

Effluent Quality Assessment

Estech, Inc. – Agricola Closed Phosphogypsum Stack

Polk County

NPDES #FL0160083

Sampled May 19, 2008

August 2008
(Resubmitted March 2011 with corrected tables)

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

Estech, Inc. – Agricola Closed Phosphogypsum Stack, Intersection of CR 555 and Agricola Rd., Agricola, Polk County, Florida, NPDES #FL0160083. Effluent samples for this facility were collected on May 19, 2008.

Introduction

Estech, Inc., - Agricola Closed Phosphogypsum Stack uses a closed phosphogypsum stack system to treat industrial wastewater. Effluent discharge from the facility is continuous and rainfall dependent. The annual average daily flow (AADF) through the facility from May 2007 to April 2008 was 0.991 million gallons daily (MGD), and the flow during the time of survey was 0.116 MGD. The wastewater treatment system consists of:

- a closed phosphogypsum stack;
- closed process water ponds; and
- reclaimed phosphate mining ponds.

The closed stack is unlined; therefore, rainwater can percolate through the stack, which could potentially impact ground and surface water. All stack closure activities were completed in 1990 during reclamation of the process water ponds and surrounding mined areas. Outfall D-001 discharges non-process wastewater and stormwater to Hookers Prairie, a Class III fresh surface water body via a sharp-crested weir on the western property boundary. Flow from Hooker's Prairie continues to the South Prong of the Alafia River. Outfall D-001 is located approximately at latitude 27° 47' 15" N, longitude 81° 54' 44"W.

There are no Administrative or Consent orders open at this time. The facility has no mixing zones. A review of discharge monitoring report (DMR) data for the past year revealed a number of permit violations. See Table 3 for a complete list of permit violations (DMR data) in the last year.

There is an ongoing issue at this site due to the algal blooms that occur regularly in the reclaimed lake which drains to the outfall. The issue includes high pH readings, low dissolved oxygen readings, high un-ionized ammonia, and high conductivity readings. (Facility information provided by Jacki Champion of FDEP BMR –Phosphate Management Southwest District.)

Methods

Samples were collected from the EFF-01 NPDES sampling point for Outfall D-001 by Jacki Champion, Mike Lynch, and Scott Rose (FDEP BMR-Phosphate Management Southwest District) 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 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.

Toxicity Test Results

Tests were performed May 20 - 22, 2008.

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.

*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.).

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

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 8.3 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 2.1 (±20%) mg dry wt/L (Table 1; Miller et al. 1978).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine (0.08 mg/L) detected in the bioassay sample in the bioassay laboratory was likely the result of interfering substances within the sample. Total ammonia were not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.05 mg/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, fluoride, and total alpha particles were detected in the effluent at levels that comply with Class III fresh water quality criteria (62-302.530, F.A.C.). Iron and lead were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL). Aluminum and sulfate were also detected in the effluent. There are neither freshwater Class III criteria nor effluent limits for aluminum and sulfate.

Effluent conductivity (1572 µmhos/cm) exceeded both the Class III freshwater criteria and the permit conditions (≤ 1275 µmhos/cm; 62-302.530(22), F.A.C., and NPDES permit #FL0160083).

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

Conclusion

The effluent sample collected from Outfall D-001 for this facility on May 19, 2008, was 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.

Effluent conductivity (1,572 µmhos/cm) exceeded both the Class III fresh criteria and permit conditions (≤ 1,275 µmhos/cm; 62-302.530(22), F.A.C.; and, ≤ 1,275 µmhos/cm NPDES permit #FL0160083).

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* for samples collected May 19, 2008.

Estech, Inc. - Agricola Closed Phosphogypsum Stack NPDES # FL0160083				
Location	**AGP (measured)**	**Predicted AGP (TSIN) ± 20%**	**Predicted AGP (TN) ± 20%**	**Inorganic N:P ratio**	**Total N:P ratio**
D-001	8.3 A	2.1 ± 0.4	49.6 ± 9.9	14.0	0.3

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

Table 2. Effluent limits, Class III Freshwater Criteria and chemical data for samples collected from the Estech, Inc. - Agricola Closed Phosphogypsum Stack on May 19, 2008.

