

Effluent Quality Assessment

Crystals

(Mastertaste Purchasing Company)

Hillsborough County

NPDES #FL0037389

Sampled July 28, 2008

November 2008

Biology Section
Bureau of Laboratories
Division of Environmental Assessment and Restoration

Quality Manual No. 870346G
NELAC Certification No. E31780

Crystals, 1111 W. Dr. Martin Luther King Boulevard, Plant City, Hillsborough County, Florida 33566. NPDES #FL0037389. Effluent samples for this facility were collected on July 28, 2008.

Introduction

Crystals is a food processing facility which manufactures food crystals by vacuum-enhanced dehydration utilizing barometric assemblies, which induces a vacuum by contacting cooling water (the source of cooling water is ground water) with steam. Effluent discharge from the facility is continuous. The facility has a permitted maximum discharge of 4.02 million gallons per day (MGD). The monthly average discharge from the facility from August 2007 through July 2008 was 2.105 MGD. The monthly maximum discharge was 3.98 MGD. The wastewater treatment system consists of:

- a splash box at the outlet of the 0.46 m (18 inch) outfall pipe; and,
- splash plates.

The splash box is a mechanical aeration device consisting of subsurface propellers that are mounted on the side of the barometric condenser hot well tanks pipe. The splash box serves to increase the dissolved oxygen content of the effluent. The splash plates provide additional agitation. The wastewater stream consists of cooling water which has been mixed with the process water. This wastewater is further combined with the facility grounds stormwater runoff and then discharged through Outfall D-001 into an unnamed ditch, then to Westside canal and thence into the Class III freshwaters of Pemberton Creek. The point of discharge for Outfall D-001 is located approximately at latitude 28º 00' 41.3" N, longitude 82º 08' 01.2" W.

The facility has no Administrative Orders, Consent Orders or mixing zones. A review of Discharge Monitoring Report (DMR) data for the past year, revealed only one permit violation (July 2008 – dissolved oxygen value 4.1 mg/L; permitted value ≥ 5 mg/L monthly minimum). The DMR review found the facility to be operating within permitted limits except as noted above for dissolved oxygen. (Facility information provided by Peter Wenner FDEP Southwest District).

Methods

Samples were collected from the EFF-1 NPDES sampling point for Outfall D-001 by Pete Wenner and Jason Cohen (FDEP 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 acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_01, TA07_02, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Although the 48-hour acute screening toxicity test does not reflect the required permit conditions, passing test results provide confidence that the required permit conditions would likely be met.

Toxicity Test Results

Tests were performed July 29-31, 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%, 5% mortality* in 100% sample at 48 hours

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

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

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

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 12.3 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 6.7 (±20%) mg dry wt/L (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 0.17 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was < 0.02 mg/L.

No substances of concern were detected in the effluent. Iron was detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

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 instruments.

Conclusion

The effluent sample collected from the EFF-1 NPDES sampling point for Outfall D-001 for this facility on July 28, 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 water quality samples 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.

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) for total soluble inorganic nitrogen (TSIN) and total nitrogen (TN) limitation of the freshwater species *Pseudokirchneriella subcapitata* and ratios of nitrogen to phosphorus for samples collected from the Crystals facility on July 28, 2008.

Crystals (Mastertaste Purchasing Company)					
Location	AGP (measured)	Predicted AGP (TSIN) ± 20%	Predicted AGP (TN) ± 20%	Inorganic N:P ratio	Total N:P ratio
Effluent	12.3	6.7 ± 1.3	7.8 ± 1.6	4.5	4.5

Table 2. Effluent limits, Class III Freshwater Criteria, and chemical and microbiological data for samples collected from the Crystals facility on July 28, 2008.

