

Effluent Quality Assessment

Mosaic Fertilizer L.L.C.

Fort Green Mine Complex

Polk and Hardee County

NPDES #FL0027600

Sampled September 17, 2007

January 2008

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Mosaic Fertilizer, L.L.C. - Fort Green Mine Complex, 10741 State Road 37 South, Bradley, Polk and Hardee County, Florida, NPDES #FL0027600. Effluent samples for this facility were collected on September 17, 2007.

Introduction

Mosaic Fertilizer, L.L.C.-Fort Green Mine Complex is a phosphate mining facility. The facility does not have a design flow. The annual average daily flow from August 2006 through August 2007 was 3.75 million gallons per day (MGD). The flow during the sampling event was 1.4 MGD. The facility includes phosphate mining and beneficiation facilities, clay settling areas, sand tailings disposal areas, and a mine water recirculation system. Phosphate ore is strip-mined by dragline, then slurried in a pit with high pressure water cannons and pumped to the beneficiation plant where reagents are used to separate the fine clays and sands from the phosphate rock by washing, screening, and double floatation. Floatation reagents include Fuel Oil #2 and #5, fatty acids (Tall oil), sodium silicate, sodium carbonate (soda ash), fatty amines, and sulfuric acid. The generated wet phosphate rock is transported to another location for further processing. The separated clays are pumped to waste-clay settling areas. Sand tailings are pumped as slurry to mined areas for use as reclamation-fill. Decanted water from the waste-clay settling areas is returned to the beneficiation plant for reuse and discharged, as necessary, through permitted outfalls. The facility has six permitted discharge locations; however, the only discharge from the facility during the sampling event was through Outfall D-005. Outfall D-005 is a 10.7 m (35 feet) rectangular weir located approximately at latitude 27º 39' 51" N, longitude 81º 55' 33" W. Outfall D-005 discharges into the Class III freshwaters of Little Payne Creek thence into Payne Creek, a tributary of the Peace River.

The facility has no Administrative Orders. A Consent Order was issued and penalties were collected for a turbid discharge released into the Payne Creek Re-route Ditch after a slurry pipeline ruptured in January 2004. The facility has no mixing zones. A review of Discharge Monitoring Report (DMR) data for the past year revealed no permit violations or plant upsets. (Facility information provided by Jacki Champion of Bureau of Phosphate Management FDEP Southwest District.)

Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-005 by Jacki Champion and Scott Rose (FDEP Southwest District Bureau of Phosphate Management) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, 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. Although the 48-hour acute screening toxicity test does not reflect the required permit conditions, passing test results provide confidence that the required permit conditions would likely be met.

Prior to test initiation, bioassay samples were aerated for 45 minutes at approximately 100 bubbles per minute. The dissolved oxygen concentration was increased from 4.7 mg/L to 7.6 mg/L.

Toxicity Test Results

Tests were performed September 18 - 20, 2007.

Ceriodaphnia dubia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Cyprinella leedsi 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours

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

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.

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3)(a), F.A.C.).

Algal Growth Potential and Phytoplankton

The effluent Algal Growth Potential (AGP) was 74.3 mg dry wt/L of the unicellular green alga, *Pseudokirchneriella subcapitata*, formerly known as *Selenastrum capricornutum*. Raschke and Shultz (1987) found that AGP values above 5.0 mg dry weight/L represent a "problem" threshold for fresh receiving waters, implying nutrient enrichment. The analytical chemistry suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen concentrations was 76.2 (±20%) mg dry wt/L (Table 1; Miller, et. al., 1978).

The composition of the effluent phytoplankton community was 73.1% blue-green algae, 25.3% green-algae, 1% cryptophytes and 0.6% diatoms. The dominant taxon, *Synechocystis*, comprised 38% of the algae units.

See Table 1 for AGP results and Table 2 for Phytoplankton composition. See Appendix F for the taxonomic list.

Chemistry Results

Total residual chlorine was detected in the bioassay sample in the laboratory at a concentration of 0.04 mg/L. This result is thought to be due to interference within the sample as chlorine is not added to the effluent. Total ammonia was detected in the bioassay sample in the laboratory at a concentration of 1.47 mg/L. Based on the pH, salinity, and temperature of the effluent, the calculated unionized ammonia concentration was 0.12 mg/L. The total ammonia concentration in the sample collected and preserved for chemical analysis was 2 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was 0.04 mg/L. Both values violated the Class III freshwater criterion for unionized ammonia of ≤ 0.02 mg/L (62-302.530(3), F.A.C.).

The effluent dissolved oxygen (DO) as measured in the field (1.51 mg/L) and in the bioassay sample in the laboratory (4.7 mg/L) violated both the facility's permit limit (≥5.0 mg/L) and the DO criteria for Class III freshwaters (≥5.0 mg/L; 62-302.530(30), F.A.C.).

Arsenic, fluoride, iron, total alpha, and combined radium 226 and 228 were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Nickel was detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

See Table 3 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from the EFF-1 NPDES sample collection point for Outfall D-005 for this facility on September 17, 2007, were not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result exceeded the "problem" threshold for fresh receiving waters, suggesting nutrient enrichment may be an issue. Effluent dissolved oxygen (1.51 mg/L) was less than both the Class III freshwater water quality standard (≥ 5.0 mg/L) and the NPDES permit limit (≥ 5.0 mg/L) for dissolved oxygen. Effluent unionized ammonia (0.04 mg/L) exceeded the Class III freshwater water quality standard for unionized ammonia (≤ 0.02 mg/L).

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. 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 in samples collected from Mosaic Fertilizer, L.L.C.- Fort Green Mine Complex on September 17, 2007.

