

Effluent Quality Assessment of

Palm Beach Aggregates Sand/Limestone Mine

Palm Beach County

NPDES #FL0169081

Sampled May 14, 2007

August 2007
(Resubmitted March 2011 with corrected tables)

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Palm Beach Aggregates Sand/Limestone Mine, 20125 SR 80, Loxahatchee, Palm Beach County, Florida, 33470, NPDES #FL0169081. Effluent samples for this facility were collected on May 14, 2007.

Introduction

The Palm Beach Aggregates Sand/Limestone Mine facility is engaged in the mining of limestone and other aggregates used for various construction purposes and cement-concrete manufacturing. The agricultural and other commercial operations including sod farming, sugar cane and vegetable farming have been discontinued. The facility encompasses a 1,780.6 hectare (4,400 acres) property. The facility mines approximately 100 acres annually, with mine pits excavated to a depth of around 12.2 m (40 feet). Treatment of wastewater (non-process mine pit dewatering water and process wastewater) is provided primarily by settling through detention in the storage pits and the process pits. Effluent from the storage and process pits is pumped into the facility's canal system and flows to Outfall D-001 when discharging. The facility has flow limits of 6.48 million gallons per day (MGD) maximum daily discharge and 2.1 MGD average daily flow through Outfall D-001 to the Class III freshwaters of the SFWMD C-51 Canal. Surface water discharge has not occurred since 2003. Outfall D-001 is located approximately at 26º 41' 10" N, longitude 80º 22' 49" W.

The facility has no Administrative Orders or Consent Orders. The facility has no mixing zones or toxicity testing requirements. A review of Discharge Monitoring Report (DMR) data for the past year revealed that the facility was operating satisfactorily and had no permit violations. (Facility information provided by Meghna Pandya of FDEP Southeast District).

Methods

Due to access problems at the EFF-1 NPDES sampling point (discharge structure to Canal C-51 at southwest corner of property) for Outfall D-001, samples were collected up-canal (non-flowing) from the NPDES sampling point by Terry Davis (FDEP Southeast 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_01, 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. The Department uses the 48-hour acute screening toxicity test to provide reasonable assurance that the facility does not adversely affect waters of the state.

Toxicity Test Results

Tests were performed May 15 - 17, 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 reasonable assurance 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% provides reasonable assurance 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

The effluent Algal Growth Potential (AGP) was 2.4 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 ratio of total nitrogen to total phosphorus suggests that the effluent is limited by phosphorus, whereas the ratio of inorganic nitrogen to ortho-phosphate suggests that the effluent is nitrogen-limited. The predicted AGP based on inorganic nitrogen and ortho-phosphate concentrations were 5.6 (±20%) mg dry wt/L and 16.3 (±20%) mg dry wt/L, respectively (Table 1; Miller et al. 1978).

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and 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 0.078 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was less than 0.02 mg/L.

Due to the lack of background specific conductance data, it could not be determined whether or not effluent specific conductance (1,520 µmhos/cm) exceeded either the permit limit or Class III fresh water quality criterion (the greater of 1,275 µmhos/cm or 1.5 times the background specific conductance). However, the facility would not have been in violation of the permit limit because the facility was not discharging.

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

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.

Conclusion

The effluent sample collected before the EFF-01 NPDES sampling point for Outfall D-001 for this facility on May 14, 2007, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result was less than the "problem" threshold for fresh receiving waters. Effluent specific conductance, although potentially exceeding permit limits, did not violate permit conditions due to lack of discharge. Other water quality measurements did not exceed any applicable water quality standards or violate any permit conditions.

Literature Cited

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

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

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN), orthophosphate (OP), total nitrogen (TN) and total phosphorus (TP) limitation of the freshwater species *Pseudokirchneriella subcapitata,* and ratios of the nitrogen to phosphorus for samples collected from the Palm Beach Aggregates Sand/Limestone Mine facility on May 14, 2007.

Palm Beach Aggregates Sand/Limestone Mine							
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (OP) ± 20%	Predicted AGP (TN) ± 20%	Predicted AGP (TP) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	2.4	5.6 ± 1.1	16.3 ± 3.3	82.4 ± 16.5	47.3 ± 9.5	3.9	19.7

Table 2. Effluent limits, Class III Freshwater Criteria, and chemical data for samples collected from the Palm Beach Aggregates Sand/Limestone Mine facility on May 14, 2007.

Palm Beach Aggregates Sand/Limestone Mine NPDES# FL0169081	**Class III Fresh Stds**	**Effluent Limits**	**Effluent**	
Organic Constituents (µg/L)				
Atrazine	-	-	0.3	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	513	
Arsenic	≤ 50	-	4.1	
Cadmium	≤ 0.65 b	-	0.02	U
Calcium (mg/L)	-	-	89.6	
Chromium-III	≤ 225.59 b	-	1.2	I
Copper	≤ 25.46 b	-	0.53	I
Iron	≤ 1,000	-	263	
Lead	≤ 14.20 b	-	0.29	I
Magnesium (mg/L)	-	-	24.3	
Nickel	≤ 140.95 b	-	1.86	
Selenium	≤ 5.0	-	2.2	
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 324.24 b	-	5	U
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.038	
Total Phosphorus	-	-	0.11	
Total Ammonia	-	-	0.078	
Un-ionized Ammonia	≤ 0.02 s	-	< 0.02	c
Nitrate and Nitrite	-	-	0.069	
Total Kjeldahl Nitrogen	-	-	2.1	
Organic Nitrogen	-	-	2.022	c
Total Nitrogen	-	-	2.169	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0 s	7.2	£
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	6.9	
Conductivity (µmhos/cm)	≤ 1,275	≤ 1,275 s	1,520	
Temperature °C	-	-	27.6	
Total Residual Chlorine (mg/L)	≤ 0.01	-	< 0.03	UQ£
Turbidity (NTU)	< 29 t	< 29 ts	24	
Chloride (mg/L)	-	Report	250	J
Alpha, Total (pCi/L)	≤ 15	≤ 15 s	12.6	
Alpha-Counting Error (pCi/L)	-	-	1.7	
Radium 226 (pCi/L)	-	-	1.7	
Radium 226-Counting Error (pCi/L)	-	-	0.4	
Radium 228 (pCi/L)	-	-	1	U
Radium 228-Counting Error (pCi/L)	-	-	0.7	
Radium 226 + 228 (pCi/L)	≤ 5.0	≤ 5.0 s	1.7	c
Flow (MGD)	-	6.48 m	-	
Hardness (mg $CaCO_3$)	-	-	323.80	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
m - daily maximum
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
J - Estimated value
Q - Sample held beyond normal holding time
U - Material analyzed for but not detected; value reported is the method detection limit
£ - Bioassay laboratory measurement

