

Effluent Quality Assessment

Mosaic Fertilizer, L.L.C. – Green Bay Chemical Complex

Polk County

NPDES #FL0000752

Sampled January 28 and 30, and February 1, 2013

May 2013

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration
Quality Manual No. 870346G
NELAC Certification No. E31780

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Mosaic Fertilizer, L.L.C. – Green Bay Chemical Complex, 4390 CR 640 West, Bartow, Polk County, Florida, 33830. NPDES #FL0000752.

Facility Overview

Mosaic Fertilizer, L.L.C. – Green Bay Chemical Complex is a closed chemical fertilizer manufacturing plant and phosphogypsum stack system. The facility's NPDES permit is maintained for the closure of the facility and the maintenance of the phosphogypsum stack system. See Appendix A for a description of the facility, summary of permit limits, Administrative Order (AO) and Discharge Monitoring Report (DMR) information.

Methods

Effluent composite samples for toxicity testing were collected on January 28 and 30, 2013, and February 1, 2013. Effluent grab and composite samples for biological and chemical analyses for this facility were collected on January 28, 2013. All samples were collected from the EFF-001 NPDES sampling point for Outfall D-001 by Jacki Champion and Melani Dickenson (FDEP Southwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.dep.state.fl.us/water/sas/sop/index.htm.

The 7-day chronic screening 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.dep.state.fl.us/labs/library/lab_sops.htm.

Results

Chemistry Results (See Table 1 and Appendix C)

- Total residual chlorine was not detected in the bioassay samples in the laboratory. Total ammonia was not measured in the bioassay samples due to meter failure. The total ammonia concentration in the composite sample collected and preserved for chemical analysis was 0.32 mg N/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was <0.02 mg/L.
- Arsenic, nickel, turbidity, fluoride, ortho-phosphate, total phosphorus , radium (226 + 228) and sulfate were detected in the effluent sample at levels that comply with Class III Freshwater Quality Criteria (62-302.530, F.A.C.) and/or permitted limits. Chromium III, iron, and lead were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

Algal Growth Potential (See Table 2 and Appendix C)

- The effluent Algal Growth Potential (AGP) was 77.6 A 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 analytical chemistry suggests that the effluent is nitrogen –limited (Miller et al. 1978).

Toxicity Test Results (See Appendices D- F)

- Tests were performed January 29 – February 5, 2013.

  Ceriodaphnia dubia 7-day chronic screening bioassay – No Result, Sample "O" qualified

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

- The bioassay samples were not chronic ally toxic to the *P. promelas* test organisms. The *Ceriodaphnia dubia* test was invalidated due to insufficient reproduction in the control. However, survival and

reproduction in the 100% effluent sample suggested that the effluent was not toxic. A Non-Conformance Report (NCR 4399) was created for the *C. dubia* test reproduction issue.

- Bioassay samples 1-3 were aerated for 10, 30, and 20 minutes at a rate of approximately 100 bubbles per minute to decrease the dissolved oxygen (DO) from 9.3, 9.6, and 13.1 mg/L to 8.4, 8.7, and 7.7 mg/L, respectively.

Conclusion

The effluent sample collected from the EFF-001 NPDES sampling point for this facility on January 28 and 30, and February 1, 2013, was not chronically toxic to the *Pimephales promelas* test species during the 7-day chronic screening bioassay. The *Ceriodaphnia dubia* test was invalidated due to insufficient reproduction in the control. However, survival and reproduction in the 100% effluent sample suggested that the effluent was not toxic. The effluent AGP result was greater than the "problem" threshold for fresh receiving waters suggesting that nutrient enrichment may be an issue. Effluent water quality samples collected on January 28, 2013, 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.

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

Mosaic Fertilizer, L.L.C. - Green Bay Chemical Complex	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	230	
Arsenic	≤ 50	-	1.46	
Cadmium	≤ 0.5 b	-	0.05	U
Calcium (mg/L)	-	-	60.2	
Chromium-III	≤ 158.5 b	-	0.56	I
Copper	≤ 17.6 b	-	0.5	U
Iron	≤ 1,000	-	96	I
Lead	≤ 8.2 b	-	0.21	I
Magnesium (mg/L)	-	-	14.6	
Nickel	≤ 97.9 b	-	1.16	
Selenium	≤ 5.0	-	0.2	U
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 225.1 b	-	5	U
Nutrients (mg/L)				
Ortho-phosphate	-	≤ 20.0	3.8	
Total Phosphorus	-	≤ 35.0 p	4.7	
Total Ammonia	-	Report	0.32	
Un-ionized Ammonia	≤ 0.02	≤ 0.02	< 0.02	c
Nitrate and Nitrite	-	-	0.28	
Total Kjeldahl Nitrogen	-	-	3.9	
Organic Nitrogen	-	-	3.58	c
Total Nitrogen	-	Report	4.18	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0	9.1	
pH (SU)	6.0 - 8.5	6.0 - 8.5	7.0	
Conductivity (µmhos/cm)	≤ 1,275	≤ 1,275	558	
Temperature (°C)	-	Report	19.1	
Salinity	-	-	≤ 0.31	c
Total Residual Chlorine (mg/L)	≤ 0.01	-	≤ 0.03	UQ£
Chlorophyll *a* (µg/L) - Corrected	-	-	94	
Phaeophytin (µg/L)	-	-	26	
Total Dissolved Solids (mg/L)	-	-	325	
Turbidity (NTU)	< 29 t	< 29 t	9.6	
Oils and Greases (mg/L)	≤ 5.0	≤ 5.0	0.73	U
Chloride (mg/L)	-	-	16	
Fluoride (mg/L)	≤ 10.0	≤ 10.0 p	7.1	
Sulfate (mg/L)	-	Report	150	
Alpha, Total (pCi/L)	≤ 15	≤ 15.0 p	1.6	U
Alpha-Counting Error (pCi/L)	-	-	1.1	
Radium 226 (pCi/L)	-	-	0.6	
Radium 226-Counting Error (pCi/L)	-	-	0.2	
Radium 228 (pCi/L)	-	-	1	U
Radium 228-Counting Error (pCi/L)	-	-	0.6	
Radium 226 + 228 (pCi/L)	≤ 5	≤ 5.0 p	0.6	c
Flow (MGD)	-	Report	4.5	m*
Hardness (mg $CaCO_3$)	-	-	210.44	c

Value exceeds the Class III Water Quality Criteria or permit limits

b - Value is calculated based on hardness

c - Value is calculated

m - monthly average

p - 24 hour flow proportioned composite

t - Shall not exceed 29 NTUs above background

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

J - Estimated value

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

O - Sampled, but analysis lost or not performed

Q - Sample held beyond normal holding time

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

£ - measurement taken in the FDEP laboratory

* - Measured from 1-31-2012 - 1-31-2013

Table 2. 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.

Mosaic Fertilizer, L.L.C. - Green Bay Chemical Complex					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	77.6 A	22.8 ± 4.6	158.8 ± 31.8	0.2	0.9
A - Value reported is the mean of two or more determinations					

Appendix A.
Facility Summary

State of Florida
Department of Environmental Protection
Facility Introduction & Summary

PART I: Information gathered prior to sampling event	
Prepared By: Jacki Champion	Contact Number: 813-632-7600 X133
Facility Name (as it appears on permit): Mosaic Fertilizer, L.L.C. – Green Bay Chemical Complex	Former Names: Cargill Fertilizer-Green Bay Chemical Plant
NPDES Permit Number: FL0000752	Permit Expiration Date: October 14, 2013
Physical Address: 4390 CR 640 West, Bartow, FL	
District: SW	County: Polk
Function of Facility: Formerly manufactured sulfuric acid, phosphoric acid, diammonium phosphate and mono-ammonium phosphate products. In January 2007 the plant shut down and the permit is now for the closure of the facility and maintenance of the phosphogypsum stack system.	
Facility Type: Closed Chemical Fertilizer manufacturing plant and Phosphogypsum Stack system	Permitted Capacity (MGD): NA
Mean Flow for previous 12 months for all EXTERNAL outfalls listed in permit (list date range including months): 4.69 MGD from 12/11-11/12	
If applicable, Mean Flow for previous 12 months for REUSE outfall(s) (list date range including months): NA	
Description of type of Discharge: ☒ Continuous ☐ Intermittent ☐ Seasonal ☒ Rainfall Dependent ☐ Other, please specify	

Description of Sampling Location(s) - actual permit designation of permitted sampling point(s): **EFF-001-Discharge from NPDES Outfall D-001, near the intersection of Bonnie Mine Road and CR 640.**
Description of Permitted Outfall(s): **D-001 is a 18 inch Parshall Flume**
Description of Treatment Process (if multiple discharge points, include a detailed map or diagram of facility): Treatment of process water may include two-stage lime treatment, pH adjustment/acidulation, gravity settling, reverse osmosis and aeration.