Effluent					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
D-005	74.3	76.2 ± 15.2	106.6 ± 21.3	1.7	2.2

Table 2. Phytoplankton Composition Outfall D-005.

Mosaic Fertilizer L.L.C., Ft. Green Mine Complex	Effluent
Number of Taxa	26
Shannon-Weaver Diversity	3
Algal Density (number/mL)	2988
Percent Dominant Taxon	38
Dominant Taxon Name	*Synechocystis*
Number of Algal Units Identified	309
Percentage Composition	
Blue-green algae	73.1
Green algae	25.3
Diatoms	0.6
Cryptophytes	1.0

Table 3. Effluent limits, Class III Freshwater Criteria and chemical data for samples from Mosaic Fertilizer, L.L.C.-Fort Green Mine Complex collected on September 17, 2007.

Mosaic Fertilizer, L.L.C.- Fort Green Mine Complex NPDES# FL0027600	Class III Standards	Effluent Limits	D-005	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	60	U
Arsenic	≤ 50	-	2.1	A
Cadmium	≤ 0.5 b	-	0.02	U
Calcium (mg/L)	-	-	43.2	A
Chromium-III	≤ 157.2 b	-	1	U
Copper	≤ 17.5 b	-	0.25	U
Iron	≤ 1,000	-	280	A
Lead	≤ 8.1 b	-	0.2	U
Magnesium (mg/L)	-	-	24.4	A
Mercury	≤ 0.012	-	0.12	U
Nickel	≤ 97.1 b	-	0.89	I
Selenium	≤ 5.0	-	0.5	U
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 223.2 b	-	5	U
Nutrients (mg/L)				
Ortho-phosphate	-	-	1.2	
Total Phosphorus	-	≤ 5.0 s	1.3	
Total Ammonia	-	-	2	
Un-ionized Ammonia	≤ 0.02 s	-	0.04	c
Nitrate and Nitrite	-	Report	0.006	I
Total Kjeldahl Nitrogen	-	-	2.8	
Organic Nitrogen	-	-	0.8	c
Total Nitrogen	-	≤ 3.0 s	2.806	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0 s	1.5	
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	7.4	
Conductivity (µmhos/cm)	≤ 1,275	≤ 1,275 s	535	
Temperature °C	-	Report	27.6	
Salinity	-	-	< 0.25	c
Sample Depth (m)	-	-	0.2	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.04*	£
Chlorophyll a (µg/L)	-	Report	6.8	
Phaeophytin (µg/L)	-	-	2.5	
Total Suspended Solids (mg/L)	-	≤ 60 s	4	U
Total Dissolved Solids (mg/L)	-	-	322	
Turbidity (NTU)	< 29 t	-	2.7	
Color (pt-Co)	-	-	100	
Chloride (mg/L)	-	-	27	
Fluoride (mg/L)	≤ 10	≤ 10 s	1.3	
Sulfate (mg/L)	-	Report	57	
Alpha, Total (pCi/L)	≤ 15	-	2.7	
Alpha-Counting Error (pCi/L)	-	-	1.3	
Radium 226 (pCi/L)	-	-	0.4	
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	-	0.4	c
Flow (MGD)	-	Report	1.4	a
Hardness (mg $CaCO_3$)	-	-	208.35	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average
b - Value is calculated based on hardness
c - Value is calculated
s - Single sample
t - Shall not exceed 29 NTUs above background
A - Value reported is the mean of two or more determinations
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
U - Material analyzed for but not detected; value reported is the method detection limit
£ - Analysis performed in the bioassay laboratory
* - Result thought to be due to interference within the sample

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2007-09-17-40
Mosaic Fertilizer, LLC-Ft. Green/Payne Creek Mine

Requester: Shannan Bogdanov

Field Report Prepared By: Jacki Champion

Customer: BMR-TAMPA

Collected By: Jacki Champion/Scott Rose

Send Final Report To: Vishwas Sathe

Project ID: FYI5

Sampling Agency: FDEP

PMAS: 1163

Lab ID *	Location: Mosaic Fort Green Mine		☐ Comp ☒ Grab	Collection (begin) Date 9/17/07 Time 10:40 ☒ Eastern ☐ Central	Collection (end) Date — Time — ☐ Eastern ☐ Central	Bottle Group(s)** A
	Field ID: Outfall 005		Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): 1.51	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C): 27.55 pH: 7.40	Sample Depth: ☒ m ☐ ft 0.2	535 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number: FL0027600	
	Latitude: o ' "	Longitude: o ' "	Comments:			
Lab ID *	Location: Mosaic Fort Green Mine		☐ Comp ☒ Grab	Collection (begin) Date 9/17/07 Time 10:40 ☒ Eastern ☐ Central	Collection (end) Date — Time — ☐ Eastern ☐ Central	Bottle Group(s)** A
	Field ID: Outfall 005 - Bioassay Test		Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): 1.51	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh Water	Temp (C): 27.55 pH: 7.40	Sample Depth: ☐ m ☐ ft	535 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number: FL0027600	
	Latitude: o ' "	Longitude: o ' "	Comments: Bioassay samples			
Lab ID *	Location: Mosaic Fort Green Mine		☐ Comp ☒ Grab	Collection (begin) Date 9/17/07 Time 10:30 ☒ Eastern ☐ Central	Collection (end) Date — Time — ☐ Eastern ☐ Central	Bottle Group(s)** D
	Field ID: Equipment Blank		Tot Res Chlorine (mg/L): —	Diss Oxygen (mg/L): —	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh Water - DI	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 bioassay 9:45 9/18/07 J.D.			