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID * SE-DIST-2007-05-15-01 (FY13)

Request Number: RQ-2007-05-14-22
Palm Beach Aggregates Sand/Limestone Mine

Requester: Shannan Bogdanov
Field Report Prepared By: T Davis

Customer: SE-DIST
Collected By: J. Davis
Send Final Report To: Terry Davis or Bill Theil

Project ID: FYI3
Sampling Agency: SE.D

PMAS: 1143

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	D-001	☐ Comp ☒ Grab Date 5/14/07 Time 1035 Eastern Central	Date Time Eastern Central	
	Field ID: SI-PBA-1	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Water, Fresh	Temp (C): 29.64 pH: 6.89	Sample Depth: .01 ☐ m ☒ ft	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 1520 NPDES Number
	Latitude o ' "	Longitude o ' "	Comments: Hrs Bdl Ftf = 36 Pres = HNO_3 or H_2SO_4 = <2	

Lab ID *	Location	Collection (begin)	Collection (end)	Bottle Group(s)**
	Blank	☐ Comp ☒ Grab Date 5/14/07 Time 1050 Eastern Central	Date Time Eastern Central	
	Field ID: SI-PBA-2	Tot Res Chlorine (mg/L) / Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Water, De Ie	Temp (C) pH	Sample Depth: .01 ☐ m ☒ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments: Pres = HNO_3 or H_2SO_4 = <2	

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	

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 bigassy 1066 5/15/07 Jenna Davis	

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T Davis	5/14/07 1250	DHL	[illegible]	5/15/07 08:30				

* 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: Palm Beach Aggregates Sand-limestone mine

Address: 501 Seabreeze Blvd.

City: Ft. Lauderdale County: Broward ZIP 33316

Contact/District: Terry Davis / Southeast District

NPDES Permit #: FL 0021512

LIMS Job #: TCH-2007-05-15-17-01 LIMS Sample #: 1009155

Lims Data Entry: 5-18-07 MF Data Entry Verification: 5.18.07 J.D.

Sample Collection: Date: 5/14/07 Time: 1035

Hold Time Start: Date: 5/14/07 Time: 1035

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) 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. 25.9 max. 26.1 mean 26.0

Incubator # ____ min. ____ max. ____ mean ____

Room B246 min. 25.1 max. 26.5 mean 25.9

Investigators' Signatures

Jenna Daniels

Patsy Vichaivel

Marshall Faircloth

Nigel Wellendorf

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				<0.03	HACH	PPV	MF
Alkalinity (mg/L as $CaCO_3$):	83	143				235	HACH	PPV	MF
Hardness (mg/L as $CaCO_3$):	92	144				255	HACH	PPV	MF
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	MF	JD
Salinity (ppth):	<1	<1				<1	YSI / (Mettler)	MF	JD

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1009155 **Test #:** 1/2 **SOP#:TA 07** 01 **Test Started:** Date 5-15-07 Time: 1205

Organism/Batch/Age: C. dubia / <24 HR. / A-07 **Test Ended:** Date 5-17-07 Time: 1210

Chamber/Test Volume: 30 / 20 ml **Diluent/ Batch:** 20% DMW 5-14-07

Food/Batch: YCT 1-7-07 P.sub 1-07 Artemia 0hr — 24hr — 48hr — 72hr — Artemia Lot# —

Feeding: Prior to Test (circled) 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: MF/JJ		Checked by:	JJ	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: 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 #: 1009155 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 5/15/07 Time: 1145
Organism/Batch/Age: C.leads / 13 DAYS / 5-15-07 Test Ended: Date 5.17.07 Time: 1300
Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: WELL / 5-14-07
Food/Batch: YCT — P.sub — Artemia 0hr 6-1-07 24hr____ 48hr____ 72hr____ Artemia Lot# GSL-53690
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	B1	5	5	5			
	B	B2	5	5	5			
	C	B3	5	5	5			
	D	B4	5	5	5			
100%	A	B5	5	5	5			
	B	B6	5	5	5			
	C	B7	5	5	5			
	D	B8	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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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1009155 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			
pH (S.U.)	8.2		8.1			
Temperature °C	25.2		25.0			
Dissolved Oxygen mg/L	7.7		8.0			
Conductivity (µmhos) mmhos	176		205			
(initials) Measured by:	MF		MF			
(initials) Recorded by:	MF		MF			

Comments:

Concentration 100 %	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A			
pH (S.U.)	7.8		8.4			
Temperature °C	25.5		24.9			
Dissolved Oxygen mg/L	7.2		8.2			
Conductivity (µmhos) mmhos	1464		1518			
(initials) Measured by:	MF		MF			
(initials) Recorded by:	MF		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 # : 1009155 **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.)	7.8	8.2	8.4			
Temperature °C	24.6	24.6	24.8			
Dissolved Oxygen mg/L	7.7	7.0	8.2			
Conductivity (µmhos) mmhos	265	288	285			
(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.)	7.9	8.3	8.5			
Temperature °C	25.9	24.6	24.9			
Dissolved Oxygen mg/L	6.9	7.2	7.9			
Conductivity (µmhos) mmhos	1475	1449	1509			
(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

