used to transmit raw wastewater to the Regional Facility since the facility was put on line in July 1999. Respondent did not obtain written approval prior to placing the subaqueous pipeline into service. As required by the Consent Order, Respondent has obtained a permit from the Department to install protective devices on the subaqueous pipeline.

**Describe any violations or problems noted in previous inspection:**

CEI 8/19/10: The facility reported a DO below the min limit of 5.0 mg/L in April 2010.

**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):**

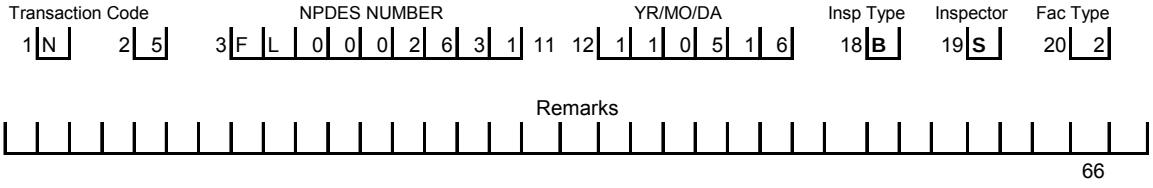
## Appendix F. (continued)

| PART II: Sampling Event Information | |
|---|---|
| Date(s) sample collected:<br>5/16/2011 | Sampler(s):<br>Nathan Mulkey, Rick Abad |
| Temperature (Deg C):<br>26.50 | pH (SU):<br>7.57 |
| Dissolved Oxygen (mg/L):<br>2.09 | Conductivity (umhos/cm):<br>1896 |
| Total Residual Chlorine (mg/L): | Total Residual Chlorine - after Disinfection (mg/L): |
| Method of Chlorination: | Method of De-chlorination: |
| Flow During Sample Collection for each outfall(MGD): | |
| Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day): | |
| Describe Discharge during Sampling Event:<br>☒ 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 G. EPA End Sheet

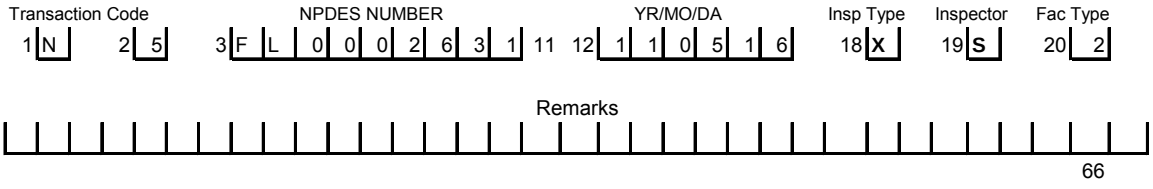
### The Bioassay of Military Point Aerated Lagoon effluent sampled on May 16, 18, and 20, 2011. NPDES #FL0002631.

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




### The Priority Pollutants Analysis of Military Point Aerated Lagoon effluent sampled on May 16, 2011. NPDES #FL0002631.

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




### Biological Analyses of Military Point Aerated Lagoon effluent sampled on May 16, 2011. NPDES #FL0002631.

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