Relinquished By	Date/Time	Shipping Method	Received By	Date/Time	Relinquished By	Date/Time	Received By	Date/Time
Jacki Champion	9/17/07 1:15	DHL	Tom. E	09/18/07 9:10				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information

last revised October 1, 2003

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Mosaic Fertilizer, LLC - FT. Green/Payne Creek

Address: 10741 S.R. 37 South

City: Bradley County: Polk/Hardee

Contact/District: Jack Champion Southwest BPM

NPDES Permit #: FL 0027600

LIMS Job #: TLH-2007-09-18-32 30

LIMS Sample #: 30 1045833 1045834

Lims Data Entry: 9-21-07 MF

Data Entry Verification: 9.21.07 JD

Sample Collection: Date: 9.17.07 Time: 10:40

Hold Time Start: Date: 9.17.07 Time: 10:40

Comments:

Instructions (for below): Circle appropriate wording. If yes is circled, complete blanks.

Test Type: (Screen) Static / Static Renewal / Flow-through

Test Duration: (48) 96 Hours.

Test 1 validation: Test 1: SOP TA 07 01

Control survival ≥90%: (Yes) No

Temperature Range ≤3°C: (Yes) No

Test 2 validation: Test 2: SOP TA 07 02

Control survival ≥90%: (Yes) No

Temperature Range ≤3°C: (Yes) No

Initial sample handling:

PH adjustment: yes (no) Initial pH: 7.5 NaOH N HCl N ____ Drops mL Final pH: ____

Aeration: (yes) no Initial DO: 4.7 mg/L Final DO: 7.6 mg/L Duration: 45 minutes Rate: ~100 bubbles/min

Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Dechlorination: yes (no) ____ mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No

Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Light Intensity: 50 - 100 ft. candles

Photoperiod: 16 light 8 dark

Temperature Range °C:

Incubator # 2 min. 25.3 max 25.8 mean 25.6

Incubator # ____ min. ____ max. ____ mean ____

Room B246 min. 24.6 max. 25.8 mean 25.2

Investigators' Signatures

James Daniels

Marshall Faircloth

Bruce Ambler

Loretta C. Wolfe

REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ (Well Water)	Salt Water ASW NSW Test 1	Salt Water ASW NSW Test 2	Other: Well 9.20.07 JD	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		N/A	—	—	JD
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03			<0.03 JD	0.04	HACH	JD	MF
Alkalinity (mg/L as $CaCO_3$):	NV 95 84	142				186	HACH	JD BA	MF
Hardness (mg/L as $CaCO_3$):	NV 77 87	147				220	HACH	JD BA	MF
Total Ammonia (mg/L as N):	<0.017	<0.017				1.47	DENVER	MF	JD
Salinity (ppth):	<1	<1				<1	~~YSI~~ Mettler MF	JD	MF

V 1.4 9/12/05

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1045833 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 9.18.07 Time: 1240
Organism/Batch/Age: C.dubia/37-07/≤24hrs (Stacy mark JD) Test Ended: Date 9.20.07 Time: 1100
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 9.8.07
Food/Batch: YCT 7.26.07 P.sub 4.4.07 Artemia 0hr — 24hr — 48hr — 72hr — Artemia Lot# —
Feeding: (Prior to Test) Prior to Renewal Daily

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
100%	A	A	5	5	5			
	B	B	5	5	5			
	C	C	5	5	5			
	D	D	5	5	5			
Loaded/Verified by: JD / MF		Checked by:	JD	JD	JD			

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:
Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0 LC50: >100%
If Calculated: 95% CI ________ Method ________

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1045833 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 9.18.07 Time: 1230

Organism/Batch/Age: C.dubia / 9.18.07 / 100 YS Test Ended: Date 9.20.07 Time: 1110

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: well / 9.17.07

Food/Batch: YCT — P.sub — Artemia 0hr 137-07 24hr — 48hr — 72hr — Artemia Lot# gsl-536-9

Feeding: (Prior to Test) Prior to Renewal Daily

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	A1	5	5	5			
	B	A2	5	5	5			
	C	A3	5	5	5			
	D	A4	5	5	5			
100%	A	A5	5	5	5			
	B	A6	5	5	5			
	C	A7	5	5	5			
	D	A8	5	5	5			
			20	20	20			

Loaded/Verified by: DD / MF Checked by:

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 0 LC50: >100%

If Calculated: 95% CI _____ Method _____

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1045833 Test #: 1 of 2

TEST SOP #: TA07_ 01 Test Species: ~~Ceriodaphnia dubia~~ Cyprinella leedsi Pimephales promelas Americamysis bahia Menidia beryllina Other:_____

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	(A)	M			
pH (S.U.)	8.3		8.1			
Temperature °C	24.5	~~24~~ JD	24.2			
Dissolved Oxygen mg/L	7.8		7.4			
Conductivity ~~µmhos~~ mmhos	190	~~204~~ JD	204			
(initials) Measured by:	JD		JD			
(initials) Recorded by:	JD		JD			

Comments: (A) Not measured at 24th hour BA 9-19-07

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	(A)	M			
pH (S.U.)	8.1		8.6			
Temperature °C	24.6		24.2			
Dissolved Oxygen mg/L	7.7		7.5			
Conductivity ~~µmhos~~ mmhos	534		567			
(initials) Measured by:	JD		JD			
(initials) Recorded by:	JD		JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity ~~µmhos~~ mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity ~~µmhos~~ mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments: 000019

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1045833 **Test #:** 2 of 2

TEST SOP #: TA07_02_ **Test Species:** *Ceriodaphnia dubia* (*Cyprinella leedsi*) *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	7.7	8.1	8.3			
Temperature °C	24.5	24.2	24.1			
Dissolved Oxygen mg/L	7.5	7.4	7.3			
Conductivity ~~µmhos~~ mmhos	272	277	282			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	A	B	C			
pH (S.U.)	8.1	8.3	8.5			
Temperature °C	24.6	24.3	24.1			
Dissolved Oxygen mg/L	7.6	7.1	7.2			
Conductivity ~~µmhos~~ mmhos	534	542	559			
(initials) Measured by:	JD	JD	JD			
(initials) Recorded by:	JD	JD	JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity ~~µmhos~~ mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity ~~µmhos~~ mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Appendix C. SRT Bench Sheets and Statistical Analysis