Estech, Inc. - Agricola Closed Phosphogypsum Stack NPDES# FL0160083	Class III Criteria	Effluent Limits	Effluent		
Metals (µg/L unless otherwise noted)					
Aluminum	-	-	480		
Arsenic	≤ 50	-	2.8		
Cadmium	≤ 0.8 b	-	0.02	U	
Calcium (mg/L)	-	-	136		
Chromium-III	≤ 268.2 b	-	1	U	
Copper	≤ 30.5 b	-	0.5	U	
Iron	≤ 1,000	-	110	I	
Lead	≤ 18.6 b	-	0.27	I	
Magnesium (mg/L)	-	-	111		
Mercury	≤ 0.012	-	0.12	U	
Nickel	≤ 168.5 b	-	1.23		
Selenium	≤ 5.0	-	0.5	U	
Silver	≤ 0.07	-	0.025	U	
Zinc	≤ 387.8 b	-	5	U	
Nutrients (mg/L)					
Ortho-phosphate	-	Report	0.004	U	
Total Phosphorus	-	Report	4.4		
Total Ammonia	-	Report	0.05		
Un-ionized Ammonia	≤ 0.02 s	≤ 0.02 s	≤ 0.02	c	
Nitrate and Nitrite	-	-	0.006	I	
Total Kjeldahl Nitrogen	-	-	1.3		
Organic Nitrogen	-	-	1.25	c	
Total Nitrogen	-	Report	1.306	c	
General Physical and Chemical Parameters					
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0 s	7.1		
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	7.9		
Conductivity (µmhos/cm)	≤ 1,275	≤ 1,275 s	1572		
Temperature (°C)	-	-	27.0		
Salinity	-	-	≤ 0.76	c	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.08	£Q	
Chlorophyll *a* (µg/L) - Corrected	-	-	15		
Phaeophytin (µg/L)	-	-	5.5		
Total Suspended Solids (mg/L)	-	Report	11	I	
Turbidity (NTU)	< 29 t	< 29.0 s	9.9		
Chloride (mg/L)	-	-	34		
Cyanide (µg/L)	≤ 5.2	-	0.005	UJ	
Fluoride (mg/L)	≤ 10.0	≤ 10.0 s	4.8		
Sulfate (mg/L)	-	Report	550		
Alpha, Total (pCi/L)	≤ 15	≤ 15.0 s	4.2		**Blank**
Alpha-Counting Error (pCi/L)	-	-	1.4	F	0.4
Radium 226 (pCi/L)	-	-	0.5	F	0.2
Radium 226-Counting Error (pCi/L)	-	-	0.1	F	0.1
Radium 228 (pCi/L)	-	-	0.8		-
Radium 228-Counting Error (pCi/L)	-	-	0.5	F	0.5
Radium 226 + 228 (pCi/L)	≤ 5	≤ 5.0 s	1.3	F c	0.2 c
Flow (MGD)	-	-	0.991	a	
Flow During Survey (MGD)		-	0.116		
Hardness (mg $CaCO_3$)	-	-	796.69	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
F - Analyte was detected in both sample and field blank
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
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

Table 3. Permit violations from DMR data April 2007 - May 2008.			
Estech, Inc. - Agricola Closed Phosphogypsum Stack NPDES# FL0160083	**Date of Violation**	**Permit Limits**	**DMR Data**
Conductivity (umhos/cm)	Apr-07	≤ 1,275	1,525
Conductivity (umhos/cm)	May-07	≤ 1,275	1,648
pH (SU)	Jun-07	6.0 - 8.5	8.56
pH (SU)	Jul-07	6.0 - 8.5	8.97
pH (SU)	Aug-07	6.0 - 8.5	9.1
Conductivity (umhos/cm)	Sep-07	≤ 1,275	1,308
pH (SU)	Oct-07	6.0 - 8.5	8.65
Dissolved Oxygen (mg/L)	Oct-07	≤ 5.0	2.7
Dissolved Oxygen (mg/L)	Nov-07	≤ 5.0	2.67
Un-ionized Ammonia (mg/L)	Jul-Nov-07	≤ 0.02	0.048
pH (SU)	Jan-08	6.0 - 8.5	8.88
Conductivity (umhos/cm)	Jan-08	≤ 1,275	1,364
Conductivity (umhos/cm)	Feb-08	≤ 1,275	1,328
Conductivity (umhos/cm)	Mar-08	≤ 1,275	1,328
Un-ionized Ammonia (mg/L)	Jan-Mar-08	≤ 0.02	0.03

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2008-05-19-25
Estech, Incorporated-Agricola Plant

Requester: Jennifer Paris
Field Report Prepared By: Jacki Champion

Customer: BMR-TAMPA
Collected By: Jacki Champion, Mike Lynch, Scott Rose
Send Final Report To: Vishwas Sathe

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1163

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Estech	☐ Comp ☒ Grab Date 5/19/08 Time 10:30 Eastern Central	Date — Time — Eastern Central	A
	Field ID: Outfall 001	Tot Res Chlorine (mg/L): — Diss Oxygen (mg/L): 7.07	Storet Station Number: —	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh Water; Temp (C): 26.96; pH: 7.91	Sample Depth ☐ m ☐ ft: —	1572 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number:
	Latitude o ' "	Longitude o ' "	Comments:	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Estech	☐ Comp ☒ Grab Date 5/19/08 Time 10:30 Eastern Central	Date — Time — Eastern Central	A
	Field ID: Outfall 001	Tot Res Chlorine (mg/L): — Diss Oxygen (mg/L): 7.07	Storet Station Number: —	
	Matrix (Include type e.g. Salt, Fresh, etc): Fresh Water; Temp (C): 26.96; pH: 7.91	Sample Depth ☐ m ☐ ft: —	1572 ☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm)	NPDES Number:
	Latitude o ' "	Longitude o ' "	Comments: Bioassay samples.	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Estech	☐ Comp ☒ Grab Date 5/19/08 Time 10:20 Eastern Central	Date — Time — Eastern Central	B
	Field ID: Blanks	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 o ' "	Longitude o ' "	Comments:	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
		☐ Comp ☐ Grab Date Time Eastern Central	Date Time Eastern Central	
	Field ID	Tot Res Chlorine (mg/L): Diss Oxygen (mg/L):	Storet Station Number:	
	Matrix (Include type e.g. Salt, Fresh, etc): Temp (C): pH:	Sample Depth ☐ m ☐ ft:	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number:
	Latitude o ' "	Longitude o ' "	Comments: 2 bioassay buckets in box by JC 9:25 5/20/08	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
Jacki Champion	5/19/08 3:00	DHL	Tahmaires Bhakim	05/20/08 8:40				