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

Parameters (units)	Discharge Limitations			Monitoring Requirements		
	Daily Minimum	Monthly Average	Daily Maximum	Monitoring Frequency	Sample Type	Sample Point
Flow (MGD)	N/A	Report	Report	Continuous	Recorder	EFF-001
pH (su) (See I.A.8.)	6.0	Report	8.5	Continuous	Recorder	EFF-001
Nitrogen, Ammonia, Total (as N) (mg/l) (See I.A.8.)	N/A	Report	Report	Weekly	Grab	EFF-001
Ammonia, Unionized (as NH_3) (mg/l) (See I.A.8.)	N/A	Report	0.02	Weekly	Calculated	EFF-001
Oxygen, Dissolved (DO) (mg/l) (See I.A.9.)	5.0	Report	N/A	Weekly	Grab	EFF-001
Phosphate, Ortho (as P) (mg/l)	N/A	Report	20.0	Weekly	Grab	EFF-001
Specific Conductance (µmhos/cm) (See I.A.14.)	N/A	Report	1275	Weekly	Grab	EFF-001
Fluoride, Total (as F) (mg/l)	N/A	Report	10.0	Weekly	24-hour composite	EFF-001
Temperature (C), Water (Deg.C) (See I.A.8.)	N/A	Report	Report	Weekly	Grab	EFF-001
Sulfate, Total (mg/l)	N/A	Report	Report	Weekly	24-hour composite	EFF-001

					composite	
Phosphorus, Total (as P) (mg/l)	N/A	10.0	35.0	Weekly	24-hour composite	EFF-001
Phosphorus, Total (as P) (lbs/day) (See I.A.16.)	N/A	Report	Report	Weekly	Calculated	EFF-001
Phosphorus, Total (as P) (lb/yr)	N/A	N/A	Report *	Annually	Calculated	EFF-001
Nitrogen, Total (as N) (mg/l)	N/A	Report	Report	Weekly	24-hour composite	EFF-001
Nitrogen, Total (as N) (lbs/day) (See I.A.16.)	N/A	Report	Report	Weekly	Calculated	EFF-001
Nitrogen, Total (as N) (lb/yr)	N/A	N/A	Report **	Annually	Calculated	EFF-001
Turbidity (NTU)	N/A	Report	29 (See I.A.10.)	Weekly	Grab	EFF-001
Oil and Grease (mg/l) (See I.A.5.)	N/A	N/A	5.0	Monthly	Grab	EFF-001
Alpha, Gross Particle Activity (pCi/l) (See I.A.7.)	N/A	N/A	15.0 (See I.A.6.)	Monthly	24-hour composite	EFF-001
Radium ^{226} + Radium ^{228}, Total (pCi/l)	N/A	N/A	5.0 (See I.A.6.)	Monthly	24-hour composite	EFF-001
Chronic Whole Effluent Toxicity, 7-Day IC25 (Ceriodaphnia dubia)	100 percent	See Permit Condition I.A.12.		Once every six months	24-hour composite	EFF-001
Chronic Whole Effluent Toxicity, 7-Day IC25 (Pimephales promelas)	100 percent	See Permit Condition I.A.12.		Once every six months	24-hour composite	EFF-001

* **Total phosphorus target value (goal) shall be for monitoring and reporting purposes only. (See Condition I.A.17. below)**

** **Total nitrogen target value (goal) shall be for monitoring and reporting purposes only. (See Condition I.A.17. below)**

PART I: Continued	
Receiving Waters: North Prong Alafia River	Classification (indicate whether fresh or marine): Class III Fresh
Toxicity Test Requirements (routine and/or additional test language, test species, salinity adjustment, etc.): Chronic Definitive Fresh water tests every six months.	
Administrative or Consent Orders (date executed, specific requirements, interim limit dates-if applicable, etc.): None	
Facility Mixing Zone Details (if applicable): NA	
List Permit Violations (DMR data) and plant upsets that occurred at the plant within the last year: none	

Date	Parameter and Units	Limit	Result

Describe previous FYI and WQBEL study: The facility was last sampled by FDEP on November 7, 2005. The outfall sample resulted in a high oil and grease value, however oil and grease was also detected in the blank.
Describe previous or current Enforcement Actions (including WLs): No current enforcement actions related to surface waters.
Describe any violations or problems noted in previous inspection: None noted related to surface waters.
Discuss whether DMR trends within previous five years are improving or declining: Static
Additional Comments (this should include a trend of the Effluent, i.e. if the facility is now Reuse):

PART II: Sampling Event Information	
Date(s) sample collected: 1/28/13, 1/30/13 (toxicity), 2/1/13 (toxicity)	Sampler(s): Jacki Champion, Melani Dickenson
Temperature (Deg C): 19.06	pH (SU): 6.98
Dissolved Oxygen (mg/L): 9.06	Conductivity (umhos/cm): 558
Total Residual Chlorine (mg/L): NA	Total Residual Chlorine - after Disinfection (mg/L): NA
Method of Chlorination: NA	Method of De-chlorination: NA
Flow During Sample Collection for each outfall (MGD): 2.28 MGD	
Mean Flow for each outfall for previous 12 months based on sampling date (If samples are taken on more than one day, indicate Mean Flow for each day):	
Describe Discharge during Sampling Event: ☒ Continuous ☐ Intermittent ☐ Seasonal ☐ Rainfall Dependent ☐ Other, please specify	
Describe any conditions, difficulties or abnormal events that occurred during the sample collection and any other additional comments here: The first 24 hour composite sample started 1/27 and collected on 1/28 was from the Mosaic Fertilizer, L.L.C. composite sampler. The FDEP ISCO sampler battery failed and only collected the first few aliquots. A new power source was utilized for the 24 hour samples collected 1/30 and 2/1. The composite blanks that were collected were not applicable as they were collected from the FDEP sampler and therefore were not sent to the laboratory for analysis.	

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2013-01-28-16
FYI3 Mosaic Green Bay Chemical Sampling Inspection

Requester: Michelle Fish

Field Report Prepared By: Jacki Champion

Customer: BMR-TAMPA
Project ID: FYI5
PMAS: 1143

Collected By: Jacki Champion / Melani Dickenson

Send Final Report To: Vishwas Sathe

Sampling Agency: FDEP

Lab ID *	Location	Collection (comp begin or grab) (Eastern)	Composite end (Eastern)	Bottle Group(s)**
	Mosaic Green Bay	☐ Comp ☒ Grab Date 1/28/13 Time 9:45 Central	Date / Time / Central	A
	Field ID: Outfall D-001	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L): 9.06	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C): 19.06	pH: 6.98	Sample Depth ☐ m ☐ ft: 558
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)
				NPDES Number
				Comments

Lab ID *	Location	Collection (comp begin or grab) (Eastern)	Composite end (Eastern)	Bottle Group(s)**
	Mosaic Green Bay	☒ Comp ☐ Grab Date 1/27/13 Time 9:50 Central	Date 1/28/13 Time 9:50 Central	B
	Field ID: Outfall D-001	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C)	pH	Sample Depth ☐ m ☐ ft
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
				NPDES Number
				Comments: ISCO Composite Sampler

Lab ID *	Location	Collection (comp begin or grab) (Eastern)	Composite end (Eastern)	Bottle Group(s)**
	Mosaic Green Bay	☒ Comp ☐ Grab Date 1/27/13 Time 9:50 Central	Date 1/28/13 Time 9:50 Central	B
	Field ID: Outfall D-001	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C)	pH	Sample Depth ☐ m ☐ ft
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
				NPDES Number
				Comments: Bioassay Samples - Composite

Lab ID *	Location	Collection (comp begin or grab) (Eastern)	Composite end (Eastern)	Bottle Group(s)**
	Mosaic Green Bay	☐ Comp ☒ Grab Date 1/28/13 Time 10:45 Central	Date / Time / Central	C
	Field ID: Blank	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C)	pH	Sample Depth ☐ m ☐ ft
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms		☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)
				NPDES Number
				Comments: D.I. H_2O

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
	1/28/13 12:30	Fed Ex						1-29-13/10:00

Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

1-29-13/1053
MF 2 Bioassay Jugs

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2013-01-28-16
FYI3 Mosaic Green Bay Chemical Sampling Inspection

Requester: Michelle Fish
Field Report Prepared By: Jacki Champion

Customer: BMR-TAMPA
Project ID: FYI5
PMAS: 1143

Collected By: Jacki Champion / Melani Dickinson
Send Final Report To: Vishwas Sathe
Sampling Agency: FDEP

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Mosaic Green Bay	☒ Comp ☐ Grab Date 1/29/13 Time 9:20	Date 1/30/13 Time 9:20	B
	Field ID: Outfall D-001	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C)	pH	Sample Depth ☐ m ☐ ft
		Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number	
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: Bioassay Sampled	

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

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

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

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
J Champion	1/30/13 11:30am	FedEx					JC	1-31-13 9:45

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Received 2 Biological Trays M. Finch 0938 1-31-13

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2013-01-28-16
FYI3 Mosaic Green Bay Chemical Sampling Inspection

Requester: Michelle Fish
Field Report Prepared By: Jacki Champion

Customer: BMR-TAMPA
Project ID: FYI5
PMAS: 1143

Collected By: Jacki Champion / Melani Dickenson
Send Final Report To: Vishwas Sathe
Sampling Agency: FDEP

Lab ID *	Location	Collection (comp begin or grab) Eastern Central	Composite end Eastern Central	Bottle Group(s)**
	Mosaic Green Bay	☒ Comp ☐ Grab Date 1/31/13 Time 9:20	Date 2/1/13 Time 9:20	B
	Field ID: Outfall D-001	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number
	Matrix (include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C)	pH	Sample Depth ☐ m ☐ ft; ☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm); NPDES Number
	Latitude ☐ dd ☐ dms	Longitude ☐ dd ☐ dms	Comments: Bioassay Samples	

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

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

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

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
J. Champion	2/1/13 1130	FedEx	M. Faircloth	2/2/13 0900				

2 coolers both white #'s @ 0.2°C
M. Faircloth
3 Bioassay Trip Total

Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Appendix C.
Chemical Analyses of Effluent