Crystals (Mastertaste Purchasing Company) NPDES# FL0037389	Class III Criteria	Effluent Limits	Effluent	
Organic Constituents (µg/L)				
None Detected	-	-	None Detected	
Metals (µg/L unless otherwise noted)				
Aluminum	-	-	60	U
Arsenic	≤ 50	-	0.5	U
Cadmium	≤ 0.4 b	-	0.02	U
Calcium (mg/L)	-	-	57.1	A
Chromium-III	≤ 144.4 b	-	0.5	U
Copper	≤ 16.0 b	-	0.5	U
Iron	≤ 1,000	-	53	I
Lead	≤ 7.1 b	-	0.2	U
Magnesium (mg/L)	-	-	11	A
Nickel	≤ 88.9 b	-	0.25	U
Selenium	≤ 5.0	-	0.5	U
Silver	≤ 0.07	-	0.025	U
Zinc	≤ 204.4 b	-	5	U
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.039	
Total Phosphorus	-	-	0.046	I
Total Ammonia	-	-	0.17	
Un-ionized Ammonia	≤ 0.02 s	≤ 0.02 s	≤ 0.02	c
Nitrate and Nitrite	-	-	0.005	I
Total Kjeldahl Nitrogen	-	-	0.2	J
Organic Nitrogen	-	-	0.03	c
Total Nitrogen	-	-	0.205	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 5.0	≥ 5.0 s	7.5	
pH (SU)	6.0 - 8.5	6.0 - 8.5 s	7.9	
Conductivity (µmhos/cm)	≤ 1,275	-	374	
Temperature °C	-	≤ 33.3 s	30.1	
Total Residual Chlorine (mg/L)	≤ 0.01	-	0.03	UQ£
Chlorophyll a (µg/L) - Corrected	-	-	0.55	U
Phaeophytin (µg/L)	-	-	0.24	U
CBOD, 5 day (mg/L), N - inhibited	-	-	0.2	U
Flow (MGD)	-	≤ 4.02	2.105	m
Hardness (mg $CaCO_3$)	-	-	187.88	c
Microbiology (Number of colony forming units/100ml)				
Fecal Coliforms	≤ 400s #	-	1	U

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 - Monthly average daily flow
s - Single sample
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
Q - Sample held beyond normal holding time
J - Estimated value
U - Material analyzed for but not detected; value reported is the method detection limit
- If 10 or fewer samples are taken within a month, the single sample limit is 400 CFU (62-302.530(6), F.A.C.)
£ - Analysis performed in bioassay lab

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Request Number: RQ-2008-07-28-33
Crystals

Event ID *

Requester: Jennifer Paris
Field Report Prepared By:

Customer: SW-DIST
Collected By: Pete Wenner, Jason Cohen
Send Final Report To Ilia Balcom

Project ID: FYI3
Sampling Agency: FDEP

PMAS: 1143

Lab ID *	Location: D-001			☐ Comp ☑ Grab	Collection (begin) Date 7/28/08 Time 1000 ☑ Eastern ☐ Central	Collection (end) Date Time ☐ Eastern ☐ Central		Bottle Group(s)**	
	Field ID: 36614			Tot Res Chlorine (mg/L): N/A	Diss Oxygen (mg/L): 7.53	Storet Station Number		A	
	Matrix (Include type e.g. Salt, Fresh, etc): FRESH, WW EFFLUENT	Temp (C): 30.11	pH: 7.86	Sample Depth ☐ m ☐ ft: 0.18	☑ Salinity (PPTh): 374 ☑ Sp Conductance (umho/cm)	NPDES Number			
	Latitude: 28 ° 00 ' 41.3 "	Longitude: 82 ° 08 ' 01.2 "		Comments					
Lab ID *	Location: BLANK			☐ Comp ☑ Grab	Collection (begin) Date 7/28/08 Time 1015 ☐ Eastern ☑ Central	Collection (end) Date Time ☐ Eastern ☐ Central		Bottle Group(s)**	
	Field ID: 36615			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number		B	
	Matrix (Include type e.g. Salt, Fresh, etc): DI H_2O	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ° ' "	Longitude ° ' "		Comments					
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time ☐ Eastern ☐ Central	Collection (end) Date Time ☐ Eastern ☐ Central		Bottle Group(s)**	
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ° ' "	Longitude ° ' "		Comments					
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time ☐ Eastern ☐ Central	Collection (end) Date Time ☐ Eastern ☐ Central		Bottle Group(s)**	
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ° ' "	Longitude ° ' "		Comments					
Lab ID *	Location			☐ Comp ☐ Grab	Collection (begin) Date Time ☐ Eastern ☐ Central	Collection (end) Date Time ☐ Eastern ☐ Central		Bottle Group(s)**	
	Field ID			Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number			
	Matrix (Include type e.g. Salt, Fresh, etc	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm)	NPDES Number			
	Latitude ° ' "	Longitude ° ' "		Comments: 2 bio assay Read in text by SD 9:19 7.29.08					