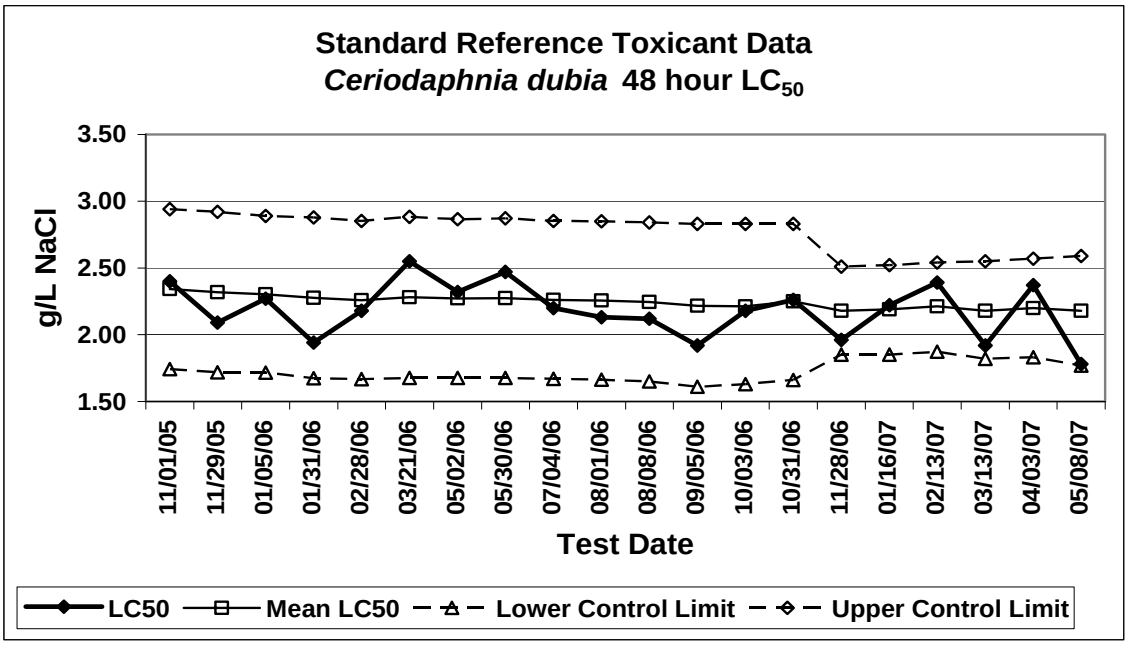
Florida Department of Environmental Protection
Bureau of Laboratories

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
11/01/05	2.40	2.34	0.30	1.74	2.94
11/29/05	2.09	2.32	0.30	1.72	2.92
01/05/06	2.27	2.30	0.29	1.72	2.89
01/31/06	1.94	2.28	0.30	1.67	2.88
02/28/06	2.18	2.26	0.30	1.67	2.85
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	2.22	0.30	1.61	2.83
10/03/06	2.18	2.21	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	2.21	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

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

CV = 9.63
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

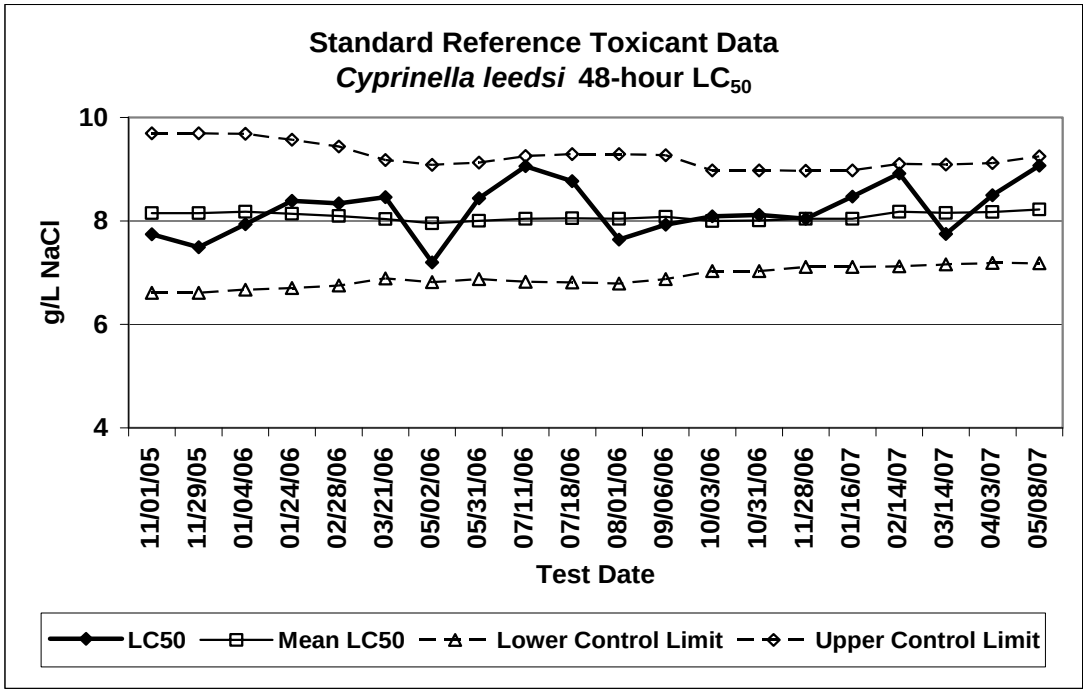
Florida Department of Environmental Protection
Bureau of Laboratories

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
11/01/05	7.74	8.15	0.77	6.61	9.69
11/29/05	7.49	8.15	0.77	6.61	9.69
01/04/06	7.94	8.18	0.75	6.67	9.68
01/24/06	8.39	8.14	0.72	6.71	9.57
02/28/06	8.34	8.09	0.67	6.75	9.44
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	0.48	7.11	8.98
02/14/07	8.92	8.18	0.50	7.12	9.10
03/14/07	7.75	8.16	0.50	7.16	9.09
04/03/07	8.50	8.17	0.49	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25

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

CV = 6.33
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 14-30-07
Toxicant/ Batch#: NaCl 15-8-07