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 9:45	Effluent	AGP/LN	Algal Growth Potential	77.6	A	mg DryWt/L	0.3	0.9
1/28/2013 9:45	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	26		ug/L	0.9	2.7
1/28/2013 9:45	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	94		ug/L	1.2	3.8
1/28/2013 9:45	Effluent	Metals	Sodium	37.7		mg/L	0.5	2
1/28/2013 9:45	Effluent	Metals	Zinc	5	U	ug/L	5	20
1/28/2013 9:45	Effluent	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Metals	Lead	0.21	I	ug/L	0.2	0.8
1/28/2013 9:45	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
1/28/2013 9:45	Effluent	Metals	Magnesium	14.6		mg/L	0.04	0.16
1/28/2013 9:45	Effluent	Metals	Iron	96	I	ug/L	30	120
1/28/2013 9:45	Effluent	Metals	Copper	0.5	U	ug/L	0.5	1
1/28/2013 9:45	Effluent	Metals	Calcium	60.2		mg/L	0.075	0.3
1/28/2013 9:45	Effluent	Metals	Chromium	0.56	I	ug/L	0.3	1.2
1/28/2013 9:45	Effluent	Metals	Selenium	0.2	U	ug/L	0.2	0.8
1/28/2013 9:45	Effluent	Metals	Arsenic	1.46		ug/L	0.25	1
1/28/2013 9:45	Effluent	Metals	Nickel	1.16		ug/L	0.25	1
1/28/2013 9:45	Effluent	Metals	Aluminum	230		ug/L	5	20
1/28/2013 9:50	Effluent	Nutrients	Fluoride	7.1		mg F/L	0.035	0.1
1/28/2013 9:45	Effluent	Nutrients	Chloride	16		mg Cl/L	0.4	1
1/28/2013 9:50	Effluent	Nutrients	Total-P	4.7		mg P/L	0.025	0.25
1/28/2013 9:45	Effluent	Nutrients	TDS	325		mg/L	15	25
1/28/2013 9:45	Effluent	Nutrients	Turbidity	9.6		NTU	0.1	0.1
1/28/2013 9:45	Effluent	Nutrients	O-Phosphate-P	3.8		mg P/L	0.16	0.4
1/28/2013 9:50	Effluent	Nutrients	Kjeldahl Nitrogen	3.9		mg N/L	0.08	0.2
1/28/2013 9:50	Effluent	Nutrients	Sulfate	150		mg SO4/L	0.4	1
1/28/2013 9:45	Effluent	Nutrients	Ammonia-N	0.32		mg N/L	0.01	0.02
1/28/2013 9:50	Effluent	Nutrients	NO2NO3-N	0.28		mg N/L	0.004	0.01
1/28/2013 9:50	Effluent	Overflow	Radium 228-Counting Error	0.6		pCi/L		
1/28/2013 9:50	Effluent	Overflow	Alpha-Counting Error	1.1		pCi/L		
1/28/2013 9:50	Effluent	Overflow	Radium 228	1	U	pCi/L		

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 9:50	Effluent	Overflow	Radium 226	0.6		pCi/L		
1/28/2013 9:50	Effluent	Overflow	Alpha, Total	1.6	U	pCi/L		
1/28/2013 9:50	Effluent	Overflow	Radium 226-Counting Error	0.2		pCi/L		
1/28/2013 9:45	Effluent	Overflow	Oil and Grease	0.73	U	mg/L	0.73	2.6
1/28/2013 9:45	Effluent	Pesticides	Malathion	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Parathion Ethyl	0.1	U	ug/L	0.1	0.4
1/28/2013 9:45	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Alachlor	0.3	U	ug/L	0.3	1.2
1/28/2013 9:45	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Azinphos Methyl	0.1	U	ug/L	0.1	0.4
1/28/2013 9:45	Effluent	Pesticides	Naled	0.2	U	ug/L	0.2	0.8
1/28/2013 9:45	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
1/28/2013 9:45	Effluent	Pesticides	Fenamiphos	0.15	U	ug/L	0.15	0.6
1/28/2013 9:45	Effluent	Pesticides	Mevinphos	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Phorate	0.025	UJ	ug/L	0.025	0.1
1/28/2013 9:45	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Ethoprop	0.025	U	ug/L	0.025	0.1
1/28/2013 9:45	Effluent	Pesticides	Metolachlor	0.3	U	ug/L	0.3	1.2
1/28/2013 9:45	Effluent	Pesticides	Parathion Methyl	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Chlorpyrifos Methyl	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
1/28/2013 9:45	Effluent	Pesticides	Prometryn	0.1	U	ug/L	0.1	0.4
1/28/2013 9:45	Effluent	Pesticides	Metalaxyl	0.2	U	ug/L	0.2	0.8
1/28/2013 9:45	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Butylate	0.1	U	ug/L	0.1	0.4
1/28/2013 9:45	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
1/28/2013 9:45	Effluent	Pesticides	Fonofos	0.05	U	ug/L	0.05	0.2
1/28/2013 9:45	Effluent	Pesticides	Hexazinone	0.15	U	ug/L	0.15	0.6
1/28/2013 9:45	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	UJ	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 9:45	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	UJ	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Dimethyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	UJ	ug/L	1.9	7.7
1/28/2013 9:45	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
1/28/2013 9:45	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.7
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
1/28/2013 9:45	Effluent	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77
1/28/2013 9:45	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 9:45	Effluent	Field Parameter	Temperature	19.06		C		
1/28/2013 9:45	Effluent	Field Parameter	Specific Conductance	558		umhos/cm		
1/28/2013 9:45	Effluent	Field Parameter	pH	6.98				
1/28/2013 9:45	Effluent	Field Parameter	Dissolved Oxygen	9.06		mg/L		
1/28/2013 9:50	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-C.dubia, IC25	No Result	O	IC25		
1/28/2013 9:50	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-Fish, IC25	100	L	IC25		
1/28/2013 9:50	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-C.dubia, NOEC	No Result	O	NOEC		
1/28/2013 9:50	Effluent	Toxicology	Bioassay-Chronic-Scrn-FW-Fish, NOEC	100		NOEC		
1/28/2013 10:45	BLANK	Metals	Silver	0.025	U	ug/L	0.025	0.1
1/28/2013 10:45	BLANK	Metals	Copper	0.5	U	ug/L	0.5	1
1/28/2013 10:45	BLANK	Metals	Zinc	5	U	ug/L	5	20
1/28/2013 10:45	BLANK	Metals	Nickel	0.25	U	ug/L	0.25	1
1/28/2013 10:45	BLANK	Metals	Cadmium	0.05	U	ug/L	0.05	0.2
1/28/2013 10:45	BLANK	Metals	Arsenic	0.25	U	ug/L	0.25	1
1/28/2013 10:45	BLANK	Metals	Lead	0.2	U	ug/L	0.2	0.8
1/28/2013 10:45	BLANK	Metals	Aluminum	5	U	ug/L	5	20
1/28/2013 10:45	BLANK	Metals	Sodium	0.5	U	mg/L	0.5	2
1/28/2013 10:45	BLANK	Metals	Calcium	0.075	U	mg/L	0.075	0.3
1/28/2013 10:45	BLANK	Metals	Selenium	0.2	U	ug/L	0.2	0.8
1/28/2013 10:45	BLANK	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
1/28/2013 10:45	BLANK	Metals	Iron	30	U	ug/L	30	120
1/28/2013 10:45	BLANK	Metals	Chromium	0.3	U	ug/L	0.3	1.2
1/28/2013 10:45	BLANK	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
1/28/2013 10:45	BLANK	Nutrients	Chloride	0.2	U	mg Cl/L	0.2	0.5
1/28/2013 10:45	BLANK	Nutrients	Turbidity	0.1	U	NTU	0.1	0.1

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 10:45	BLANK	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
1/28/2013 10:45	BLANK	Overflow	Oil and Grease	0.72	U	mg/L	0.72	2.6
1/28/2013 10:45	BLANK	Pesticides	Prometryn	0.096	U	ug/L	0.096	0.38
1/28/2013 10:45	BLANK	Pesticides	Metalaxyl	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Pesticides	Phorate	0.024	UJ	ug/L	0.024	0.096
1/28/2013 10:45	BLANK	Pesticides	Ethoprop	0.024	U	ug/L	0.024	0.096
1/28/2013 10:45	BLANK	Pesticides	Chlorpyrifos Methyl	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Metolachlor	0.29	U	ug/L	0.29	1.2
1/28/2013 10:45	BLANK	Pesticides	Malathion	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Hexazinone	0.14	U	ug/L	0.14	0.58
1/28/2013 10:45	BLANK	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Azinphos Methyl	0.096	U	ug/L	0.096	0.38
1/28/2013 10:45	BLANK	Pesticides	Parathion Methyl	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.58
1/28/2013 10:45	BLANK	Pesticides	Mevinphos	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Fonofos	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Diazinon	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Alachlor	0.29	U	ug/L	0.29	1.2
1/28/2013 10:45	BLANK	Pesticides	Metribuzin	0.096	U	ug/L	0.096	0.38
1/28/2013 10:45	BLANK	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Naled	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Pesticides	Fenamiphos	0.14	U	ug/L	0.14	0.58
1/28/2013 10:45	BLANK	Pesticides	Butylate	0.096	U	ug/L	0.096	0.38
1/28/2013 10:45	BLANK	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
1/28/2013 10:45	BLANK	Pesticides	Parathion Ethyl	0.096	U	ug/L	0.096	0.38
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Acenaphthylene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	UJ	ug/L	1.9	7.7
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzo(a)pyrene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Butyl benzyl phthalate	0.96	U	ug/L	0.96	3.8

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 10:45	BLANK	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzo(b)fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Naphthalene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	1.9	U	ug/L	1.9	7.7
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzo(a)anthracene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Phenanthrene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Benzo(k)fluoranthene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Di-n-butyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Dimethyl phthalate	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
1/28/2013 10:45	BLANK	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Acenaphthene	0.19	U	ug/L	0.19	0.77

Date Sampled	Field ID	Analtsis Group	Components	Result	Remark	Units	MDL	PQL
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	UJ	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Chrysene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Fluorene	0.19	U	ug/L	0.19	0.77
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
1/28/2013 10:45	BLANK	Priority Organic Pollutants	Pyrene	0.19	U	ug/L	0.19	0.77

Appendix D.
Bioassay Bench Sheets

FDEP Biology Laboratory - Chronic Definitive Bench Sheet

Ceriodaphnia dubia

Mosaic Fertilizer, L.L.C.