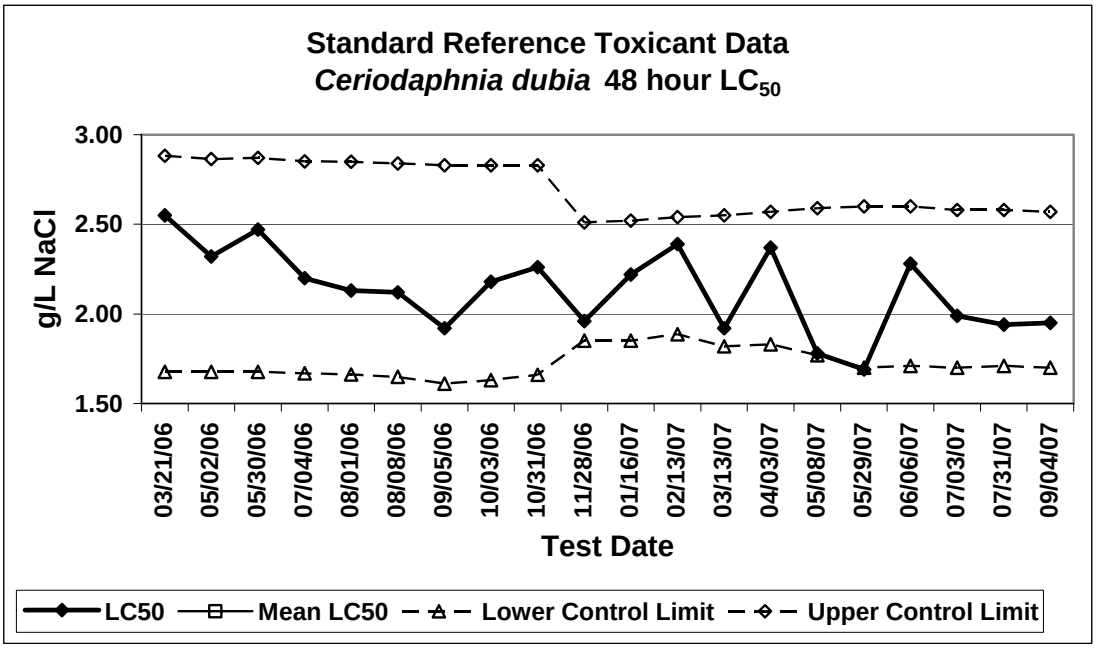
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Ceriodaphnia dubia (water flea) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
03/21/06	2.55	2.28	0.30	1.68	2.88
05/02/06	2.32	2.27	0.30	1.68	2.87
05/30/06	2.47	2.27	0.30	1.68	2.87
07/04/06	2.20	2.26	0.30	1.67	2.85
08/01/06	2.13	2.26	0.30	1.66	2.85
08/08/06	2.12	2.24	0.30	1.65	2.84
09/05/06	1.92	2.24	0.30	1.61	2.83
10/03/06	2.18	2.24	0.30	1.63	2.83
10/31/06	2.26	2.25	0.29	1.66	2.83
11/28/06	1.96	2.18	0.17	1.85	2.51
01/16/07	2.22	2.19	0.17	1.85	2.52
02/13/07	2.39	2.23	0.17	1.89	2.54
03/13/07	1.92	2.18	0.18	1.82	2.55
04/03/07	2.37	2.20	0.18	1.83	2.57
05/08/07	1.78	2.18	0.21	1.77	2.59
05/29/07	1.69	2.16	0.23	1.70	2.60
06/06/07	2.28	2.16	0.22	1.71	2.60
07/03/07	1.99	2.14	0.22	1.70	2.58
07/31/07	1.94	2.14	0.22	1.71	2.58
09/04/07	1.95	2.13	0.22	1.70	2.57