Test Beginning: Date: 5-8-07 Time: 13:40
Test Ending: Date: 5-12-07 Time: 1030

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	40.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	89	Hach	PPV
Hardness (mg.L as $CaCO_3$):	95	Hach	PPV
Total Ammonia (mg/L as N):	40.017	Denver	PPV
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 18-07 / < 24HR.
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT / *R.subcapitata* Artemia: Lot # —
Food Batch: 2-7-07 1-7-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc. µg/L (mg/L)	Rep.	Chamber #	Number Live 0 hr	24 hr	48 hr	pH (SU) 0 hr	24 hr	48 hr	Temperature (°C) 0 hr	24 hr	48 hr	D.O. (mg/L) 0 hr	24 hr	48 hr	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr	24 hr	48 hr
			~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~	~~48 hr~~	~~72 hr~~	~~96 hr~~
Control	A	A	A5	5	5	8.2		8.1	24.9		24.7	7.7		7.5	0.175		0.195
	B	B	B5	5	5												
	C	C	C5	5	5												
	D	D	D5	5	5												
1.5g/L	A	A	A5	5	4 1D	8.1		8.1	24.6		24.6	7.4		7.5	2.93		3.23
	B	B	B5	5	3 2D												
	C	C	C5	4 4D	5												
	D	D	D5	5	5												
2.0	A	A	A5	5	1 4D	8.1		8.1	24.8		24.3	7.3		7.5	3.86		4.12
	B	B	B5	5	1 4D												
	C	C	C5	4 1D	2 2D												
	D	D	D5	4 1D	1 3D												
2.5	A	A	A5	3 2D	1 2D	8.1		8.1	24.8		24.2	7.3		7.6	4.74		5.05
	B	B	B5	5	0 5D												
	C	C	C5	5	0 5D												
	D	D	D5	3 2D	0 5D												
3.0	A	A	A5	0 5D	—	8.0		—	24.8		—	7.4		—	5.54		5.48 MF
	B	B	B5	1 4D	0 1D			8.1			24.0			7.5			5.98
	C	C	C5	1 4D	0 1D												
	D	D	D5	1 4D	0 1D												
4.0	A	A	5	1 4D	0 1D	8.1		8.1	24.7		23.9	7.4		7.3	7.28		7.73
	B	B	5	0 5D													
	C	C	5	0 5D													
	D	D	5	0 5D													
	A		Chamber ID written in														
	B		Survival Column in														
	C			MF for BA 5/21/07													
	D																
Loaded / measured by:			BA	BA	MF	BA		MF	BA		MF	BA		MF	BA		MF
Recorded by:			BA	BA	MF	BA		MF	BA		MF	BA		MF	BA		MF

Investigators' Signatures
Tara Daniels
Kathy VicHaikul
Bruce Ibsen
Marshall Faircloth
Nicole Wellendorf
REVIEWER

Concentrations prepared by: BA
Loading verified by: PPV
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.5 max 25.9 mean 25.7
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.6 max 26.1 mean 25.2

Comments:

Statistics: Method: Spearman-Karber
(48) 96 hour LC_{50}: 1.78
95% Confidence Interval: lower 1.66 upper 1.91

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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 2 of 2

Diluent/ Batch #: DMW 14-30-07
Toxicant/ Batch#: NaCl 15-807

Test Beginning: Date: 5/8/07 Time: 1340
Test Ending: Date: 5-12-07 Time: 1030

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	40.03	Hach	~~PPV~~
Alkalinity (mg/L as $CaCO_3$):	89	Hach	~~PPV~~
Hardness (mg.L as $CaCO_3$):	95	Hach	~~PPV~~
Total Ammonia (mg/L as N):	40.07	Denver	~~PPV~~
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 18-07 / < 24 HR.
Feeding: Prior to test / Prior to renewal / Daily
Food: YCT / *S.subcapitata* Artemia: Lot # —
Food Batch: 2-7-07 1-7-07 0hr — 24hr — 48hr — 72hr —
Chamber size: 30 mL
Test volume: 20 mL per replicate

48hr is → After Renewal at 48 hours MF 5-10-07

Conc. 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	8.3	—	8.1	24.3	—	24.4	7.8	—		0.180	—	0.182
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	4	4	4	8.1	—	7.7	24.6	—	24.1	7.5	—		2.90	—	3.11
	B	B	3	2 1D	2												
	C	C	5	4 1D	4												
	D	D	5	5	5												
2.0	A	A	1	0 1D		8.1	8.1		24.6	25.3		7.5	7.5		3.85	3.91	
	B	B	1	0 1D													
	C	C	2	0 2D													
	D	D	1	0 1D													
2.5	A	A	1	0 1D		8.1	8.1		24.5	25.0		7.6	7.7		4.62	4.68	
	B	B	—														
	C	C	—														
	D	D	—														
3.0	A	A															
	B	B															
	C	C															
	D	D															
4.0	A	A															
	B	B															
	C	C															
	D	D															
	A																
	B																
	C																
	D																
Loaded / measured by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF
Recorded by:			MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF	MF

Investigators' Signatures
James Daniels
~~Basil V. Grainger~~
Bruce Rountree
Marshall Faircloth
Nigel Wellendorf
REVIEWER

Concentrations prepared by: BA
Loading verified by: ✓
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.5 max. 25.8 mean 25.7
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 24.0 max. 26.1 mean 25.3