* 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: Estech, Inc - Agricola Plant

Address: CR555, 3 miles South of CR640

City: Bartow **County:** Polk

Contact/District: J. Champion / BMR - TAMPA

NPDES Permit #: FL 0100083

LIMS Job #: TCH-2008-05-20-56 **LIMS Sample #:** 110295 2

Lims Data Entry: MF 5-22-08 Data Entry Verification: BA 5-22-08

Sample Collection: Date: 5-19-08 Time: 1030

Hold Time Start: Date: 5-19-08 Time: 1030

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: ____ NaOH N HCl N ____ Drops mL Final pH: ____

Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~ ____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) MF (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 26.2 max 26.8 mean 26.5

Incubator # ___ min ____ max ____ mean ____

Room B246 min 24.2 max 25.6 mean 24.9

Test 1:% mortality in 100% sample: 0 LC50: >100%

Test 2:% mortality in 100% sample: 0 LC50: >100%

Investigators' Signatures

Bruce Baisden
Jay Daniel
Maykell Faircloth

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:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		Not measured	—	MF	
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				0.08	HACH	JD	BA
Alkalinity (mg/L as $CaCO_3$):	89	150				358	HACH	BA	JD
Hardness (mg/L as $CaCO_3$):	97	141				756	HACH	BA	JD
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	BA	JD
Salinity (ppth):	<1	<1				<1	YSI / Mettler	JD	BA

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1102952 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 5-20-08 Time: 12:15
Organism/Batch/Age: Cdub/19.08 / <24hrs Test Ended: Date 5-22-08 Time: 1020
Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 5.15.08
Food/Batch: YCT 7-26-07 P.sub 1-31-08 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: BA / JD		Checked by:	JD	MF	MF			

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: Ø 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 #: 1102952 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 5.20.08 Time: 1200
Organism/Batch/Age: Glady's/5.2008/12days Test Ended: Date 5-22-08 Time: 1010
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well H2O 15.5.08
Food/Batch: YCT — P.sub — Artemia 0hr 88-08 24hr — 48hr — 72hr — Artemia Lot# 38438
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	A1	B13	5	5	5			
	B	B18	5	5	5			
	C	B19	5	5	5			
	D	B20	5	5	5			
100%	A	B21	5	5	5			
	B	B22	5	5	5			
	C	B23	5	5	5			
	D	B24	5	5	5			
Loaded/Verified by: JD / BA		Checked by:	JD	JD	MF			

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: Ø 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 # : 1102952 Test #: 1 of 2

TEST SOP #: TA07_01 Test Species: (*Ceriodaphnia dubia*) *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	8.2		8.3			
Temperature °C	24.1		25.1			
Dissolved Oxygen mg/L	7.1		7.5			
Conductivity (µmhos) mmhos	177		190			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		M			
pH (S.U.)	8.1		8.7			
Temperature °C	24.8		25.0			
Dissolved Oxygen mg/L	7.3		7.3			
Conductivity (µmhos) mmhos	1601		1615			
(initials) Measured by:	BA		MF			
(initials) Recorded by:	BA		MF			

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:

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1102952 Test #: 2 of 2

TEST SOP #: TA07_07 Test Species: *Ceriodaphnia dubia* (*Cyprinella leedsi*) *Pimephales promelas* *Americamysis bahia* *Menidia beryllina* Other:_____

[redacted]

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.)	8.0	8.3	8.3			
Temperature °C	24.4	24.4	25.2			
Dissolved Oxygen mg/L	7.5	7.0	7.1			
Conductivity (µmhos) mmhos	274	290	295			
(initials) Measured by:	JD	JD	MF			
(initials) Recorded by:	JD	JD	MF			

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	8.4	8.5			
Temperature °C	25.9	24.4	25.3			
Dissolved Oxygen mg/L	6.4	6.7	6.8			
Conductivity (µmhos) mmhos	1583	1584	1596			
(initials) Measured by:	JD	JD	MF			
(initials) Recorded by:	JD	JD	MF			

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:

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Appendix C. SRT Bench Sheets and Statistical Analysis