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

CV = 10.21
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

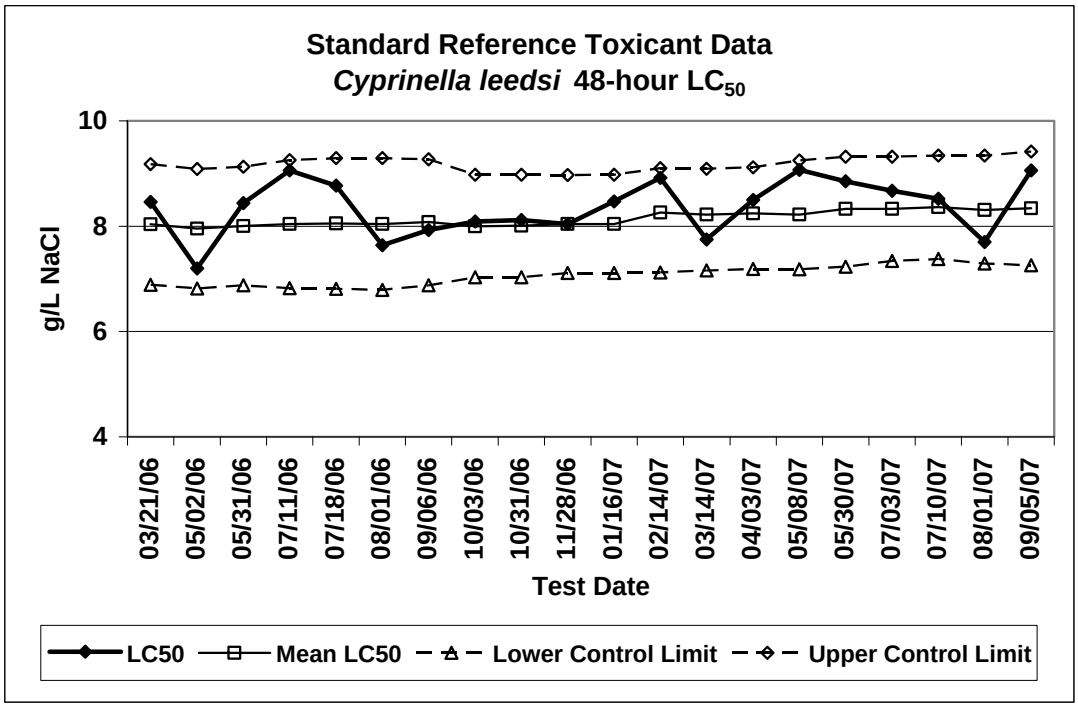
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Cyprinella leedsi (bannerfin shiner) - Sodium Chloride (NaCl)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
03/21/06	8.46	8.04	0.57	6.89	9.18
05/02/06	7.2	7.95	0.57	6.82	9.09
05/31/06	8.44	8.00	0.56	6.88	9.13
07/11/06	9.06	8.04	0.61	6.82	9.26
07/18/06	8.77	8.05	0.62	6.81	9.29
08/01/06	7.64	8.04	0.63	6.79	9.29
09/06/06	7.93	8.08	0.60	6.88	9.27
10/03/06	8.09	8.00	0.49	7.03	8.98
10/31/06	8.12	8.01	0.49	7.03	8.98
11/28/06	8.04	8.04	0.46	7.11	8.97
01/16/07	8.47	8.04	0.52	7.11	8.98
02/14/07	8.92	8.26	0.54	7.12	9.10
03/14/07	7.75	8.22	0.53	7.16	9.09
04/03/07	8.50	8.24	0.52	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25
05/30/07	8.85	8.33	0.54	7.23	9.32
07/03/07	8.67	8.33	0.50	7.34	9.32
07/10/07	8.52	8.36	0.49	7.38	9.34
08/01/07	7.7	8.31	0.51	7.29	9.34
09/05/07	9.06	8.34	0.54	7.26	9.42

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

CV = 6.47
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | *Menidia beryllina* Method 2006.0 | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* | *Pimephales promelas* Method 2000.0 | Other:

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal (96) hour renewal
Test Page 1 of 2

Diluent/ Batch #: DMW / 8.24.07
Toxicant/ Batch#: NaCl ppt / 9.4.07

Test Beginning: Date: 9.4.07 Time: 1240
Test Ending: Date: 9.8.07 Time: 1030

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	KMV
Alkalinity (mg/L as $CaCO_3$):	84	Hach	JD
Hardness (mg.L as $CaCO_3$):	88	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	21	Mettler	DAS

Organism Batch #/ Age: C.dubia / 36-57 / <24 hours
Feeding: ~~Prior to test~~ ~~Prior to renewal~~ Daily
Food: (YCT) YTC S.subcapitata Artemia: Lot # —
Food Batch: 7-28-07 4-4-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. (g/L) µg/L mg/L	Rep.	Chamber #	Number Live 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~	pH (SU) 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~	Temperature (° C) 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~	D.O. (mg/L) 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~	Uncorrected Conductivity µmhom/cm mmhos/cm 0 hr / ~~48 hr~~	24 hr / ~~72 hr~~	48 hr / ~~96 hr~~
Control	A	A	5	5	5	7.6		7.9	24.5		24.6	7.2		7.4	0.179		0.196
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	7.7		7.9	24.7		24.1	7.2		7.3	2.87		3.11
	B	B	5	5	5												
	C	C	5	5	3 3D												
	D	D	5	5	5												
2.0	A	A	5	5	2 3D	7.8		8.0	24.8		24.1	7.1		7.2	3.79		4.24
	B	B	5	5	2 3D												
	C	C	5	5	4 1D												
	D	D	5	5	2 3D												
2.5	A	A	5	3 2D	0 3D	7.4		8.0	24.8		24.2	7.2		7.3	4.73		5.05
	B	B	5	4 1D	0 4D												
	C	C	5	1 4D	0 1D												
	D	D	5	4 1D	0 4D												
3.0	A	A	5	3 2D	0 3D	8.0		8.0	24.8		24.2	7.2		7.2	5.57		5.76
	B	B	5	4 1D	0 4D												
	C	C	1	5 0D	0 5D												
	D	D	5	2 3D	0 2D												
4.0	A	A	5	1 4D	0 1D	8.0		8.0	24.4		24.2	7.3		7.3	7.21		7.56
	B	B	5	1 4D	0 1D												
	C	C	5	0 5D	—												
	D	D	5	0 5D	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA
Recorded by:			BA	BA	BA	BA		BA	BA		BA	BA		BA	BA		BA

Investigators' Signatures
James Smith
Brad Nelson
Mandall Faircloth
Loretta Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: JO
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.4 max 26.1 mean 25.9
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.5 max 26.7 mean 25.6

Comments:

Statistics: Method: Spearman-Karber
(48)/ 96 hour LC_{50}: 1.95
95% Confidence Interval: lower 1.81 upper 2.10

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Appendix C. (continued)

[redacted]

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | *Menidia beryllina* Method 2006.0 | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* Method 2000.0 | *Pimephales promelas* Method 2000.0 | Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal / 96 hour renewal
Test Page 1 of 2