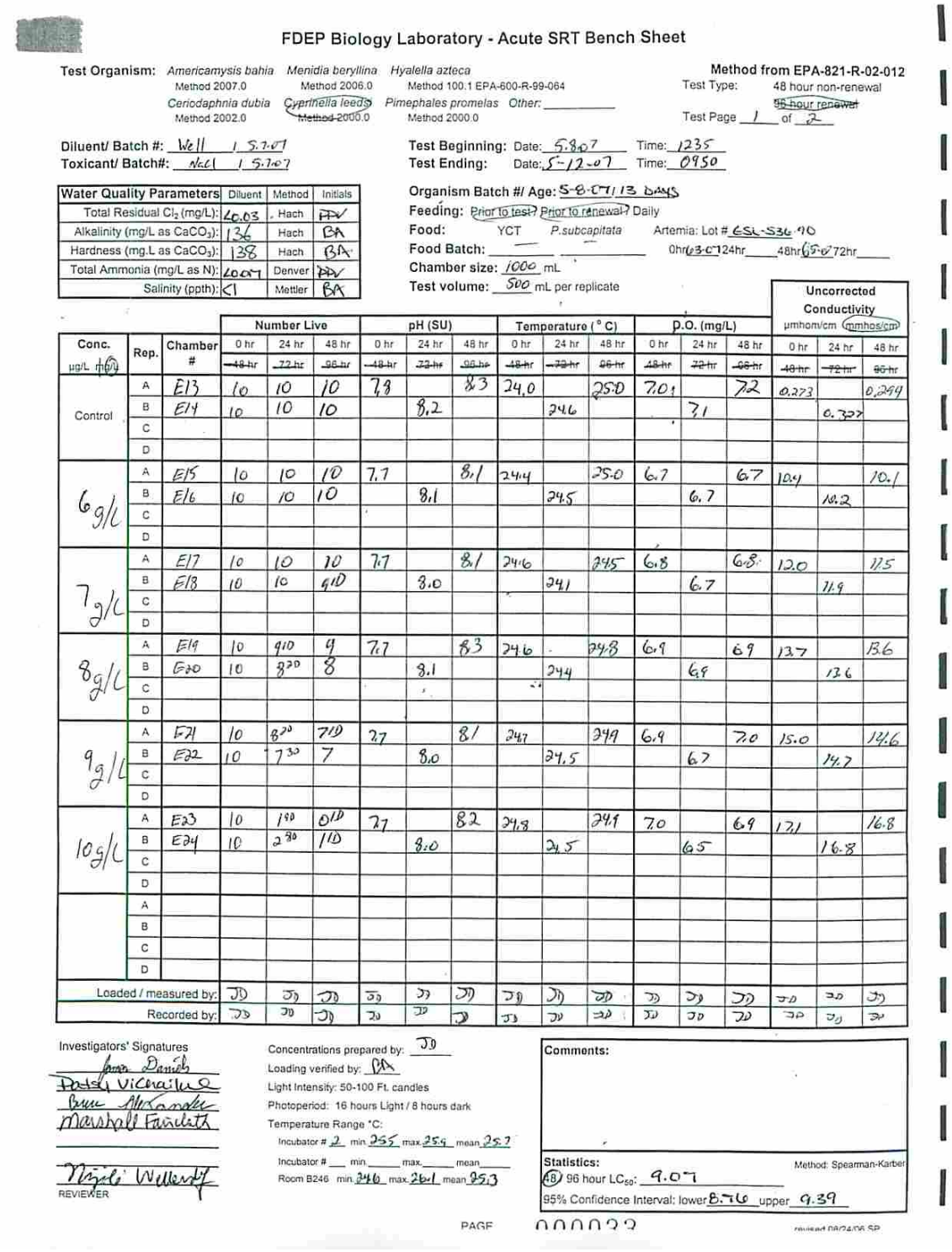
Comments:
PROGRAM SAID CONFIDENCE LEVELS ARE NOT RELIABLE. ~~PPV~~ 5/14/07

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 1.65
95% Confidence Interval: lower — upper —

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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 #: Well 1 5.7.07

Toxicant/ Batch#: NaCl 1 5.7.07

Test Beginning: Date: 5.8.07 Time: 1235

Test Ending: Date: 5-12-07 Time: 0950

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	40.03	Hach	PPV
Alkalinity (mg/L as $CaCO_3$):	136	Hach	BA
Hardness (mg.L as $CaCO_3$):	138	Hach	BA
Total Ammonia (mg/L as N):	40.04	Denver	PPV
Salinity (ppth):	<1	Mettler	BA

Organism Batch #/ Age: 5-8-07/ 13 DAYS

Feeding: ~~Prior to test?~~ ~~Prior to renewal?~~ Daily

Food: YCT P.subcapitata Artemia: Lot # ESL-S36 90

Food Batch: _____ _____ 0hr 63-07 24hr ____ 48hr 65-07 72hr ____

Chamber size: 1000 mL

Test volume: 500 mL per replicate

Conc. µg/L ~~mg/L~~	Rep.	Chamber #	Number Live 0 hr ~~48 hr~~	Number Live 24 hr ~~72 hr~~	Number Live 48 hr ~~96 hr~~	pH (SU) 0 hr ~~48 hr~~	pH (SU) 24 hr ~~72 hr~~	pH (SU) 48 hr ~~96 hr~~	Temperature (°C) 0 hr ~~48 hr~~	Temperature (°C) 24 hr ~~72 hr~~	Temperature (°C) 48 hr ~~96 hr~~	D.O. (mg/L) 0 hr ~~48 hr~~	D.O. (mg/L) 24 hr ~~72 hr~~	D.O. (mg/L) 48 hr ~~96 hr~~	Uncorrected Conductivity µmhom/cm (mmhos/cm) 0 hr ~~48 hr~~	Uncorrected Conductivity 24 hr ~~72 hr~~	Uncorrected Conductivity 48 hr ~~96 hr~~
Control	A	E13	10	10	10	7.8		8.3	24.0		25.0	7.0		7.2	0.273		0.294
	B	E14	10	10	10		8.2			24.6			7.1			0.327	
	C																
	D																
6 g/L	A	E15	10	10	10	7.7		8.1	24.4		25.0	6.7		6.7	10.4		10.1
	B	E16	10	10	10		8.1			24.5			6.7			10.2	
	C																
	D																
7 g/L	A	E17	10	10	10	7.7		8.1	24.6		24.5	6.8		6.8	12.0		11.5
	B	E18	10	10	9D		8.0			24.1			6.7			11.9	
	C																
	D																
8 g/L	A	E19	10	9D	9	7.7		8.3	24.6		24.8	6.9		6.9	13.7		13.6
	B	E20	10	8D	8		8.1			24.4			6.9			13.6	
	C																
	D																
9 g/L	A	E21	10	8D	7D	7.7		8.1	24.7		24.9	6.9		7.0	15.0		14.6
	B	E22	10	7D	7		8.0			24.5			6.7			14.7	
	C																
	D																
10 g/L	A	E23	10	10D	0D	7.7		8.2	24.8		24.9	7.0		6.9	17.1		16.8
	B	E24	10	2D	1D		8.0			24.5			6.5			16.8	
	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