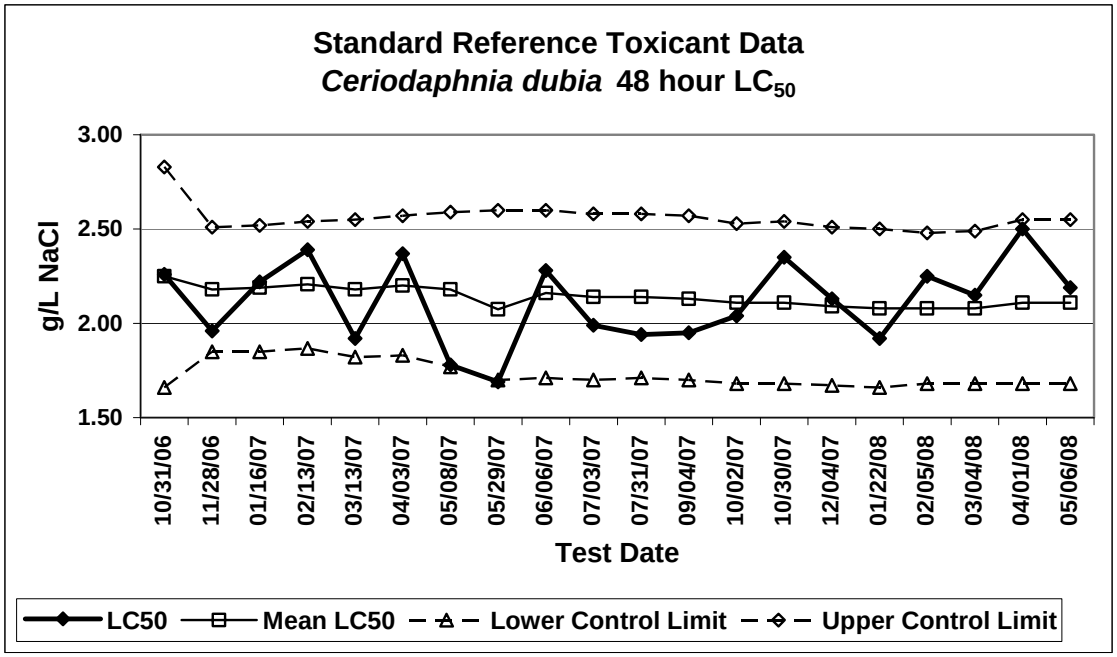
Florida Department of Environmental Protection
Bureau of Laboratories

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

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
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	2.21	0.17	1.87	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	2.07	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
10/02/07	2.04	2.11	0.21	1.68	2.53
10/30/07	2.35	2.11	0.21	1.68	2.54
12/04/07	2.13	2.09	0.20	1.67	2.51
01/22/08	1.92	2.08	0.20	1.66	2.50
02/05/08	2.25	2.08	0.20	1.68	2.48
03/04/08	2.15	2.08	0.20	1.68	2.49
04/01/08	2.50	2.11	0.22	1.68	2.55
05/06/08	2.19	2.11	0.22	1.68	2.55

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

CV = 10.30
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

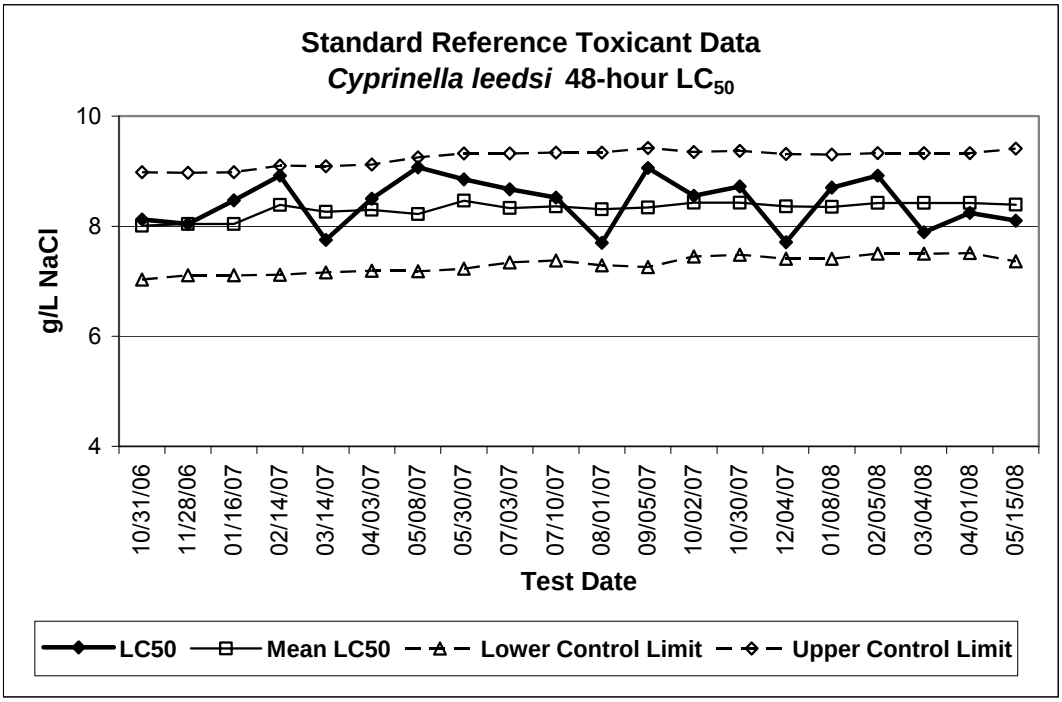
Florida Department of Environmental Protection
Bureau of Laboratories

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
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	0.23	7.11	8.98
02/14/07	8.92	8.39	0.40	7.12	9.10
03/14/07	7.75	8.26	0.45	7.16	9.09
04/03/07	8.50	8.30	0.41	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25
05/30/07	8.85	8.47	0.47	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
10/02/07	8.55	8.43	0.47	7.45	9.35
10/30/07	8.72	8.43	0.47	7.48	9.37
12/04/07	7.71	8.36	0.47	7.41	9.31
01/08/08	8.7	8.35	0.47	7.41	9.30
02/05/08	8.92	8.42	0.46	7.50	9.33
03/04/08	7.89	8.42	0.46	7.50	9.33
04/01/08	8.24	8.42	0.45	7.51	9.33
05/15/08	8.1	8.39	0.51	7.36	9.41

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

CV = 6.12
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* 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 #: DMW / 4-30-08
Toxicant/ Batch#: NaCl / 5608