Diluent/ Batch #: well / 9.4.07
Toxicant/ Batch#: Rpt Nacl / 9.4.07

Test Beginning: Date: 9.5.07 Time: 1300
Test Ending: Date: 9-9-07 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	2003	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	145	Hach	JD 145
Hardness (mg.L as $CaCO_3$):	135	Hach	JD
Total Ammonia (mg/L as N):	<0.07	Denver	BA
Salinity (ppth):	21	Mettler	BA

Organism Batch #/ Age: 9-5-07 / 13 days
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT P.subcapitata Artemia: Lot # GSL-536-90
Food Batch: — — 0hr 130 24hr — 48hr 132-07 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc.			Number Live			pH (SU)			Temperature (° C)			D.O. (mg/L)			Uncorrected Conductivity µmhom/cm (µmhos/cm)		
Ø µg/L mg/L	Rep.	Chamber #	0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~	0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~	0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~	0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~	0 hr ~~48 hr~~	24 hr ~~72 hr~~	48 hr ~~96 hr~~
Control	A	A1	10	10	10	7.8		8.3	24.9		24.3	7.8		6.4	0.273		0.290
	B	A2	10	10	10		8.2			24.5			6.8			0.277	
	C																
	D																
6	A	A3	10	10	10	7.7		8.2	24.4		24.4	7.4		6.4	10.17		10.5
	B	A4	10	10	10		8.1			24.3			6.6			10.1	
	C																
	D																
7	A	A5	10	9/10	9	7.8		8.2	24.4		24.4	7.4		6.8	12.11		12.3
	B	A6	10	10	10		8.1			24.2			6.6			12.2	
	C																
	D																
8	A	A7	10	10	10	7.8		8.2	24.8		24.4	7.3		6.8	13.6		13.7
	B	A8	10	10	9/10		8.1			24.3			6.6			13.6	
	C																
	D																
9	A	A9	10	8/10	7/10	7.9		8.2	24.1		24.4	7.3		6.8	14.45		14.8
	B	A10	10	7/10	4/10		8.1			24.1			6.6			14.9	
	C																
	D																
10	A	A11	10	2/10	0/10	7.9		8.2	24.7		24.4	7.3		6.8	16.2		16.3
	B	A12	10	4/10	3/10		8.1			24.1			6.6			16.7	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD
Recorded by:			JD	JD	JD	BA	JD	JD	BA	JD	~~JD~~	BA	JD	JD	BA	JD	JD

Investigators' Signatures
Jonathan Daniels
Brian Rhodes
Marshall Faircloth
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 3 min 25.4 max 26.1 mean 25.9
Incubator # ___ min ___ max ___ mean ___
Room B248 min 24.5 max 26.4 mean 25.4

Comments:

Statistics: (48) / 96 hour LC_{50}: 9.10 9.06 Method: Spearman-Karber BA 9.37
95% Confidence Interval: lower 8.75 8.77 upper 9.46

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Appendix C. (continued)

DATE: 9-4-07 TEST NUMBER: 1 DURATION: 48 h
TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	2
2.00	20	10
2.50	20	20
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 10.00%

SPEARMAN-KARBER ESTIMATES: LC50: 1.95
95% LOWER CONFIDENCE: 1.81
95% UPPER CONFIDENCE: 2.10

DATE: 9-5-07 TEST NUMBER: 1 DURATION: 48 h
TOXICANT : NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
6.00	20	0
7.00	20	1
8.00	20	1
9.00	20	9
10.00	20	18

SPEARMAN-KARBER TRIM: 15.00%

SPEARMAN-KARBER ESTIMATES: LC50: 9.06
95% LOWER CONFIDENCE: 8.77
95% UPPER CONFIDENCE: 9.37

Appendix D. Test Organism Receipts

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/4/07

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS070831	25°C	20‰
Menidia beryllina	150	11 DAYS	MS070824	25°C	20‰
Cyprinella leedsi	150	12 DAYS	CL070823	25°C	
Pimephales promelas	150	8 DAYS	FM070827	25°C	

Packed by: R.L.

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix D. (continued)

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 9/17/07

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	150	9 DAYS	CL070908	25°C	
Pimephales promelas					

Packed by:

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Mosaic Fertilizer, L.L.C.-Fort Green Mine Complex Outfall D-005, sampled on September 17, 2007.