Jason Daniels

Patsy Vicinelli

Jane Alexander

Marshall Faircloth

_____

Nicole Wellenkf

REVIEWER

Concentrations prepared by: JD

Loading verified by: BA

Light Intensity: 50-100 Ft. candles

Photoperiod: 16 hours Light / 8 hours dark

Temperature Range °C:

Incubator # 2 min. 25.5 max. 25.9 mean 25.7

Incubator # ___ min. _____ max. _____ mean _____

Room B246 min. 24.6 max. 26.1 mean 25.3

Comments:

Statistics: Method: Spearman-Karber

(AB) 96 hour LC_{50}: 9.07

95% Confidence Interval: lower 8.76 upper 9.39

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revised 09/24/06 SP

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 2 of 2

Diluent/ Batch #: Vcl / 5.7.07
Toxicant/ Batch#: NaCl / 5.7.07

Test Beginning: Date: 5807 Time: 1235
Test Ending: Date: 5-12-07 Time: 0950

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	~~PPV~~
Alkalinity (mg/L as $CaCO_3$):	136	Hach	BA
Hardness (mg.L as $CaCO_3$):	138	Hach	BA
Total Ammonia (mg/L as N):	0.017	Denver	PPV
Salinity (ppth):	21	Mettler	BA

Organism Batch #/ Age: 5-8-07/ 15 DAYS
Feeding: ~~Prior to test~~ / Prior to renewal / Daily
Food: YCT *P.subcapitata* Artemia: Lot # GSL 536 90
Food Batch: _____ _____ 0hr 6.5.07 24hr ____ 48hr 6.5.07 72hr ____
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. 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	E13	10	10	10	8.1		8.1	24.0		25.5	7.7		7.4	27.3		0.282
	B	E14	10	10	10		8.1			24.5			6.7			0.308	
	C																
	D																
6 g/L	A	E15	10	10	10	8.0		8.0	24.0		25.2	7.4		7.2	10.5		10.8
	B	E16	10	10	10		8.0			24.6			6.5			10.6	
	C																
	D																
7 g/L	A	E17	10	10	10	8.0		8.0	24.1		25.1	7.4		7.1	12.4		12.7
	B	E18	9	9	9		8.0			24.4			6.3			12.5	
	C																
	D																
8 g/L	A	E19	9	9	8 1D	8.0		8.1	24.1		25.4	7.4		7.1	13.8		14.1
	B	E20	8	8	7 1D		8.0			24.6			6.5			13.9	
	C																
	D																
9 g/L	A	E21	~~8~~ 7	7	7	8.0		8.1	24.0		25.4	7.5		7.0	15.3		15.6
	B	E22	7	6 1D	5 1D		8.0			24.5			6.6			15.4	
	C																
	D																
10 g/L	A	E23	—	—	—	7.9 (A)			24.1 (A)			7.6 (A)			17.0 (A)		
	B	E24	1	1	0 1D		8.1	8.1		24.9	25.6		6.8	7.1		17.2	17.4
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF
Recorded by:			JD	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF	~~PPV~~	JD	MF

Investigators' Signatures
James Dameth
~~Patsy~~ Vicraicuk
Bruce Atwood
Marsha U Faircloth
Nigel Wellendorf
REVIEWER

Concentrations prepared by: JD
Loading verified by: PA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 23.5 max 23.9 mean 23.7
Incubator # ___ min ___ max ___ mean ___
Room B246 min 24.6 max 26.1 mean 25.3

Comments: (A) 48 hour parameters for the 10 g/L Concentration should be in the B replicate Test chamber E24 spaces, not in the E23 vessel spaces, MF 5-21-07

Statistics: Method: Spearman-Karber
48 / (96) hour LC_{50}: 8.73
95% Confidence Interval: lower 8.41 upper 9.06

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Appendix C. (continued)

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

DATE: 05-08-07 DURATION: 48 hr TOXICANT: NaCl
SPECIES: C.dubia

RAW DATA: Concentration (g/l)	Number Exposed	Mortalities
0.00	20	0
1.50	20	3
2.00	20	15
2.50	20	19
3.00	20	20
4.00	20	20

SPEARMAN-KARBER TRIM: 15.00%

SPEARMAN-KARBER ESTIMATES: LC50: 1.78
95% LOWER CONFIDENCE: 1.66
95% UPPER CONFIDENCE: 1.91

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

DATE: 05-08-07 DURATION: 48 hr TOXICANT: NaCl
SPECIES: C.leedsi

RAW DATA: Concentration (g/L)	Number Exposed	Mortalities
0.00	20	0
6.00	20	0
7.00	20	1
8.00	20	3
9.00	20	6
10.00	20	19

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50: 9.07
95% LOWER CONFIDENCE: 8.76
95% UPPER CONFIDENCE: 9.39

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: 5/7/07

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150+	4 Days	MS070503	25°C	20 ppt
Menidia beryllina	150+	12 DAYS	SS070425	25°C	20 ppt
Cyprinella leedsi	150+	12 DAYS	CL070425	25°C	
Pimephales promelas	150+	7days	FM070430	25°C	

Packed by: JU

Shipped Via: Fed Ex.

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: 5/14/07

Shipped to: FL DEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia					
Menidia beryllina					
Cyprinella leedsi	150	12 DAYS	CL070502	25°C	
Pimephales promelas	350	L 24 HR	FM070514-0730	25°C	

Packed by: _____

Shipped Via: FedEx

Notes: _____

Thank you for your order.

Appendix E. Chemical Analyses performed on samples from the Palm Beach Aggregates Sand/Limestone Mine Outfall D-001, sampled on May 14, 2007.