Test Beginning: Date: 5-6-08 Time: 13:00
Test Ending: Date: 5-10-08 Time: 1000

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	89	Hach	BA
Hardness (mg.L as $CaCO_3$):	97	Hach	BA
Total Ammonia (mg/L as N):	<0.07	Denver	MF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 17-08 / < 24 hours
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT *P.subcapitata* Artemia: Lot # ——
Food Batch: 7-26-07 1-31-08 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 (µmhos/cm) (mmhos/cm) 0 hr / 48 hr	24 hr / 72 hr	48 hr / 96 hr
Control	A	A	5	5	5	8.1		8.1	24.0		24.0	6.2		7.1	0.177		0.182
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.1		8.0	24.2		24.0	7.0		6.9	2.42		3.26
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
2.0	A	A	5	5	5	8.1		8.1	24.3		24.0	7.1		6.9	3.83		4.23
	B	B	5	5	5												
	C	C	5	5	2 3D												
	D	D	5	5	4 1D												
2.5	A	A	5	5	1 4D	8.2		8.1	24.2		24.0	7.0		6.9	4.74		5.31
	B	B	5	5	1 4D												
	C	C	5	5	0 5D												
	D	D	5	5	1 4D												
3.0	A	A	5	5	0 5D	8.2		8.0	24.1		24.0	7.0		6.8#	5.57		6.23
	B	B	5	3 2D	0 3D												
	C	C	5	1 4D	0 1D												
	D	D	5	2 3D	0 2D				24 BA								
4.0	A	A	5	1 4D	0 1D	8.2		8.0	24.0		24.0	7.1		6.4	7.26		7.71
	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
Brad Adcock
James Starks
Michael Faircloth
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: JD
Light Intensity: 50-100 Ft candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.8 max 26.6 mean 26.2
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.8 max 25.6 mean 25.2

000001

PAGE

Comments:

Statistics: Method Spearman-Karber
(48) / 96 hour LC_{50}: 2.19
95% Confidence Interval: lower 2.07 upper 2.32

revised 08/24/06 SP

Appendix C. (continued)



000013

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 H2O / 5.15.08
Toxicant/ Batch#: NaCl / 5.15.08

Test Beginning: Date: 5.15.08 Time: 1300
Test Ending: Date: 5.19.08 Time: 1100

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	20.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	150	Hach	BA
Hardness (mg.L as $CaCO_3$):	141	Hach	BA
Total Ammonia (mg/L as N):	0.07	Denver	MF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 5.15.08 / 12 days
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT *P.subcapitata* Artemia: Lot # 38433
Food Batch: — — 0hr 8:30 24hr — 48hr 8:30 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc.			Number Live			pH (SU)			Temperature (° C)			D.O. (mg/L)			Uncorrected Conductivity µmhos/cm mmhos/cm		
%/L 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	B1	10	10	10	7.7		8.2	24.5		24.3	7.3		7.1	0.274		0.300
	B	B2	10	10	9D		8.1			24.3			6.4			0.306	
	C																
	D																
6	A	B3	10	9D	9	7.7		8.2	24.4		24.5	7.3		7.0	10.8		10.9
	B	B4	10	10	10		8.0			24.2			5.9			10.9	
	C																
	D																
7	A	B5	10	9D	9	7.8		8.2	24.3		24.2	7.4		6.9	13.0		13.2
	B	B6	10	10	10		8.0			24.3			6.0			13.0	
	C																
	D																
8	A	B7	10	7D	6D	7.8		8.1	24.2		24.4	7.4		7.0	14.7		14.8
	B	B8	10	6D	5D		8.0			24.0			5.9			14.5	
	C																
	D																
9	A	B9	10	2D	0D	7.8		8.2	24.1		24.2	7.4		6.8	16.5		16.8
	B	B10	10	3D	1D		8.0			24.0			5.9			16.2	
	C																
	D																
10	A	B11	10	0D	—	7.7		—	24.1		—	7.4		—	18.0		—
	B	B12	10	0D	—		8.0			24.0			5.9			17.8	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD
Recorded by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD

Investigators' Signatures
Laura Davis
Marshall Faircloth
Bree Abel

Loretta C. Wolfe
REVIEWER

Concentrations prepared by: JD
Loading verified by: MF
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.9 max. 26.9 mean 26.4
Incubator # ___ min. ___ max. ___ mean ___
Room B248 min. 24.8 max. 25.6 mean 25.2

Comments:

Statistics: Method: Spearman-Karber
48 / 96 hour LC_{50}: 8.1
95% Confidence Interval: lower 7.86 upper 8.34

Appendix C. (continued)

***Ceriodaphnia dubia* Acute Standard Reference Toxicant Test**

DATE: 5-6-08 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Ceriodaphnia dubia*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	0
1.50	20	0
2.00	20	4
2.50	20	17
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: **2.19**
95% LOWER CONFIDENCE: 2.07
95% UPPER CONFIDENCE: 2.32

***Cyprinella leedsi* Acute Standard Reference Toxicant Test**

DATE: 5-15-08 DURATION: 48 hr TOXICANT: NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
.00	20	1
6.00	20	1
7.00	20	1
8.00	20	9
9.00	20	19
10.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: LC50: **8.10**
95% LOWER CONFIDENCE: 7.86
95% UPPER CONFIDENCE: 8.34

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING. ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.