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:40	OUTFALL 005	AGP/LN	Algal Growth Potential	74.3		mg DryWt/L	0.3	0.9
9/17/2007 10:40	OUTFALL 005	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	6.8		ug/L	0.55	1.7
9/17/2007 10:40	OUTFALL 005	Chlorophyll/Grain Size/BOD	Phaeophytin-a	2.5		ug/L	0.24	0.71
9/17/2007 10:40	OUTFALL 005	Metals	Mercury	0.12	U	ug/L	0.12	0.5
9/17/2007 10:40	OUTFALL 005	Metals	Aluminum	60	U	ug/L	60	240
9/17/2007 10:40	OUTFALL 005	Metals	Calcium	43.2	A	mg/L	0.02	0.08
9/17/2007 10:40	OUTFALL 005	Metals	Iron	280	A	ug/L	30	120
9/17/2007 10:40	OUTFALL 005	Metals	Magnesium	24.4	A	mg/L	0.04	0.16
9/17/2007 10:40	OUTFALL 005	Metals	Arsenic	2.1	A	ug/L	0.5	2
9/17/2007 10:40	OUTFALL 005	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/17/2007 10:40	OUTFALL 005	Metals	Chromium	1	U	ug/L	1	4
9/17/2007 10:40	OUTFALL 005	Metals	Copper	0.25	U	ug/L	0.25	1
9/17/2007 10:40	OUTFALL 005	Metals	Lead	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Metals	Nickel	0.89	I	ug/L	0.25	1
9/17/2007 10:40	OUTFALL 005	Metals	Selenium	0.5	U	ug/L	0.5	2
9/17/2007 10:40	OUTFALL 005	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/17/2007 10:40	OUTFALL 005	Metals	Zinc	5	U	ug/L	5	20
9/17/2007 10:40	OUTFALL 005	Nutrients	Turbidity	2.7		NTU	0.05	0.05
9/17/2007 10:40	OUTFALL 005	Nutrients	Chloride	27		mg Cl/L	1	2.5
9/17/2007 10:40	OUTFALL 005	Nutrients	Color	100		PCU	10	10
9/17/2007 10:40	OUTFALL 005	Nutrients	Specific_Conductance	438	J	umhos/cm	2	8
9/17/2007 10:40	OUTFALL 005	Nutrients	Fluoride	1.3		mg F/L	0.05	0.1
9/17/2007 10:40	OUTFALL 005	Nutrients	Ammonia-N	2		mg N/L	0.05	0.1
9/17/2007 10:40	OUTFALL 005	Nutrients	NO2NO3-N	0.006	I	mg N/L	0.004	0.01
9/17/2007 10:40	OUTFALL 005	Nutrients	O-Phosphate-P	1.2		mg P/L	0.08	0.2
9/17/2007 10:40	OUTFALL 005	Nutrients	Sulfate	57		mg SO4/L	1	2.5
9/17/2007 10:40	OUTFALL 005	Nutrients	TDS	322		mg/L	15	60
9/17/2007 10:40	OUTFALL 005	Nutrients	Kjeldahl Nitrogen	2.8		mg N/L	0.08	0.2
9/17/2007 10:40	OUTFALL 005	Nutrients	Total-P	1.3		mg P/L	0.2	0.6
9/17/2007 10:40	OUTFALL 005	Nutrients	TSS	4	U	mg/L	4	16
9/17/2007 10:40	OUTFALL 005	Overflow	Alpha, Total	2.7		pCi/L		
9/17/2007 10:40	OUTFALL 005	Overflow	Alpha-Counting Error	1.3		pCi/L		
9/17/2007 10:40	OUTFALL 005	Overflow	Oil and Grease	1.7	U	mg/L		

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:40	OUTFALL 005	Overflow	Radium 226	0.4		pCi/L		
9/17/2007 10:40	OUTFALL 005	Overflow	Radium 226-Counting Error	0.2		pCi/L		
9/17/2007 10:40	OUTFALL 005	Overflow	Radium 228	1	U	pCi/L		
9/17/2007 10:40	OUTFALL 005	Overflow	Radium 228-Counting Error	0.6		pCi/L		
9/17/2007 10:40	OUTFALL 005	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
9/17/2007 10:40	OUTFALL 005	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
9/17/2007 10:40	OUTFALL 005	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
9/17/2007 10:40	OUTFALL 005	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
9/17/2007 10:40	OUTFALL 005	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
9/17/2007 10:40	OUTFALL 005	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
9/17/2007 10:40	OUTFALL 005	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
9/17/2007 10:40	OUTFALL 005	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
9/17/2007 10:40	OUTFALL 005	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Acenaphthene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Acenaphthylene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Anthracene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzo(a)anthracene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzo(a)pyrene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzo(b)fluoranthene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Benzo(k)fluoranthene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Chrysene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Diethyl phthalate	0.95	U	ug/L	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Dimethyl phthalate	48	UJ	ug/L	48	190
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Endrin aldehyde	3.8	U	ug/L	3.8	15
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Fluoranthene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Fluorene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	UJ	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Naphthalene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	11
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Phenanthrene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	Pyrene	0.95	U	ug/L	0.95	3.8
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.7
9/17/2007 10:40	OUTFALL 005	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.7

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:40	OUTFALL 005	Field Parameters	Dissolved Oxygen	1.51		mg/L		
9/17/2007 10:40	OUTFALL 005	Field Parameters	Specific Conductance	535		umhos/cm		
9/17/2007 10:40	OUTFALL 005	Field Parameters	Temperature	27.55		C		
9/17/2007 10:40	OUTFALL 005	Field Parameters	pH	7.4				
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Mercury	0.12	U	ug/L	0.12	0.5
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Aluminum	60	U	ug/L	60	240
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Calcium	0.02	U	mg/L	0.02	0.08
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Iron	30	U	ug/L	30	120
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Arsenic	0.5	U	ug/L	0.5	2
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Chromium	1	U	ug/L	1	4
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Copper	0.25	U	ug/L	0.25	1
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Lead	0.2	U	ug/L	0.2	0.8
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Nickel	0.25	U	ug/L	0.25	1
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Selenium	0.5	U	ug/L	0.5	2
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Silver	0.025	U	ug/L	0.025	0.1
9/17/2007 10:30	EQUIPMENT BLANK	Metals	Zinc	5	U	ug/L	5	20
9/17/2007 10:30	EQUIPMENT BLANK	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
9/17/2007 10:30	EQUIPMENT BLANK	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
9/17/2007 10:30	EQUIPMENT BLANK	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
9/17/2007 10:30	EQUIPMENT BLANK	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
9/17/2007 10:30	EQUIPMENT BLANK	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Alachlor	0.72	U	ug/L	0.72	2.9
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Ametryn	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Atrazine	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Azinphos Methyl	0.24	U	ug/L	0.24	0.96
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Bromacil	0.24	U	ug/L	0.24	0.96
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Butylate	0.24	U	ug/L	0.24	0.96
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Chlorpyrifos Ethyl	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Chlorpyrifos Methyl	0.12	U	ug/L	0.12	0.48
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Diazinon	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Ethion	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Ethoprop	0.12	U	ug/L	0.12	0.48