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:35	Effluent	AGP/LN	Algal Growth Potential	2.42		mg DryWt/L	0.3	0.9
5/14/2007 10:35	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-A, Monochromatic, Water	1.7	U	ug/L	1.7	5.2
5/14/2007 10:35	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-A, Monochromatic, Water	3	U	ug/L	3	9
5/14/2007 10:35	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
5/14/2007 10:35	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
5/14/2007 10:35	Effluent	Metals	Aluminum	513		ug/L	30	120
5/14/2007 10:35	Effluent	Metals	Calcium	89.6		mg/L	0.05	0.2
5/14/2007 10:35	Effluent	Metals	Iron	263		ug/L	10	40
5/14/2007 10:35	Effluent	Metals	Magnesium	24.3		mg/L	0.03	0.12
5/14/2007 10:35	Effluent	Metals	Arsenic	4.1		ug/L	0.5	2
5/14/2007 10:35	Effluent	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
5/14/2007 10:35	Effluent	Metals	Chromium	1.2	I	ug/L	1	4
5/14/2007 10:35	Effluent	Metals	Copper	0.53	I	ug/L	0.25	1
5/14/2007 10:35	Effluent	Metals	Lead	0.29	I	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Metals	Nickel	1.86		ug/L	0.25	1
5/14/2007 10:35	Effluent	Metals	Selenium	2.2		ug/L	0.5	2
5/14/2007 10:35	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/14/2007 10:35	Effluent	Metals	Zinc	5	U	ug/L	5	20
5/14/2007 10:35	Effluent	Nutrients	Turbidity	24		NTU	0.05	0.05
5/14/2007 10:35	Effluent	Nutrients	Chloride	250	J	mg Cl/L	4	10
5/14/2007 10:35	Effluent	Nutrients	Ammonia-N	0.078		mg N/L	0.01	0.02
5/14/2007 10:35	Effluent	Nutrients	NO2NO3-N	0.069		mg N/L	0.004	0.01
5/14/2007 10:35	Effluent	Nutrients	O-Phosphate-P	0.038		mg P/L	0.004	0.01
5/14/2007 10:35	Effluent	Nutrients	Kjeldahl Nitrogen	2.1		mg N/L	0.08	0.2
5/14/2007 10:35	Effluent	Nutrients	Total-P	0.11		mg P/L	0.02	0.06
5/14/2007 10:35	Effluent	Overflow	Alpha, Total	12.6		pCi/L		
5/14/2007 10:35	Effluent	Overflow	Alpha-Counting Error	1.7		pCi/L		
5/14/2007 10:35	Effluent	Overflow	Radium 226	1.7		pCi/L		
5/14/2007 10:35	Effluent	Overflow	Radium 226-Counting Error	0.4		pCi/L		
5/14/2007 10:35	Effluent	Overflow	Radium 228	1	U	pCi/L		
5/14/2007 10:35	Effluent	Overflow	Radium 228-Counting Error	0.7		pCi/L		
5/14/2007 10:35	Effluent	Pesticides	Alachlor	0.6	UJ	ug/L	0.6	2.4
5/14/2007 10:35	Effluent	Pesticides	Ametryn	0.05	UJ	ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Pesticides	Atrazine	0.3		ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Pesticides	Butylate	0.2	UJ	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2

Appendix E. (continued)

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:35	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	UJ	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Diazinon	0.05	U	ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Pesticides	Fonofos	0.1	UJ	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/14/2007 10:35	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1
5/14/2007 10:35	Effluent	Pesticides	Metolachlor	0.5	UJ	ug/L	0.5	2
5/14/2007 10:35	Effluent	Pesticides	Metribuzin	0.1	UJ	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
5/14/2007 10:35	Effluent	Pesticides	Naled	0.8	U	ug/L	0.8	3.2
5/14/2007 10:35	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/14/2007 10:35	Effluent	Pesticides	Parathion Ethyl	0.15	UJ	ug/L	0.15	0.6
5/14/2007 10:35	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
5/14/2007 10:35	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Pesticides	Prometryn	0.15	UJ	ug/L	0.15	0.6
5/14/2007 10:35	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
5/14/2007 10:35	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	1,2-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	1,3-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	1,4-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.8	U	ug/L	9.8	39
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	59
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	7.8

Appendix E. (continued)

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:35	Effluent	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	59
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Acenaphthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Acenaphthylene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzidine	98	UJ	ug/L	98	390
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	59
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	20
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Chrysene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	20
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Dimethyl phthalate	49	U	ug/L	49	200
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Endrin	1.5	UJ	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3.9	16
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Fluorene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Isophorone	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	7.8
5/14/2007 10:35	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	7.8

Appendix E. (continued)

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:35	Effluent	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Naphthalene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	7.8
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Phenanthrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Phenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	Pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:35	Effluent	Field Parameters	Sample Depth	0.1		ft		
5/14/2007 10:35	Effluent	Field Parameters	Specific Conductance	1520		umhos/cm		
5/14/2007 10:35	Effluent	Field Parameters	Temperature	27.64		C		
5/14/2007 10:35	Effluent	Field Parameters	pH	6.89				
5/14/2007 10:50	Blank	Metals	Aluminum	30	U	ug/L	30	120
5/14/2007 10:50	Blank	Metals	Calcium	0.05	U	mg/L	0.05	0.2
5/14/2007 10:50	Blank	Metals	Iron	10	U	ug/L	10	40
5/14/2007 10:50	Blank	Metals	Magnesium	0.03	U	mg/L	0.03	0.12
5/14/2007 10:50	Blank	Metals	Arsenic	0.5	U	ug/L	0.5	2
5/14/2007 10:50	Blank	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
5/14/2007 10:50	Blank	Metals	Chromium	1	U	ug/L	1	4
5/14/2007 10:50	Blank	Metals	Copper	0.25	U	ug/L	0.25	1
5/14/2007 10:50	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
5/14/2007 10:50	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
5/14/2007 10:50	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
5/14/2007 10:50	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
5/14/2007 10:50	Blank	Metals	Zinc	5	U	ug/L	5	20
5/14/2007 10:50	Blank	Nutrients	Chloride	0.2	UJ	mg Cl/L	0.2	0.5
5/14/2007 10:50	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
5/14/2007 10:50	Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
5/14/2007 10:50	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
5/14/2007 10:50	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
5/14/2007 10:50	Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
5/14/2007 10:50	Blank	Overflow	Alpha, Total	0.7	U	pCi/L		
5/14/2007 10:50	Blank	Overflow	Alpha-Counting Error	0.4		pCi/L		
5/14/2007 10:50	Blank	Overflow	Radium 226	0.2	U	pCi/L		
5/14/2007 10:50	Blank	Overflow	Radium 226-Counting Error	0.1		pCi/L		
5/14/2007 10:50	Blank	Overflow	Radium 228	1	U	pCi/L		
5/14/2007 10:50	Blank	Overflow	Radium 228-Counting Error	0.5		pCi/L		