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: 5/14/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	150 +	11 DAYS	CL080503	25°C	
Pimephales promelas					

Packed by:

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: 5/19/08

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	100	11 days	C1080509	25°C	
Pimephales promelas					

Packed by: mp

Shipped Via: mp

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from Estech, Inc. – Agricola Closed Phosphogypsum Stack Outfall D-001, sampled on May 19, 2008.

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:20	BLANKS	Metals	Mercury	0.12	U	ug/L	0.12	0.5
5/19/2008 10:20	BLANKS	Metals	Iron	30	U	ug/L	30	120
5/19/2008 10:20	BLANKS	Metals	Copper	0.5	U	ug/L	0.5	2
5/19/2008 10:20	BLANKS	Metals	Arsenic	0.5	U	ug/L	0.5	2
5/19/2008 10:20	BLANKS	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/19/2008 10:20	BLANKS	Metals	Zinc	5	U	ug/L	5	20
5/19/2008 10:20	BLANKS	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
5/19/2008 10:20	BLANKS	Metals	Aluminum	60	U	ug/L	60	240
5/19/2008 10:20	BLANKS	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
5/19/2008 10:20	BLANKS	Metals	Lead	0.2	U	ug/L	0.2	0.8
5/19/2008 10:20	BLANKS	Metals	Selenium	0.5	U	ug/L	0.5	2
5/19/2008 10:20	BLANKS	Metals	Chromium	1	U	ug/L	1	4
5/19/2008 10:20	BLANKS	Metals	Calcium	0.075	U	mg/L	0.075	0.3
5/19/2008 10:20	BLANKS	Metals	Nickel	0.25	U	ug/L	0.25	1
5/19/2008 10:20	BLANKS	Metals	Sodium	0.5	U	mg/L	0.5	2
5/19/2008 10:20	BLANKS	Nutrients	Fluoride	0.05	U	mg F/L	0.05	0.1
5/19/2008 10:20	BLANKS	Nutrients	Turbidity	0.1	U	NTU	0.1	0.1
5/19/2008 10:20	BLANKS	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
5/19/2008 10:20	BLANKS	Nutrients	TSS	4	U	mg/L	4	16
5/19/2008 10:20	BLANKS	Nutrients	Cyanide	0.005	U	mg CN/L	0.005	0.02
5/19/2008 10:20	BLANKS	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
5/19/2008 10:20	BLANKS	Nutrients	Sulfate	0.2	U	mg SO4/L	0.2	0.5
5/19/2008 10:20	BLANKS	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
5/19/2008 10:20	BLANKS	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
5/19/2008 10:20	BLANKS	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
5/19/2008 10:20	BLANKS	Overflow	Alpha-Counting Error	0.4		pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Alpha, Total	0.6	U	pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Radium 228	0.8	U	pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Radium 228-Counting Error	0.5		pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Radium 226	0.2		pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Radium 226-Counting Error	0.1		pCi/L		
5/19/2008 10:20	BLANKS	Overflow	Oil and Grease	1.7	U	mg/L	1.7	5
5/19/2008 10:20	BLANKS	Pesticides	Alachlor	0.58	U	ug/L	0.58	2.3

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:20	BLANKS	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
5/19/2008 10:20	BLANKS	Pesticides	Chlorpyrifos Methyl	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Metolachlor	0.48	U	ug/L	0.48	1.9
5/19/2008 10:20	BLANKS	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
5/19/2008 10:20	BLANKS	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
5/19/2008 10:20	BLANKS	Pesticides	Diazinon	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
5/19/2008 10:20	BLANKS	Pesticides	Fonofos	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
5/19/2008 10:20	BLANKS	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Ethoprop	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
5/19/2008 10:20	BLANKS	Pesticides	Parathion Methyl	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
5/19/2008 10:20	BLANKS	Pesticides	Naled	0.77	U	ug/L	0.77	3.1
5/19/2008 10:20	BLANKS	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
5/19/2008 10:20	BLANKS	Pesticides	Hexazinone	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
5/19/2008 10:20	BLANKS	Pesticides	Metribuzin	0.096	U	ug/L	0.096	0.38
5/19/2008 10:20	BLANKS	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
5/19/2008 10:20	BLANKS	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Pesticides	Phorate	0.048	U	ug/L	0.048	0.19
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Heptachlor epoxide	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Hexachloroethane	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Pentachlorophenol	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Phenanthrene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	3,3'-Dichlorobenzidine	43	UJ	ug/L	43	170
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Diethyl phthalate	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Dimethyl phthalate	11	U	ug/L	11	43
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Endosulfan I	4.3	U	ug/L	4.3	17
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Endosulfan II	4.3	U	ug/L	4.3	17

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Endrin	1.6	UJ	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	delta-BHC	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	gamma-BHC	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	1,2,4-Trichlorobenzene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,6-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4-Chloro-3-methylphenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Acenaphthene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Di-n-butyl phthalate	5.4	U	ug/L	5.4	22
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Endrin aldehyde	4.3	U	ug/L	4.3	17
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Fluoranthene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Hexachlorobutadiene	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Phenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,4-Dinitrophenol	16	U	ug/L	16	65
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2-Chlorophenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2-Nitrophenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4,4'-DDD	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzo(k)fluoranthene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	16	U	ug/L	16	65
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Chrysene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Di-n-octyl phthalate	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Fluorene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Hexachlorocyclopentadiene	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Isophorone	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Pyrene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	beta-BHC	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4,4'-DDT	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Acenaphthylene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Endosulfan sulfate	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2.2	U	ug/L	2.2	8.6
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2.2	U	ug/L	2.2	8.6
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzo(b)fluoranthene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Butyl benzyl phthalate	5.4	U	ug/L	5.4	22