Facility: Green Bay Chemical Complex
Address: 4390 CR 640 West Bartow
County: Polk ~~Hillsborough~~
NPDES Permit #: FL 0000752
Contact/District: Jacki Champion / Southwest

LIMS entry: 2-15-13 MF verified: 2-15-13 AP

Diluent/ Batch: ~~20% SDMHW~~ MF / 1-25-13 Test Days Used: 0-7*
20% SDMHW /_____ Test Days Used: _____

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

Organism: *Ceriodaphnia dubia*
Organism Batch #: 1-29-13
Organism age : <24 hours
Feeding: Prior to Test and Daily
Food: ☑ YCT ☑ *P. subcapitata*
Food Batch: 11-14-12 1-18-13
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- 2013-01-29-16	1480233	1-28-2013 0950	1-29-13 1052
Test Day 2	2	TLH- 2013-01-31-40	1481115	1-30-13 0920	1-31-13 0930
Test Day 4	3	TLH- 2013-0204-05	1481468	2-1-13 0920	2-2-2013 0900

Water Quality Parameters	Batch #	1-25-13 ~~20%~~ SDMHW	1-25-13 ~~20%~~ SDMHW	NA Sample 1	NA Sample 2	NA Sample 3	Other:	Measured By:	Verified by:
Field Total Residual Cl_2 (mg/L):		NA	NA	Not Measured					MF
Lab Total Residual Cl_2 (mg/L):		<0.03		<0.03	<0.03	<0.03		AP	MF
Alkalinity (mg/L as $CaCO_3$):		76		94	94	79		HW/AP	MF
Hardness (mg/L as $CaCO_3$):		89		190	192	197		HW/AP	MF
Total Ammonia (mg/L as N):		<0.017	Not measured		due to meter failure			MF	
Conductivity: (umhos) mmhos:		319		596	542	558		MF	AP
Salinity (ppth):									

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. 25.2 max. 26.1 mean –
Room B246 min. 22.0 (A) max. 25.9 mean –
Test min. 24.0 max. 25.5 mean

Loaded by: MF

Test Replicates	Loaded from culture vial
1	B3
2	B9
3	B12
4	B14
5	B15
6	B11
7	B28
8	B29
9	A11
10	A14

Results	No Result
Control % CV:	
Dunnetts PMSD:	
Reproduction NOEC:	
Reproduction LOEC:	
Survival NOEC:	
Survival LOEC:	
ICP_{20}:	
ICP_{25}:	

"0" Qualified.

Investigators' signatures
Marshall Faircloth
Adrienne Perrigin
Brice Hicks

Liz Mellers
REVIEWER

Comments: * Jug A of Batch 1-25-13 used days 0-3; Jug B used days 5-7 : MF 2-6-13

NCR 43399 created MF M. Faircloth 2/13/13

(A) Room B246 temp. dropped below 24° overnight on 1/31/13, while samples were in incubator

FDEP Biology Laboratory - Chronic Definitive Bench Sheet

Ceriodaphnia dubia Survival and Reproduction

SOP TA07_05

Facility: Green Bay Chemical Complex; Mosaic Fertilizer, L.L.C

LIMS Sample #: 1480233 for lab sample #1

Start Date: 1-29-13 Time: 1115

End Date: 2-6-13 Time: 1000

Divided by 9 Females - male excluded MF

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	MF	10	0
	3	0	5	2	4	4	0	0	0	4	4	27/25	10	2.8
	4	0	0	0	15	6	1	0	4	3	10	14	10	1.6
	5	1	0	1	0	0	0	0	0	0	0	2	10	0.2
	6	0	0	0	0	10	0	0	0	0	0	10	10	1.1
	7	7	0	0	5	0	0	0	0	0	0	12	10	1.3
	8	3	2	1	1	0	0	0	7	0	0	19	10	2.1
	Total	16	7	4	11	20	1	0	11	7	5	82	10	9.1

Conc.	Day	Replicate Number 1	2	3	4	5	6	7	8	9	10	Total neonates	Surviving adults	Neonates per adult
MF 100% ~~6.25%~~	0*												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	5	5	5	3	3	4	3	3	0	2	33	10	3.3
	4	8	10	9	6	10	9	5	9	10	9	85	10	8.5
	5	8	6	6	7	4	5	4	2	4	6	53	10	5.3
	6	0	0	0	0	0	0	0	0	10	0	0	10	0
	7	19	13	13	8	0	11	10	6	15	0	15	10	1.5
	8	13	19	17	14	0	13	15	20	15	17	0	10	0
	Total	21	21	20	16	17	18	12	14	30	17	186	10	18.6

Organisms loaded by: MF

Day	Counted/ verified by:	Concentrations prepared by:
0	AP	MF
1	MF	MF
2	MF	MF
3	MF	MF
4	MF	MF
5	BA	BA
6	MF	MF
7	MF	MF
8	MF	—

Concentration	Mean neonates /adult	% survival
Control	9.1	100
6.25%		
12.50%		
25%		
50%		
100%	18.6	100

Test acceptability	See NCR 4399	
Mean control reproduction 15/female	yes	(no)
3rd brood in 60% of surviving females	yes	(no)
Control survival ≥ 80%:	(yes)	no

Comments: (5) - split brood MF 2/2/13

(#) - 4th brood not counted in total 2M 3/20/13

*Day 0 is test initiation day

X = Dead (original organism)

Test Page 2 of 6

PAGE

96000

FDEP Biology Laboratory - Chronic Definitive Bench Sheet

Ceriodaphnia dubia Parameters

Facility: Mosaic Green Bay Fertilizer Complex SOP TA07_05

LIMS Sample #: 1480233 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	7.9	24.0	7.7	319					
	1	6.25%	M									
	1	12.5%	M									
	1	25%	M									
	1	50%	M									
	1	100%	M	7.5	25.3	8.1	596					
	Measured by:			MF	MF	MF	MF					
	Recorded by:			MF	MF	MF	MF					
Day 1	sample:	Control	M	8.0	25.2	7.8	313	M	8.1	24.0	8.0	334
	1	6.25%	M MF	~~8.0~~	~~25.4~~ 25.1	~~7.9~~		M		~~24.1~~		
	1	12.5%	M MF	~~8.0~~	~~25.5~~ MF	~~7.9~~	Read out of facility on the MF ID line 3	M		24.5		
	1	25%	M MF	~~7.9~~	~~25.5~~ MF	~~8.0~~		M		~~24.7~~		
	1	50%	M MF	~~7.8~~	~~25.6~~ MF	~~8.0~~		M		~~24.8~~		
	1	100%	M	~~8.2~~ 8.6	~~25.2~~ 25.7	~~8.2~~ 8.1	567	M	8.0	24.3	8.0	568
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 2	sample:	Control	M	7.9	24.1	8.3	306	M	8.2	24.4	8.4	344
	2	6.25%	M					M				
	2	12.5%	M					M				
	2	25%	M					M				
	2	50%	M					M				
	2	100%	M	8.1	25.5	8.2	563	M	8.1	24.7	8.4	580
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 3	sample:	Control	M	7.9	24.3	7.8	306	M	8.0	25.3	7.9	321
	2	6.25%	M					M				
	2	12.5%	M					M				
	2	25%	M					M				
	2	50%	M					M				
	2	100%	M	7.8	24.4	8.2	542	M	7.9	25.2	8.1	567
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF

Comments:

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

FDEP Biology Laboratory - Chronic Definitive Bench Sheet

Ceriodaphnia dubia Parameters

Facility: Green Bay - Mosaic SOP TA07_05

LIMS Sample #: 1480233 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 4	sample:	Control	M	8.0	24.3	7.7	312	M	8.0	24.9	7.8	332
	3	6.25%	M					M				
	3	12.5%	M					M				
	3	25%	M					M				
	3	50%	M					M				
	3	100%	M	8.0	24.7	8.2	564	M	8.0	24.8	8.0	584
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 5	sample:	Control	M	8.0	24.7	7.4	314	M	8.0	24.0	7.5	336
	3	6.25%	M					M				
	3	12.5%	M					M				
	3	25%	M					M				
	3	50%	M					M				
	3	100%	M	7.9	24.0	7.3	558	M	8.0	24.0	7.7	591
	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	8.1	24.3	7.6	306	M	8.1	25.4	7.9	321
	3	6.25%	M					M				
	3	12.5%	M					M				
	3	25%	M					M				
	3	50%	M					M				
	3	100%	M	8.0	24.6	7.6	558	M	8.0	25.4	8.0	597
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF
Day 7	sample:	Control	M	8.0	24.4	7.7	314	M	8.1	25.5	7.7	362
	3	6.25%	M					M				
	3	12.5%	M					M				
	3	25%	M					M				
	3	50%	M					M				
	3	100%	M	8.0	24.7	7.8	562	M	8.1	25.4	7.9	589
	Measured by:			MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:			MF	MF	MF	MF		MF	MF	MF	MF

Comments:

	Replicate	pH	Temp	DO	~~Conductivity~~
Control	M	8.1	24.5	7.7	350
100%	M	8.1	24.3	7.7	602

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

Mosaic Fertilizer, L.L.C. – C. dubia Chronic

Test ID: Green Bay Chemical Complex Dates: Jan. 29 – Feb. 6, 2013

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	4 ✓ 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)

Entered by M. Faircloth 2-13-13

V 1.1 9/21/10 MF/jd

03030

FDEP Biology Laboratory - Chronic Bioassay Bench Sheet

Pimphales promelas or Menidia beryllina

Facility: Mosaic Green Bay (fertilizer, L.L.C. Chemical Complex)
Address: 4390 CR 640 West Bartow
County: Polk
NPDES Permit #: FL 0000752
Contact/District: Jacki Champion / Southwest

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

Start Date: 1.29.13 Time: 1300
End Date: ~~1300~~ AP 2.5.13 Time: 0900

Diluent/ Batch:
MHW / 1.17.13 Test Days Used: 0-7
MHW /_____ Test Days Used: _____
ASW /_____ Test Days Used: _____
ASW /_____ Test Days Used: _____

Organism age : 37 ~~days~~ hours
Feeding Prior to Test and Daily
Artemia Lot # : 08812
Chamber size : 1000 ml
Test volume : 500 ml

Organism Batch #:	1-29-13	
Artemia Batch #	Day 3	18-13
Day 0	15-13	Day 4 19-13
Day 1	16-13	Day 5 20-13
Day 2	17-13	Day 6 21-13

LIMS entry: 2-15-13 MF Entry verification: 2-15-13 BA

Sample Received	Lab Sample #	LIMS Job #	LIMS Sample #	Collection Date/Time	Received Date/Time
Test Day 0	1	TLH-2013-01-29-16	1480233	1-28-13 / 0950	1-29-13 / 1050
Test Day 2	2	TLH-2013-01-31-40	148 1115	1-30-13/ 0920	1-31-13 / 0930
Test Day 4	3	TLH-2013-02-04-05	1481468	2-1-13 0920	2-2-13 0900