Appendix E. (continued)

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:50	Blank	Pesticides	Alachlor	0.58	UJ	ug/L	0.58	2.3
5/14/2007 10:50	Blank	Pesticides	Ametryn	0.049	UJ	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Atrazine	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
5/14/2007 10:50	Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
5/14/2007 10:50	Blank	Pesticides	Butylate	0.19	UJ	ug/L	0.19	0.76
5/14/2007 10:50	Blank	Pesticides	Chlorpyrifos Ethyl	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Chlorpyrifos Methyl	0.097	UJ	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Diazinon	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Ethion	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Ethoprop	0.097	U	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
5/14/2007 10:50	Blank	Pesticides	Fonofos	0.097	UJ	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Hexazinone	0.097	U	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
5/14/2007 10:50	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
5/14/2007 10:50	Blank	Pesticides	Metolachlor	0.49	UJ	ug/L	0.49	2
5/14/2007 10:50	Blank	Pesticides	Metribuzin	0.097	UJ	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
5/14/2007 10:50	Blank	Pesticides	Naled	0.78	U	ug/L	0.78	3.1
5/14/2007 10:50	Blank	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
5/14/2007 10:50	Blank	Pesticides	Parathion Ethyl	0.15	UJ	ug/L	0.15	0.6
5/14/2007 10:50	Blank	Pesticides	Parathion Methyl	0.097	U	ug/L	0.097	0.39
5/14/2007 10:50	Blank	Pesticides	Phorate	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Pesticides	Prometryn	0.15	UJ	ug/L	0.15	0.6
5/14/2007 10:50	Blank	Pesticides	Simazine	0.049	U	ug/L	0.049	0.2
5/14/2007 10:50	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	1,2-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	1,3-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	1,4-Dichlorobenzene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.8	U	ug/L	9.8	39
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	59
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2-Chlorophenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	2-Nitrophenol	0.98	U	ug/L	0.98	3.9

Appendix E. (continued)

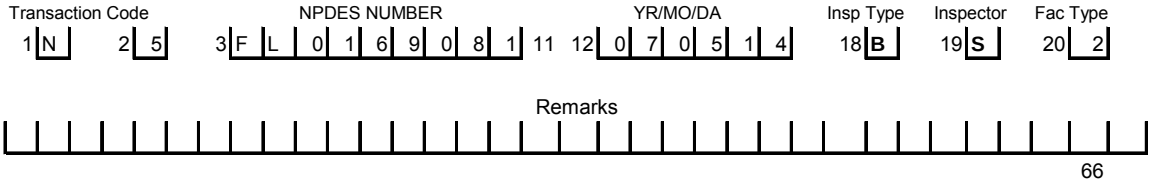
Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:50	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
5/14/2007 10:50	Blank	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	2	U	ug/L	2	7.8
5/14/2007 10:50	Blank	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	59
5/14/2007 10:50	Blank	Priority Organic Pollutants	Acenaphthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Acenaphthylene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzidine	98	UJ	ug/L	98	390
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	59
5/14/2007 10:50	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	20
5/14/2007 10:50	Blank	Priority Organic Pollutants	Chrysene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	20
5/14/2007 10:50	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Diethyl phthalate	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Dimethyl phthalate	49	U	ug/L	49	200
5/14/2007 10:50	Blank	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
5/14/2007 10:50	Blank	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
5/14/2007 10:50	Blank	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Endrin	1.5	UJ	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Endrin aldehyde	3.9	U	ug/L	3.9	16
5/14/2007 10:50	Blank	Priority Organic Pollutants	Fluoranthene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Fluorene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.98	U	ug/L	0.98	3.9

Appendix E. (continued)

Date	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
5/14/2007 10:50	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Isophorone	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	2	U	ug/L	2	7.8
5/14/2007 10:50	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	2	U	ug/L	2	7.8
5/14/2007 10:50	Blank	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Naphthalene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Nitrobenzene	2	U	ug/L	2	7.8
5/14/2007 10:50	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
5/14/2007 10:50	Blank	Priority Organic Pollutants	Phenanthrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Phenol	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	Pyrene	0.98	U	ug/L	0.98	3.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.9
5/14/2007 10:50	Blank	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.9

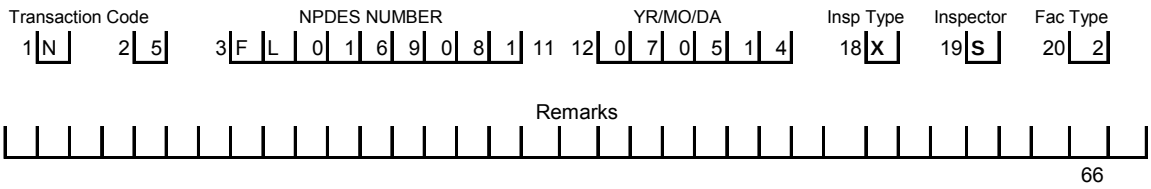
The Bioassay of Palm Beach Aggregates Sand/Limestone Mine sampled on May 14, 2007. NPDES #FL0169081.

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



The Priority Pollutants Analysis of Palm Beach Aggregates Sand/Limestone Mine sampled on May 14, 2007. NPDES #FL0169081.

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



Biological Analyses of Palm Beach Aggregates Sand/Limestone Mine sampled on May 14, 2007. NPDES #FL0169081.

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