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	alpha-BHC	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,4-Dichlorophenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,4-Dimethylphenol	11	U	ug/L	11	43
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4-Nitrophenol	16	U	ug/L	16	65
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzidine	110	U	ug/L	110	430
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzo(a)pyrene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzo(g,h,i)perylene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Dibenzo(a,h)anthracene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Dieldrin	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Nitrobenzene	2.2	U	ug/L	2.2	8.6
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4,4'-DDE	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	4-Bromophenyl phenyl ether	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Aldrin	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Bis(2-chloroethyl)ether	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Heptachlor	1.6	U	ug/L	1.6	6.5
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Hexachlorobenzene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	N-Nitrosodimethylamine	2.2	U	ug/L	2.2	8.6
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Naphthalene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,4,6-Trichlorophenol	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2,4-Dinitrotoluene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2-Chloronaphthalene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	3.2	U	ug/L	3.2	13
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Anthracene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:20	BLANKS	Priority Organic Pollutants	Benzo(a)anthracene	1.1	U	ug/L	1.1	4.3
5/19/2008 10:30	Estech	AGP/LN	Algal Growth Potential	8.28	A	mg DryWt/L	0.3	0.9
5/19/2008 10:30	Estech	Chlorophyll/Grain Size/BOD	Phaeophytin-a	5.5		ug/L	0.24	0.71
5/19/2008 10:30	Estech	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	15		ug/L	0.55	1.7
5/19/2008 10:30	Estech	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
5/19/2008 10:30	Estech	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
5/19/2008 10:30	Estech	Metals	Mercury	0.12	U	ug/L	0.12	0.5
5/19/2008 10:30	Estech	Metals	Aluminum	480		ug/L	60	240
5/19/2008 10:30	Estech	Metals	Arsenic	2.8		ug/L	0.5	2
5/19/2008 10:30	Estech	Metals	Sodium	86.2		mg/L	0.5	2
5/19/2008 10:30	Estech	Metals	Zinc	5	U	ug/L	5	20
5/19/2008 10:30	Estech	Metals	Cadmium	0.02	U	ug/L	0.02	0.08

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:30	Estech	Metals	Iron	110	I	ug/L	30	120
5/19/2008 10:30	Estech	Metals	Magnesium	111		mg/L	0.2	0.8
5/19/2008 10:30	Estech	Metals	Calcium	136		mg/L	0.075	0.3
5/19/2008 10:30	Estech	Metals	Chromium	1	U	ug/L	1	4
5/19/2008 10:30	Estech	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/19/2008 10:30	Estech	Metals	Selenium	0.5	U	ug/L	0.5	2
5/19/2008 10:30	Estech	Metals	Lead	0.27	I	ug/L	0.2	0.8
5/19/2008 10:30	Estech	Metals	Copper	0.5	U	ug/L	0.5	2
5/19/2008 10:30	Estech	Metals	Nickel	1.23		ug/L	0.25	1
5/19/2008 10:30	Estech	Nutrients	Chloride	34		mg Cl/L	2	10
5/19/2008 10:30	Estech	Nutrients	Turbidity	9.9		NTU	0.1	0.1
5/19/2008 10:30	Estech	Nutrients	Color	50		PCU	5	5
5/19/2008 10:30	Estech	Nutrients	NO2NO3-N	0.006	I	mg N/L	0.004	0.01
5/19/2008 10:30	Estech	Nutrients	Kjeldahl Nitrogen	1.3		mg N/L	0.08	0.2
5/19/2008 10:30	Estech	Nutrients	TSS	11	I	mg/L	4	16
5/19/2008 10:30	Estech	Nutrients	Ammonia-N	0.05		mg N/L	0.01	0.02
5/19/2008 10:30	Estech	Nutrients	Fluoride	4.8		mg F/L	0.05	0.1
5/19/2008 10:30	Estech	Nutrients	Sulfate	550		mg SO4/L	2	5
5/19/2008 10:30	Estech	Nutrients	Cyanide	0.005	UJ	mg CN/L	0.005	0.02
5/19/2008 10:30	Estech	Nutrients	Total-P	4.4		mg P/L	0.1	0.3
5/19/2008 10:30	Estech	Overflow	Alpha-Counting Error	1.4		pCi/L		
5/19/2008 10:30	Estech	Overflow	Radium 226	0.5		pCi/L		
5/19/2008 10:30	Estech	Overflow	Alpha, Total	4.2		pCi/L		
5/19/2008 10:30	Estech	Overflow	Radium 226-Counting Error	0.1		pCi/L		
5/19/2008 10:30	Estech	Overflow	Radium 228	0.8		pCi/L		
5/19/2008 10:30	Estech	Overflow	Radium 228-Counting Error	0.5		pCi/L		
5/19/2008 10:30	Estech	Overflow	Oil and Grease	1.7	U	mg/L	1.7	5
5/19/2008 10:30	Estech	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
5/19/2008 10:30	Estech	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/19/2008 10:30	Estech	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/19/2008 10:30	Estech	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:30	Estech	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
5/19/2008 10:30	Estech	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
5/19/2008 10:30	Estech	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
5/19/2008 10:30	Estech	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
5/19/2008 10:30	Estech	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
5/19/2008 10:30	Estech	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
5/19/2008 10:30	Estech	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
5/19/2008 10:30	Estech	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
5/19/2008 10:30	Estech	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
5/19/2008 10:30	Estech	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
5/19/2008 10:30	Estech	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
5/19/2008 10:30	Estech	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Dimethyl phthalate	9.8	U	ug/L	9.8	39
5/19/2008 10:30	Estech	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Hexachlorobenzene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2-Nitrophenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Anthracene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
5/19/2008 10:30	Estech	Priority Organic Pollutants	Fluorene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
5/19/2008 10:30	Estech	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzo(k)fluoranthene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Chrysene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Isophorone	0.98	U	ug/L	0.98	3.9