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	<0.03	94	94	79	190	192	197
Diluent/Control:				<0.03			74			82		
Method:				Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach	Hach
Measured by:				AP	AP	AP	HW	AP	AP	HW	AP	AP
Verified by:				MF	MF	MF	AP	MF	MF	AP	MF	MF

	Conductivity (circle one) (µmhos-cm / mmhos-cm)			Ammonia (mg/L)			Salinity (ppth)		
Lab Sample#:	1	2	3	1	2	3	1	2	3
Sample:	587	580	581	not measured					
Diluent/Control:	309			in Bioassay Lab					
Method:	Mettler	Mettler	Mettler	Denver	Denver	Denver	Mettler	Mettler	Mettler
Measured by:	AP	BA	BA						
Verified by:	MF	AP	AP	MF	MF	MF			

Statistics	
Growth NOEC:	100%
Growth LOEC:	>100%
Growth IC_{20}:	>100%
Growth IC_{25}:	>100%
Ctrl % CV:	8.8%
Dunnetts PMSD:	13.7%
Survival NOEC:	100%
Survival LOEC:	>100%

Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator #2 min. 25.2 max. 26.1 mean —
Water bath # ____ min. ____ max. ____ mean ____
Room B246 min. 22.0 (A) max. 25.9 mean —

Sample Validation:
Instructions: Check yes or no. Fill in temperatures.
Temperature: Shipped ≤ 6°C ☑ Yes ☐ No
If Hand Delivered:Cooling ☐ Yes ☐ No (received ____°C collected ____°C)
Holding Time: ≤ 36 Hours ☑ Yes ☐ No
(Composite-end of collection; grab-when collected;
4 in 24 - time last sample collected)

Lims Data Entry: 2-15-13 MF Data Entry Verification: 2-15-13 BA

Investigators' signatures

	Initials:
Adrienne Pennington	AP
Marshall Faircloth	MF
Brian Hendricks	BA
Elizabeth Allen	

REVIEWER

Comments (A) Room B246 temp. dropped below 24°C overnight on 1/31/13, while samples were in incubator

Chronic Bioassay Survival Benchsheet

Facility: Mosaic Green Bay

LIMS Sample Number: 1480233
(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	10
	C	10	10	9 ID	9	9	9	9	9
	D	10	9 ID	9	9	AP ~~9~~ 9	9	9	8 ID
Sample 100 %	A	10	10	10	10	10	10	10	10
	B	10	10	10	9 ID	9	9	9	9
	C	10	10	10	10	9 ID	9	9	9
	D	10	10	10	9 ID	9	9	9	9
Sample %	A	10							
	B	10							
	C	10							
	D	10							
Sample %	A	10							
	B	10							
	C	10							
	D	10							
Sample %	A	10							
	B	10							
	C	10							
	D	10							
Sample %	A	10							
	B	10							
	C	10							
	D	10							
Sample %	A	10							
	B	10							
	C	10							
	D	10							
Loaded by: AP	Checked by:		BA	AP	BA	AP	AP	BA	AP
Verified by: MF									

Comments:

Page 00023

Chronic Bioassay Parameters Benchsheet

P. promelas and M. beryllina SOP TA07_09 and TA-07_14 parameter pg 1

Sample Source: Mosaic Green Bay Start Date: 1-29-13 End Date: 2.5.13

LIMS Sample #: 1480233 (for Lab sample #1) Start Time: 1300 End Time: ~~AP~~ 0900

conc = concentration rep = replicate circle umhos or mmhos

Test Day ↓		Conc.	Before Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos mmhos)	Salinity ppth	After Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos mmhos)	Salinity ppth
Day 0	sample:	Control	A	7.9	24.4	7.7	309							
	1	100%	A	7.6	26.9	7.7	587							
	1		A											
	1		A											
	1		A											
	1		A											
	1		A											
	Measured by:			AP	AP	AP	AP							
	Recorded by:			AP	AP	AP	AP							
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 1	sample:	Control	B	8.0	24.9	7.6	308		B	7.8	24.0	7.6	297	
	1	100%	B	7.7	24.9	7.0	553		B	7.6	24.3	6.9	557	
	1		B						B					
	1		B						B					
	1		B						B					
	1		B						B					
	1		B						B					
	Measured by:			AP	AP	AP	AP			AP	AP	AP	AP	
	Recorded by:			AP	AP	AP	AP			AP	AP	AP	AP	
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 2	sample:	Control	C	7.7	24.7	7.8	301		C	7.6	24.0	7.3	305	
	2	100%	C	7.6	24.8	7.8	567		C	7.5	25.6	7.6	580	
	2		C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	2		C						C					
	Measured by:			AP	AP	AP	AP			BA	BA	BA	BA	
	Recorded by:			AP	AP	AP	AP			BA	BA	BA	BA	
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 3	sample:	Control	D	7.7	24.2	6.9	297		D	7.4	24.3	7.7	301	
	2	100%	D	7.6	24.9	6.5	553		D	7.3	24.4	7.4	527	
	2		D						D					
	2		D						D					
	2		D						D					
	2		D						D					
	2		D						D					
	Measured by:			AP	BA	AP	AP			AP	AP	AP	AP	
	Recorded by:			AP	BA	AP	AP			AP	AP	AP	AP	

Comments:

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

Page 00024

Chronic Bioassay Parameters Benchsheet

P. promelas and M. beryllina SOP TA07_09 and TA-07_14

parameter pg. 2

Sample Source: Mosaic Green Bay
LIMS Sample #: 1480233 (for Lab sample #1)

Start Date: 1.29.13 End Date: 2.5.13
Start Time: 1300 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	7.7	~~25.4~~ AP	7.4	413		A	7.3	24.1	7.6	317	
	3	100%	A	7.6	25.3	7.3	567		A	7.5	25.4	7.7	555	
	3		A						A					
	3		A						A					
	3		A						A					
	3		A						A					
	3		A						A					
	Measured by:			AP	AP	AP	AP			AP	AP	AP	AP	
	Recorded by:			AP	AP	AP	AP			AP	AP	AP	AP	
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 5	sample:	Control	B	7.6	25.6	7.3	448		B	7.6	24.2	7.3	333	
	3	100%	B	7.6	25.2	7.3	580		B	7.5	24.7	7.3	574	
	3		B						B					
	3		B						B					
	3		B						B					
	3		B						B					
	3		B						B					
	Measured by:			AP	AP	AP	AP			AP	AP	AP	AP	
	Recorded by:			AP	AP	AP	AP			AP	AP	AP	AP	
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 6	sample:	Control	C	7.6	25.1	5.8	331		C	7.6	24.0	6.8	316	
	3	100%	C	7.5	24.7	5.8	581		C	7.4	24.0	6.6	581	
	3		C						C					
	3		C						C					
	3		C						C					
	3		C						C					
	3		C						C					
	Measured by:			BA	BA	BA	BA			BA	BA	BA	BA	
	Recorded by:			BA	BA	BA	BA			BA	BA	BA	BA	
			Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 7	sample:	Control	D	7.4	24.7	7.0	334		D					
	3	100%	D	7.3	25.1	5.3	568		D					
	3								D					
	3								D					
	3								D					
	3								D					
	3								D					
	Measured by:			AP	AP	AP	AP							
	Recorded by:			AP	AP	AP	AP							

Comments:

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

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Chronic Bioassay Weighing Benchsheet

Facility: Mosaic Green Bay

LIMS Sample Number: 1480233
(for Lab Sample # 1)

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

			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 # Fish	Mean wt. mg
Control	A	25	0.02248	0.02799	0.00551	10	0.551
	B	26	0.02103	0.02622	0.00519	10	0.519
	C	27	0.02250	0.02729	0.00479	10	0.479
	D	28	0.02241	0.02692	0.00451	10	0.451
sample 100 %	A	29	0.02211	0.02703	0.00492	10	0.492
	B	30	0.02180	0.02732	0.00552	10	0.552
	C	31	0.02380	0.02849	0.00469	10	0.469
	D	32	0.02370	0.02960	0.0059	10	0.59
sample %	A					10	
	B					10	
	C					10	
	D					10	
sample %	A					10	
	B					10	
	C					10	
	D					10	
sample %	A					10	
	B					10	
	C					10	
	D					10	
sample %	A					10	
	B					10	
	C					10	
	D					10	
sample %	A					10	
	B					10	
	C					10	
	D					10	
	Weighed by initials:		AP	AP		revised 7/16/08 mf	

Avg
0.5
0.5
28

Comments:

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

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

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Chronic Bioassay Weighing Benchsheet

Quality Control

Facility: Mosaic Green Bay

LIMS Sample Number: 1480233
(for Lab Sample # 1)

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

Drying Oven ID:	ER034000	Tare weighed by:	AP
Temperature °C:	100	Final weighed by:	AP
Hours:	8		
Tare Weighing Date:	2.4.13	Final Weighing Date:	2.7.13

			Measured Value (g)		S-weight Value (g)
Tare Pan 1 after Pan 5 (g)	0.02248	@ 0.02248	S-weights	@	0.01
Tare Pan 1 after Pan 10 (g)	0.02247	@ 0.02248	at tare	@	0.05
Tare Pan 1 after Pan 15 (g)		@	S-weights	@	0.01
Tare Pan 1 after Pan 20 (g)		@	at final	@	0.05
Tare Pan 1 after Pan 25 (g)		@			
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)	0.02797	@ 0.02799			
Final Pan 1 after Pan 10 (g)	0.02798	@ 0.02799			
Final Pan 1 after Pan 15 (g)		@			
Final Pan 1 after Pan 20 (g)		@			
Final Pan 1 after Pan 25 (g)		@			
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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Test ID: Mosaic Green BAY P. promelas Chronic Dates: 1-29-13 —— 2-5-13

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	#4 ~ #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)