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Fenamiphos	0.24	U	ug/L	0.24	0.96
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Fonofos	0.12	U	ug/L	0.12	0.48
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Hexazinone	0.12	U	ug/L	0.12	0.48
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Malathion	0.18	U	ug/L	0.18	0.72
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Metalaxyl	0.3	U	ug/L	0.3	1.2
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Metolachlor	0.6	U	ug/L	0.6	2.4
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Metribuzin	0.12	U	ug/L	0.12	0.48
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Mevinphos	0.24	U	ug/L	0.24	0.96
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Naled	0.96	U	ug/L	0.96	3.8
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Norflurazon	0.18	U	ug/L	0.18	0.72
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Parathion Ethyl	0.18	U	ug/L	0.18	0.72
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Parathion Methyl	0.12	U	ug/L	0.12	0.48
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Phorate	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Prometryn	0.18	U	ug/L	0.18	0.72
9/17/2007 10:30	EQUIPMENT BLANK	Pesticides	Simazine	0.06	U	ug/L	0.06	0.24
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,4-Dichlorophenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,4-Dimethylphenol	13	U	ug/L	13	53
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,4-Dinitrophenol	20	U	ug/L	20	80
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,4-Dinitrotoluene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2,6-Dinitrotoluene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2-Chloronaphthalene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2-Chlorophenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	2-Nitrophenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	3,3'-Dichlorobenzidine	53	U	ug/L	53	210
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4,4'-DDD	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4,4'-DDE	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4,4'-DDT	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.7	U	ug/L	2.7	11
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	4-Nitrophenol	20	U	ug/L	20	80
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Acenaphthene	1.3	U	ug/L	1.3	5.3

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Acenaphthylene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Aldrin	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Anthracene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzidine	130	U	ug/L	130	530
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzo(a)anthracene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzo(a)pyrene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzo(b)fluoranthene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzo(g,h,i)perylene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Benzo(k)fluoranthene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	20	U	ug/L	20	80
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Butyl benzyl phthalate	6.7	U	ug/L	6.7	27
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Chrysene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Di-n-butyl phthalate	6.7	U	ug/L	6.7	27
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Di-n-octyl phthalate	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Dibenzo(a,h)anthracene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Dieldrin	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Diethyl phthalate	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Dimethyl phthalate	67	UJ	ug/L	67	270
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Endosulfan I	5.3	U	ug/L	5.3	21
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Endosulfan II	5.3	U	ug/L	5.3	21
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Endosulfan sulfate	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Endrin	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Endrin aldehyde	5.3	U	ug/L	5.3	21
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Fluoranthene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Fluorene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Heptachlor	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Heptachlor epoxide	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Hexachlorobenzene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Hexachlorobutadiene	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Hexachlorocyclopentadiene	4	UJ	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Hexachloroethane	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	1.3	U	ug/L	1.3	5.3

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Isophorone	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.7	U	ug/L	2.7	11
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	N-Nitrosodimethylamine	2.7	U	ug/L	2.7	11
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Naphthalene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Nitrobenzene	2.7	U	ug/L	2.7	11
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Pentachlorophenol	4	U	ug/L	4	16
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Phenanthrene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Phenol	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	Pyrene	1.3	U	ug/L	1.3	5.3
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	alpha-BHC	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	beta-BHC	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	delta-BHC	2	U	ug/L	2	8
9/17/2007 10:30	EQUIPMENT BLANK	Priority Organic Pollutants	gamma-BHC	2	U	ug/L	2	8

Appendix F. Taxa list, number counted, and density of algal taxa in the phytoplankton sample collected from Outfall D-005 of Mosaic Fertilizer L.L.C., Ft. Green Mine Complex on September 17, 2007.

	# counted	#/ml
Bacillariophyta	2	19
Chlorophycota		
Chlorophyceae		
Chlorococcales		
Ankistrodesmus falcatus	4	39
Chlorella sp.	9	87
Chlorococcum sp.	1	10
Crucigenia retangularis	1	10
Crucigenia tetrapedia	3	29
Scenedesmus sp.	12	116
Scenedesmus abundans	1	10
Scenedesmus bijuga	1	10
Scenedesmus dimorphus	1	10
Scenedesmus quadricauda	2	19
Schroederia setigera	6	58
Selenastrum sp.	35	338
Tetraedron minimum	1	10
Tetraedron muticum	1	10
Cryptophycophyta		
Cryptophyceae		
Cryptomonadales		
Cryptomonas sp.	3	29
Cyanophycota		
Cyanophyceae		
Chroococcales		
Aphanocapsa sp.	10	97
Cyanobium parvum	3	29
Merismopedia tenuissima	4	39
Merismopedia warmingiana	27	261
Rhabdogloea sp.	8	77
Synechocystis sp.	117	1130
Cyanophycota		
Cyanophyceae		
Oscillatoriales		
Jaaginema sp.	47	454
Planktolyngbya sp.	1	10
Planktothrix sp.	6	58
Romeria sp.	3	29

The Bioassay of the Mosaic Fertilizer, L.L.C. - Fort Green Mine effluent sampled on September 17, 2007. NPDES #FL0027600.

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 2 7 6 0 0 11	12 0 7 0 9 1 7	18 **B**	19 **S**	20 2

Remarks

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The Priority Pollutants Analysis of the Mosaic Fertilizer, L.L.C. - Fort Green Mine effluent sampled on September 17, 2007. NPDES #FL0027600.

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 2 7 6 0 0 11	12 0 7 0 9 1 7	18 **X**	19 **S**	20 2

Remarks

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Biological Analyses of the Mosaic Fertilizer, L.L.C. - Fort Green Mine effluent sampled on September 17, 2007. NPDES #FL0027600.

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 2 7 6 0 0 11	12 0 7 0 9 1 7	18 **S**	19 **S**	20 2

Remarks

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