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:30	Estech	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	7.8
5/19/2008 10:30	Estech	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	7.8
5/19/2008 10:30	Estech	Priority Organic Pollutants	Phenanthrene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	Acenaphthylene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzo(a)anthracene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	Pyrene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,4-Dimethylphenol	9.8	U	ug/L	9.8	39
5/19/2008 10:30	Estech	Priority Organic Pollutants	2-Chloronaphthalene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Acenaphthene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	20
5/19/2008 10:30	Estech	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	20
5/19/2008 10:30	Estech	Priority Organic Pollutants	Di-n-octyl phthalate	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Diethyl phthalate	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Endrin	1.5	UJ	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Fluoranthene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,4-Dichlorophenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,6-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2-Chlorophenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	7.8
5/19/2008 10:30	Estech	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/19/2008 10:30	Estech	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	59
5/19/2008 10:30	Estech	Priority Organic Pollutants	2,4-Dinitrotoluene	0.98	U	ug/L	0.98	3.9

Appendix E. (continued)

Date Sampled	Sample ID	Analysis Group	Components	Results	Remarks	Units	MDL	PQL
5/19/2008 10:30	Estech	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzidine	98	U	ug/L	98	390
5/19/2008 10:30	Estech	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	59
5/19/2008 10:30	Estech	Priority Organic Pollutants	Phenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzo(a)pyrene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Benzo(b)fluoranthene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
5/19/2008 10:30	Estech	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3.9	16
5/19/2008 10:30	Estech	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	7.8
5/19/2008 10:30	Estech	Priority Organic Pollutants	Naphthalene	0.98	U	ug/L	0.98	3.9
5/19/2008 10:30	Estech	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	59
5/19/2008 10:30	Estech	Field Parameter	Dissolved Oxygen	7.07		mg/L		
5/19/2008 10:30	Estech	Field Parameter	pH	7.91				
5/19/2008 10:30	Estech	Field Parameter	Specific Conductance	1572		umhos/cm		
5/19/2008 10:30	Estech	Field Parameter	Temperature	26.96		C		

Appendix F. Toxicity Meter ID:

FDEP Biology Laboratory - Bioassay Instrument Identification

Test ID: Estech, Inc. – Agricola Closed Phosphogypsum Stack

Test Dates: May 13-17, 20-22, 2008

SRT Dates: May 6-10, 15-19, 2008

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

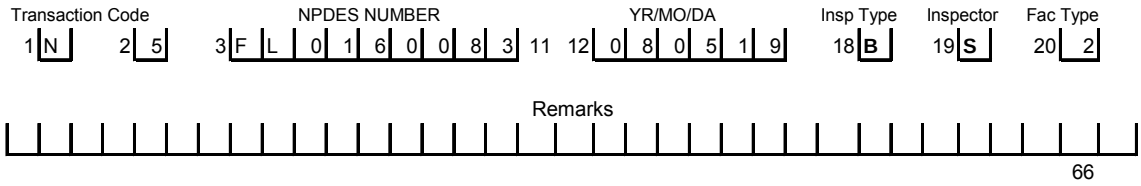
SM-2530B modified to allow use electronic and non-mercury filled thermometers.
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Comments:

V 1.4 8/1/08 BA

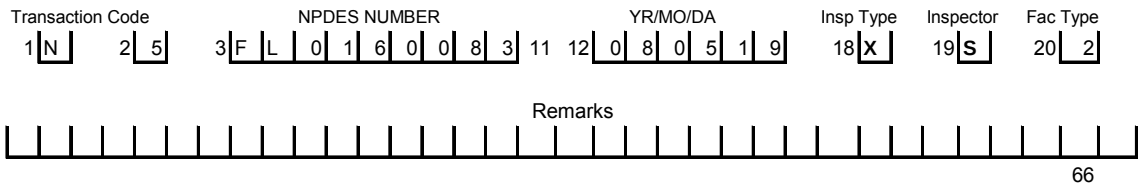
The Bioassay of Estech, Inc. - Agricola Closed Phosphogypsum Stack effluent sampled on May 19, 2008. NPDES #FL0160083.

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



The Priority Pollutants Analysis of Estech, Inc. - Agricola Closed Phosphogypsum Stack effluent sampled on May 19, 2008. NPDES #FL0160083.

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



Biological Analyses of Estech, Inc. - Agricola Closed Phosphogypsum Stack effluent sampled on May 19, 2008. NPDES #FL0160083.

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