2-8-13 AP

V 1.1 9/21/10 MF/jd

000028

Appendix E.
Standard Reference Toxicant Data

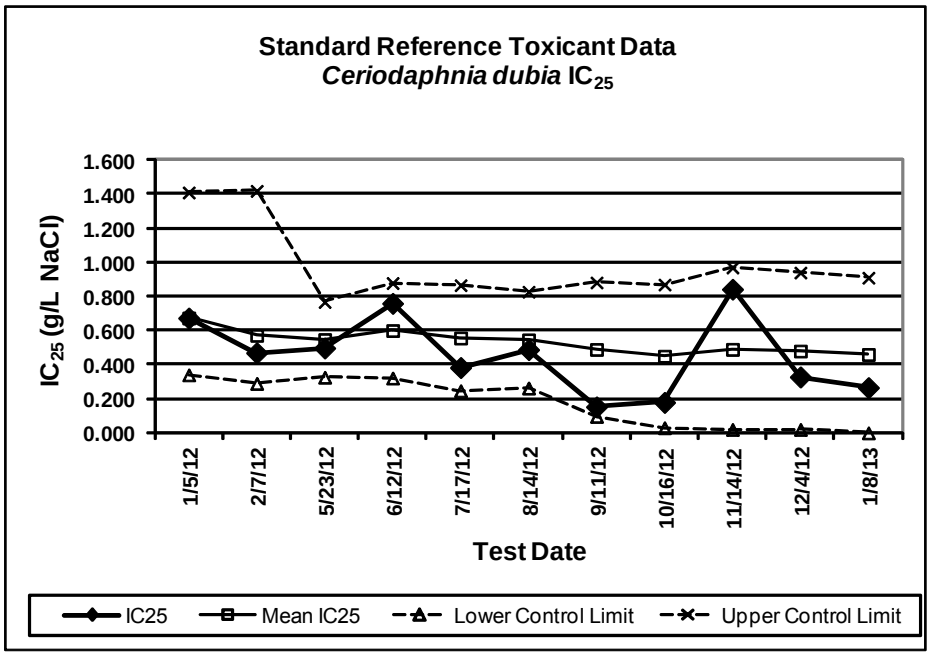
Florida Department of Environmental Protection
Bureau of Laboratories

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
1/5/12	0.674	0.67	0.14	0.34	1.41
2/7/12	0.470	0.57	0.11	0.29	1.42
5/23/12	0.498	0.55	0.11	0.33	0.77
6/12/12	0.760	0.60	0.14	0.32	0.88
7/17/12	0.383	0.56	0.15	0.25	0.87
8/14/12	0.489	0.55	0.14	0.26	0.83
9/11/12	0.153	0.49	0.20	0.10	0.88
10/16/12	0.179	0.45	0.21	0.03	0.87
11/14/12	0.843	0.49	0.24	0.02	0.97
12/4/12	0.328	0.48	0.23	0.02	0.94
1/8/13	0.266	0.46	0.23	0.00	0.91

Means are of the last 7 SRT tests.
Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev

EPA 75th Percentile %CV for Reproduction **45%**
Last 7 - Lab %CV Reproduction 49.7%



Fewer than 20 tests with MHW

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia

Diluent/ Batch: 20% SDMHW / 12-19-12 Test Days Used: 0-1
20% SDMHW / 1-4-13 Test Days Used: 2-4
Toxicant/ Batch: NaCl / 1-8-13 ½ / L

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

Organism: *Ceriodaphnia dubia*
Organism Batch #/ Age: 1-8-13 MF (<24 hr.)
Feeding: Prior to Test and Daily
Food: ☑ YCT ☑ *P. subcapitata*
Food Batch: 11-14-12 10-31-12
Chamber size: 30 mL
Test Volume: 20 mL

Start Date: 1-8-13 Time: 1030
End Date: 1-13-13 Time: 1000

Batch:	12-19-12	MF 1-4-13			
Water Quality Parameters	MF ~~20%~~ SDMHW	MF ~~20%~~ SDMHW	Other	Measured by:	Verified by:
Lab Total Residual Cl_2 (mg/L):	20.03	20.03		AP	MF
Alkalinity (mg/L as $CaCO_3$):	75	75		AP	MF
Hardness (mg/L as $CaCO_3$):	89	88		AP	MF
Total Ammonia (mg/L as N):	not measured		due to IM	Instrument failure	MF
Conductivity (umhos-cm) mmhos-cm :	318	320		MF	BA

Results	
Control % CV:	20.6 %
Dunnetts PMSD:	26.3 %
Reproduction NOEC:	20% MF
Reproduction LOEC:	0.5g/L
Survival NOEC:	1.5g/L
Survival LOEC:	3g/L MF
ICP_{20}:	0.21
ICP_{25}:	0.2656

Loaded by: MF

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

Test Replicate	Loaded from culture vial
1	A5
2	A13
3	A17
4	A21
5	A27
6	B3
7	B6
8	B7
9	B23
10	B5

Comments:

Investigators' signatures

Marshall Faircloth
Bruce Alaks
Adrienne Pennington

REVIEWER

Test Incubated in: Incubator: # 2
Light Intensity : 50 - 100 ft. candles
Photoperiod : 16 light 8 dark
Temperature Range °C:
Incubator # 2 min. 24.1 max. 26.3 mean —
Room B246 ____ min. _____ max. _____ mean _____
Test min. 24.1 max. 26.3 mean —

00001

Ceriodaphnia dubia Survival and Reproduction

Start Date: 1-8-13 Time: 1030 Loaded by: MF
End Date: 1-13-13 Time: 1000 Verified by: AP

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	4	4	0	3	3	5	4	4	5	4	36	10	3.6
	4	4	9	11	6	7	8	10	9	1	8	73	10	7.3
	5	9	15	13	11	11	12	13	10	7	11	112	10	11.2
	6													
	7													
	8													
	Total	17	28	24	20	21	25	27	23	13	23	221	10	22.1
0.5 ~~0.59~~ MF ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	4	3	0	0	4	3	0	4	4	0	22	10	2.2
	4	0	2	1	0	6	8	0	3	4	7	31	10	3.1
	5	8	11	3	0	8	11	2	3	13	0	59	10	5.9
	6													
	7													
	8													
	Total	12	16	4	0	18	22	2	10	21	7	112	10	11.2
1.0 MF 0.89 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	3	4	3	3	2	2	3	2	3	0	25	10	2.5
	4	5	4	3	2	2	2	6	7	4	0	35	10	3.5
	5	5	7	7	3	5	2	12	10	11	0	62	10	6.2
	6													
	7													
	8													
	Total	13	15	13	8	9	6	21	19	18	0	122	10	12.2

Comments:

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
5 MF 1.5 ppth	0												10	
	1												10	
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	1	3	1	0	0	2	2	2	0	11	10	1.1
	4	0	3	1	3	4	4	4	2	5	4	30	10	3.0
	5	0	5	10	0	2	1	8	2	5	0	33	10	3.3
	6													
	7													
	8													
	Total	0	9	~~14~~ 13	4	6	5	14	6	12	4	74	10	7.4
3 MF 2.0 ppth	0												10	
	1												10	
	2	X	X	X	X	X	X	X	X	X	X	0	0	
	3													
	4													
	5													
	6													
	7													
	8													
	Total	0	0	0	0	0	0	0	0	0	0	0	10	0
4 MF 3.0 ppth	0												10	
	1	X	X	X	X	X	X	X	X		X	0	1 X MF	
	2									X		0	0	
	3													
	4													
	5													
	6													
	7													
	8													
	Total	0	0	0	0	0	0	0	0	0	0	0	10	0

Comments:

Test Page 3 of 6 PAGE 00003 07/15/08 MF

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Test Day ↓	Conc.	New Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)	Old Sample Replicate	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (µmhos/cm) (mmhos/cm)
Day 0	Control	M	8.1	24.2	8.0	318					
	0.5 ppth	M	8.0	24.4	8.0	1324					
	1.0 ppth	M	8.0	24.4	8.1	2320					
	1.5 ppth	M	8.0	24.5	8.2	2730					
	2.0 ppth	M	8.0	24.5	8.1	6160					
	3.0 ppth	M	8.1	24.5	8.1	8050					
	Measured by:		MF	MF	MF	MF					
	Recorded by:		MF	MF	MF	MF					
Day 1	Control	M	8.2	24.1	7.9	322	A	8.1	25.2	7.8	331
	0.5 ppth	M	8.1	24.5	7.7	1171	A	8.1	25.6	7.8	1330
	1.0 ppth	M	8.1	24.8	7.7	2060	A	8.0	25.9	7.9	2325
	1.5 ppth	M	8.1	24.8	7.8	2920	A	8.0	25.9	7.8	2800
	2.0 ppth	M	8.1	25.0	7.7	5290	A	8.1	26.2	7.8	6170
	3.0 ppth	M	—	—	—	—	A	8.1	26.2	7.9	8090
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 2	Control	M	8.1	24.7	7.8	320	A	8.1	25.9	8.0	322
	0.5 ppth	M	8.0	24.9	7.9	1175	A	8.0	26.0	7.8	1179
	1.0 ppth	M	8.0	24.8	7.6	1904	A	8.0	25.9	8.0	2050
	1.5 ppth	M	8.0	24.7	7.7	2690	A	8.1	25.9	7.7	2910
	2.0 ppth	M					MF A J	8.1	26.0	7.8	5310
	3.0 ppth	M									
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF
Day 3	Control	M	8.2	24.7	7.5	326	A	8.1	25.9	7.7	338
	0.5 ppth	M	8.0	24.7	7.5	1207	A	8.0	26.1	7.6	1219
	1.0 ppth	M	8.0	24.7	7.5	1978	A	8.0	26.2	7.7	2010
	1.5 ppth	M	8.0	24.8	7.5	2830	A	8.0	26.3	7.6	2830
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:		MF	MF	MF	MF		MF	MF	MF	MF
	Recorded by:		MF	MF	MF	MF		MF	MF	MF	MF

Comments: Concentrations are 0.5, 1.0, 1.5, 3.0 and 4.0 g/L NaCl + Control MF 1-10-13

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

FDEP Biology Laboratory - Chronic SRT Bench Sheet

Ceriodaphnia dubia Parameters

Concentrations are 0.5, 1.0 and 2.0 g/L mf 1-11-13

Test Day ↓	Conc.	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	7.3	25.3	6.9	311	A	7.5	24.5	7.9	331
	0.59 ppth	M	7.3	24.7	7.3	1132	A	7.4	24.4	7.9	1213
	0.89 ppth	M	7.3	24.7	7.6	1897	A	7.4	24.4	7.8	2010
	1.3ppth	M	7.3	24.6	7.8	2710	A	7.4	24.5	7.8	2880
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:		BA	BA	BA	BA		BA	BA	BA	BA
	Recorded by:		BA	BA	BA	BA		BA	BA	BA	BA
Day 5	Control	M					A	7.4	25.1	7.6	349
	0.59 ppth	M					A	7.5	24.5	7.7	1203
	0.89 ppth	M					A	7.5	24.5	7.7	1989
	1.3ppth	M					A	7.5	24.6	7.6	2890
	2.0 ppth	M	End of Test Not renewed								
	3.0 ppth	M									
	Measured by:							BA	BA	BA	BA
	Recorded by:							BA	BA	BA	BA
Day 6	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										
Day 7	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										
Day 8	Control	M									
	0.59 ppth	M									
	0.89 ppth	M									
	1.3ppth	M									
	2.0 ppth	M									
	3.0 ppth	M									
	Measured by:										
	Recorded by:										

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

C. dubia Chronic 8 SRT

BIOASSAY INSTRUMENT ID Jan 8 – 13, 2013

METER / DEVICE	ID	SOP	Parameter	Method
YSI Model 58 Dissolved Oxygen Meter	90H018262	TA06_04	Dissolved Oxygen	SM 4500 O G ✓
YSI DO Probe	5750 SN 05J1720	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
Themometer	BIOLAB #1 BIOLAB #2 BIOLAB #3 BIOLAB #4 NO BIOLAB #5 MF	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400 ✓ MF
Traceable Thermometer	EC#1-SN101686412 EC #2-SN221295527 EC#3-SN240116020 EC#4-SN80361795 EC#5-SN61990624	TA06_05	Temperature	SM-2530B modified DEP SOP-001/01 FT1400 ✓
Hach Pocket Colorimeter II #1	05110C042029	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G
Hach Pocket Colorimeter II #2	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: M. Fairbrother

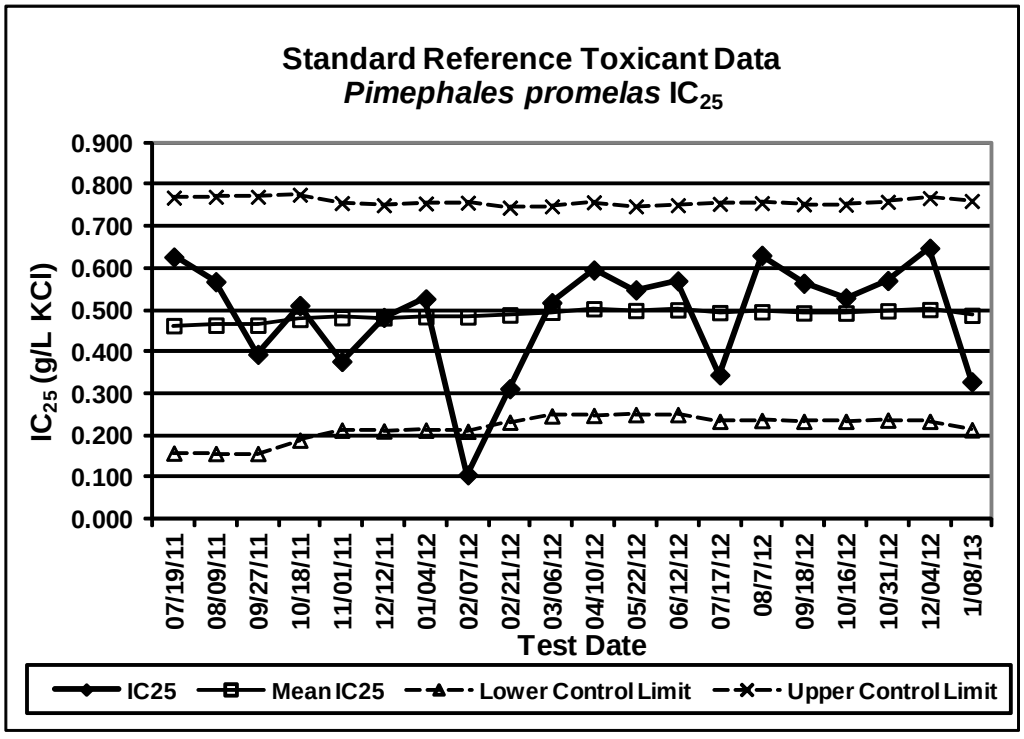
V 1.1 9/21/10 MF/jd

9 of 10

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
07/19/11	0.627	0.463	0.15	0.158	0.769
08/09/11	0.568	0.464	0.15	0.157	0.771
09/27/11	0.394	0.464	0.15	0.157	0.771
10/18/11	0.511	0.478	0.14	0.189	0.776
11/01/11	0.377	0.482	0.14	0.213	0.756
12/12/11	0.483	0.481	0.14	0.211	0.751
01/04/12	0.527	0.484	0.14	0.213	0.755
02/07/12	0.106	0.484	0.14	0.210	0.757
02/21/12	0.312	0.489	0.13	0.232	0.745
03/06/12	0.518	0.495	0.13	0.247	0.748
04/10/12	0.596	0.503	0.13	0.248	0.758
05/22/12	0.548	0.499	0.12	0.250	0.748
06/12/12	0.570	0.501	0.12	0.250	0.751
07/17/12	0.345	0.494	0.13	0.234	0.754
08/7/12	0.631	0.496	0.13	0.236	0.756
09/18/12	0.564	0.493	0.13	0.234	0.753
10/16/12	0.529	0.493	0.13	0.234	0.752
10/31/12	0.571	0.498	0.13	0.237	0.759
12/04/12	0.648	0.501	0.13	0.234	0.768
1/08/13	0.329	0.488	0.14	0.214	0.761

Means are from the last 20 SRTs.
Lower Confidence Limit = mean - 2 * Std Dev EPA 75th %CV: 38%
Upper Confidence Limit = mean + 2 * Std Dev lab % CV: 28%



FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or *Menidia beryllina*

Test Species (circle one)

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

Diluent/ Batch: MHW/1.4.13 Test Days Used: 0--0

Diluent/ Batch: MHW/1.9.13 Test Days Used: 1-6

Toxicant/ Batch # : 2g/L KCl/1.7.13

Artemia Lot # : 08812

Start Date: 1.8.13 Time: 1430

End Date: 1-15-13 Time: 1000

Organism Batch #/ Age: 1-8-13 <24hours

Artemia Batch #	Day 2 3.13	Day 5 6.13
Day 0 ~~1.7.13~~ AP 1.13	Day 3 4-13	Day 6 7-13
Day1 2.13	Day 4 5-13	

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 1.4.13	Diluent 1.9.13 (or other)	Method	Measured by	Verified by
Total Residual Cl_2 (mg/L):	<0.03	<0.03	HACH	AP	MF
Alkalinity (mg/L as $CaCO_3$):	71	68	HACH	AP	MF
Hardness (mg/L as $CaCO_3$):	80	76	HACH	AP	MF
Total Ammonia (mg/L as N):	meter failure		DENVER		
Conductivity ~~µmhos-cm~~ mmhos-cm:	309	310	METTLER	BA	AP

Statistics	
Growth NOEC:	0.25 g/L
Growth LOEC:	0.5 g/L
Growth IC_{20}:	0.3080 g/L
Growth IC_{25}:	0.3286 g/L
Ctrl % CV:	14.7 %
Dunnetts PMSD:	17.8 %
Survival NOEC:	0.25 g/L
Survival LOEC:	0.5 g/L

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Test incubated in : Temperature Range °C:

Incubator # 3 min. 25.3 max. 26.7

Water bath # ____ min. _____ max. _____

Room B246 min. 24.8 max. 25.6

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

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

Investigators' signatures

Bruce Allen

Adrienne Pennington

Marshall Faircloth

Jackie Savage

Liz Miller

REVIEWER

Comments:

PAGE 00001

revised 8/6/12 JD

FDEP Biology Laboratory - Chronic SRT Benchsheet

Pimephales promelas or Menidia beryllina Survival

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

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

			TEST DAY							
Concentration	Replicate	Chamber	0	1	2	3	4	5	6	7
Control	A	B1	10	10	10	10	10	10	10	10
	B	B2	10	10	10	10	10	10	10	10
	C	B3	10	10	10	10	10	10	10	10
	D	B4	10	10	10	10	10	9 1D	9 1D	9
0.125	A	B5	10	10	10	10	10	10	10	10
	B	B6	10	10	10	10	10	10	10	10
	C	B7	10	10	10	10	10	10	10	10
	D	B8	10	10	10	10	9 1D	9	9	9
0.25	A	B9	10	10	10	10	10	10	10	10
	B	B10	10	10	10	10	10	10	10	10
	C	B11	10	10	10	10	10	9 1D	9	9
	D	B12	10	10	10	10	10	10	10	10
0.5	A	B13	10	6 4D	6	6	6	5 1D	5	3 2D
	B	B14	10	5 4D	5 1D	4 1D	4	4	4	4
	C	B15	10	4 4D	4	4	4	3 1D	3	3
	D	B16	10	5 5D	4 1D	4	2 2D	2	2	2
1.0	A	B17	10	1 9D	0 1D					
	B	B18	10	0 10D	—					
	C	B19	10	1 9D	0 1D					
	D	B20	10	0 10D	—					
2.0	A	B21	10	0 10D						
	B	B22	10	0 10D						
	C	B23	10	0 10D						
	D	B24	10	0 10D						
	A		10							
	B		10							
	C		10							
	D		10							
Loaded by (0 hr): BA		Checked by:		BA	AP	BA	AP	M	BA	BA
Verified by (0 hr): AP										
Concentrations prepared by:				BA	BA	BA	AP	AP	BA	BA

Comments:

PAGE 00002

revised 7/16/08 MF

Chronic SRT Parameters Benchsheet

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

parameter pg 1

Start Date: 1-8-13 End Date: 1-15-13

Start Time: 1430 End Time: 1000

(5/2) conc = concentration rep = replicate circle umhos or mmhos

Test Day	Conc.	Before Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos mmhos	Salinity ppth	After Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity umhos mmhos	Salinity ppth
Day 0	Control	A	7.7	24.0	7.4	309							
	0.125	A	7.6	24.0	7.2	582							
	0.25	A	7.6	24.0	7.2	833							
	0.5	A	7.7	24.0	7.6	1323							
	1.0	A	7.7	24.0	7.8	2310							
	2.0	A	7.8	24.0	7.9	4140							
		A											
	Measured by		BA	BA	BA	BA							
	Recorded by		BA	BA	BA	BA							
Day 1		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
	Control	B	7.6	24.5	7.1	318		B	7.6	24.0	7.2	308	
	0.125	B	7.6	24.6	7.0	572		B	7.5	24.0	7.3	578	
	0.25	B	7.6	24.4	7.1	841		B	7.6	24.0	7.5	790	
	0.5	B	7.6	24.3	7.1	1309		B	7.6	24.0	7.4	1262	
	1.0	B	7.6	24.2	7.0	2220		B	7.6	24.0	7.4	2240	
	2.0	B	7.7	24.3	7.0	4030		B					
		B						B					
	Measured by		BA	BA	BA	BA			BA	BA	BA	BA	
	Recorded by		BA	BA	BA	BA			BA	BA	BA	BA	
Day 2		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
	Control	C	7.5	23.8	7.0	303		C	7.8	24.2	7.3	297	
	0.125	C	7.6	24.0	7.2	546		C	7.8	24.5	7.3	~~1087~~ AP	550
	0.25	C	7.6	24.2	7.2	739		C	7.8	24.6	7.3	758	
	0.5	C	7.7	24.6	7.2	1189		C	7.8	24.4	7.2	~~550~~ AP	1113
	1.0	C	7.8	24.3	7.1	2120		C					
		C						C					
		C						C					
	Measured by		AP	AP	AP	AP			AP	AP	AP	AP	
	Recorded by		AP	AP	AP	AP			AP	AP	AP	AP	
Day 3		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
	Control	D	7.5	25.1	6.1	307		D	7.5	24.3	7.0	292	
	0.125	D	7.4	25.1	6.1	571		D	7.5	24.5	6.8	571	
	0.25	D	7.4	25.0	6.1	784		D	7.6	24.4	6.9	784	
	0.5	D	7.4	24.9	6.2	1181		D	7.6	24.5	6.9	1207	
	1.0	D						D					
		D						D					
		D						D					
	Measured by		BA	BA	BA	BA			AP	AP	AP	AP	
	Recorded by		BA	BA	BA	BA			AP	AP	AP	AP	

Comments:

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

Page 00003

Chronic SRT Parameters Benchsheet

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

parameter pg. 2

Start Date: 1-8-13 End Date: 1-15-13

Start Time: 1430 End Time: 1000

g/L conc = concentration rep = replicate

Test Day	Conc.	Before Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos/mmhos)	Salinity ppth	After Renewal: Test Rep.	pH (su)	Temp (°C)	DO (mg/L)	Conductivity (umhos/mmhos)	Salinity ppth
Day 4	Control	A	7.6	24.7	6.6	297		A	7.2	24.6	7.0	286	7 BA
	0.125	A	7.6	24.4	6.6	580		A	7.2	24.6	7.2	539	
	0.25	A	7.6	24.7	6.4	821		A	7.2	24.6	7.2	770	
	0.5	A	7.7	24.6	6.3	1253		A	7.2	24.7	7.3	1220	
		A						A					
		A						A					
		A						A					
	Measured by		AP	AP	AP	AP			BA	BA	BA	BA	BA
	Recorded by		AP	AP	AP	AP			BA	BA	BA	BA	BA
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 5	Control	B	7.4	25.4	6.3	310		B	7.2	25.5	7.6	297	
	0.125	B	7.2	25.5	7.0	577		B	7.2	24.7	7.4	546	
	0.25	B	7.3	25.2	7.0	818		B	7.2	24.6	7.3	789	
	0.5	B	7.5	25.4	7.3	1318		B	7.2	24.6	7.3	1275	
		B						B					
		B						B					
		B						B					
	Measured by								BA	BA	BA	BA	
	Recorded by								BA	BA	BA	BA	
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 6	Control	C	7.3	25.7	6.5	296		C	7.2	25.3	7.3	297	
	0.125	C	7.3	26.0	6.4	536		C	7.2	24.9	6.9	564	
	0.25	C	7.4	25.4	6.4	772		C	7.2	24.8	6.9	780	
	0.5	C	7.4	25.6	6.5	1245		C	7.3	24.7	7.0	1255	
		C						C					
		C						C					
		C						C					
	Measured by		BA	BA	BA	BA			BA	BA	BA	BA	
	Recorded by		BA	BA	BA	BA			BA	BA	BA	BA	
		Rep	pH	Temp	DO	Conductivity	Salinity	Rep	pH	Temp	DO	Conductivity	Salinity
Day 7	Control	D	7.1	25.3	5.9	305		D					
	0.125	D	7.1	25.0	5.9	569		D					
	0.25	D	7.1	24.9	5.8	807		D					
	0.5	D	7.2	24.8	5.9	1263		D					
		D						D					
		D						D					
		D						D					
	Measured by		BA	BA	BA	BA							
	Recorded by		BA	BA	BA	BA							

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

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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	25	0.02290	0.02837	0.00541	10	0.541
	B	26	0.02148	0.02773	0.00625	10	0.625
	C	27	0.02088	0.02602	0.00514	10	0.514
	D	28	0.02074	0.02510	0.00436	10	0.436
0.125	A	29	0.02119	0.02636	0.00562	10	0.562
	B	30	0.02128	0.02657	0.00529	10	0.529
	C	31	0.02101	0.02521	0.00420	10	0.420
	D	32	0.02207	0.02685	0.00478	10	0.478
0.25	A	33	0.02104	0.02552	0.00448	10	0.448
	B	34	0.02182	0.02702	0.00520	10	0.520
	C	35	0.02167	0.02648	0.00481	10	0.481
	D	36	0.02197	0.02784	0.00587	10	0.587
0.5	A	37	0.02164	0.02311	0.00147	10	0.147
	B	38	0.02190	0.02419	0.00229	10	0.229
	C	39	0.02132	0.02313	0.00181	10	0.181
	D	40	0.02229	0.02381	0.00152	10	0.152
	A					10	
	B					10	
	C					10	
	D					10	
	A					10	
	B					10	
	C					10	
	D					10	
	A					10	
	B					10	
	C					10	
	D					10	
		Weighed by:	BA	BA			

Comments:

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

PAGE 00005

revised 8/24/06 MF/SP

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: 1.14.13 Weighed by: BA

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5	0.02296	@ 0.02296
after Pan 10	0.02295	@ 0.02296
after Pan 15	0.02296	@ 0.02296
after Pan ~~20~~ 18 BA		@ 0.02296
after Pan 25		@
after Pan 30		@
after Pan 35		@
after Pan 40		@
after Pan 45		@
after Pan 48		@

	Measured Value	S-weight Value
S-weights	0.01999	@ 0.02 g
	0.05000	@ 0.05 g

Balance: Ohaus 250D Ser# 1125481084

S-Weights: BIO-S-Weights-01

Fish + Pan Weights Date: 1.23.13 Weighed by: BA

	Pan 1 wt.	Pan 1 initial wt.
after Pan 5	0.02838	@ 0.02837
after Pan 10	0.02838	@ 0.02837
after Pan 15	0.02838	@ 0.02837
after Pan 20		@
after Pan 25		@
after Pan 30		@
after Pan 35		@
after Pan 40		@
after Pan 45		@
after Pan 48		@

	Measured Value	S-weight Value
S-weights	0.02000	@ 0.02 g
	0.05002	@ 0.05 g

Drying Oven ID: ERG 31000

Temperature °C: 100

Drying Hours: 8

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

Comments:

PAGE 00006 revised 7/16/08 MF

Test ID: P. Promela, Chronic SRT Dates: Jan. 8 – 15, 2013

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	5
Hach Pocket Colorimeter II #1	05110C042029	TA06_22	Total Residual Chlorine	EPA 330.5 SM 4500 CL G	✓
Hach Pocket Colorimeter II #2	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: M. Fairchild 1-23-13

V 1.2 2/20/11 MF/jd

Appendix F.
Organism Receipts

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Shipping Date: 1/7/2013

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	10 days	CL 121228	25	7.8	80
Pimephales promelas	550	< 24 hrs	FM 130107-0830	25	7.8	80
	150 ac	7 DAYS	FM 121231	25	7.8	80
Ceriodaphnia dubia						
Daphnia magna						
YCT						
P. subcapitata						

Packed by: PM

Shipped Via: Fed Ex

Notes: _____

Thank you for your order.

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

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Shipping Date: 1/28/13

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						
Pimephales promelas	450	< 24 HRS	FM130127-1700	25	7.8	80
Ceriodaphnia dubia						
Daphnia magna						
YCT						
P. subcapitata						

Packed by: PM

Shipped Via: Fed Ex

RECEIVED JAN 29 2013

Notes: _____

Thank you for your order.

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

EPA End Sheet

The Bioassay of Mosaic Fertilizer, L.L.C. - Green Bay Chemical Complex effluent sampled on January 28 and 30, and February 1, 2013. NPDES #FL0000752.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 0 0 7 5 2 11	12 1 3 0 1 2 8	18 B	19 S	20 2

Remarks

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The Priority Pollutants Analysis of Mosaic Fertilizer, L.L.C. - Green Bay Chemical Complex effluent sampled on January 28, 2013. NPDES #FL0000752.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 0 0 7 5 2 11	12 1 3 0 1 2 8	18 X	19 S	20 2

Remarks

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Biological Analyses of Mosaic Fertilizer, L.L.C. - Green Bay Chemical Complex effluent sampled on January 28, 2013. NPDES #FL0000752.

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

Transaction Code	NPDES NUMBER	YR/MO/DA	Insp Type	Inspector	Fac Type
1 N 2 5	3 F L 0 0 0 0 7 5 2 11	12 1 3 0 1 2 8	18 S	19 S	20 2

Remarks

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