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/28/08 1600	DHL	[signature]	7-29-08 0825				

* 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: Crystals

Address : 1111 W. Dr. Martin Luther King Blvd

City: Plant City **County:** Hillsborough

Contact/District: Pete Wemer / SW-DEST

NPDES Permit #: FL FL0037387

LIMS Job # TLH-2008-07-29-44-01 **LIMS Sample #:** 1113488

Lims Data Entry: 8-1-08 MF Data Entry Verification: 8-1-08 BA

Sample Collection: Date: 7.28.08 Time: 1040

Hold Time Start: Date: 7.28.08 Time: 10:00

Comments:

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

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

Test Duration: (96) 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) NA MF (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. 25.5 max 26.4 mean 26.0

Incubator # ____ min. _____ max. _____ mean _____

Room B246 min. 24.1 max. 33.7 mean 25.4

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

Test 2:% mortality in 100% sample: 5% LC50: >100%

Investigators' Signatures

James Daniels

Brooke Ruse

Marshall 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 meas	ud	MF
Lab Total Residual Cl_2 (mg/L):	<0.03	<0.03				<0.03	HACH	JD	BA
Alkalinity (mg/L as $CaCO_3$):	85	145				200	HACH	BA	JD
Hardness (mg/L as $CaCO_3$):	81	130				175	HACH	BA	JD
Total Ammonia (mg/L as N):	<0.017	<0.017				<0.017	DENVER	BA/MF	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 #: 1118488 Test #: 1/2 SOP#:TA 07 01 Test Started: Date 7.29.08 Time: 1230

Organism/Batch/Age: c.dubia/27-08/<24hr Test Ended: Date 7-31-08 Time: 11 45

Chamber/Test Volume: 30 / 20 ml Diluent/ Batch: DMW / 7-19-08

Food/Batch: YCT_____ P.sub_____ 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/ JJ		Checked by:	JJ	BA	BA			

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 #: 118488 Test #: 2/2 SOP#:TA 07 02 Test Started: Date 7.29.08 Time: 1245

Organism/Batch/Age: Cladsi / 7.29.08 / 11days Test Ended: Date 7.31.08 Time: 1155

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: Well H2O / 7.29.08

Food/Batch: YCT — P.sub — Artemia 0hr 121 24hr — 48hr — 72hr — Artemia Lot# 38437

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	B17	5	5	5			
	B	B18	5	5	5			
	C	B19	5	5	5			
	D	B20	5	5	5			
100%	A	B21	5	4/1D	4			
	B	B22	5	5	5			
	C	B23	5	5	5			
	D	B24	5	5	5			
Loaded/Verified by: JD / BA		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: 5 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

IMS Sample # : 1118488 Test #: 1 of 2

EST 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.
eplicate	M		A			
H (S.U.)	7.9		8.0			
emperature °C	24.6		24.5			
issolved Oxygen mg/L	7.6		7.5			
onductivity µmhos mmhos	1874		186			
(initials) Measured by:	BA		BA			
(initials) Recorded by:	BA		BA			

omments:

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M		A			
pH (S.U.)	8.0		8.6			
Temperature °C	26.0		24.5			
Dissolved Oxygen mg/L	6.8		7.4			
Conductivity µmhos mmhos	388		378			
(initials) Measured by:	BA		BA			
(initials) Recorded by:	BA		BA			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
eplicate						
H (S.U.)						
emperature °C						
issolved Oxygen mg/L						
onductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

omments:

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:

GCCC19

V2.0 2/24/14

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1118488 **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	8.1	8.2			
Temperature °C	24.7	24.3	24.4			
Dissolved Oxygen mg/L	7.2	6.8	7.0			
Conductivity (µmhos) mmhos	294	279	275			
(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	8.2	8.4			
Temperature °C	25.9	24.3	24.3			
Dissolved Oxygen mg/L	6.0	6.5	6.9			
Conductivity (µmhos) mmhos	400	384	382			
(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

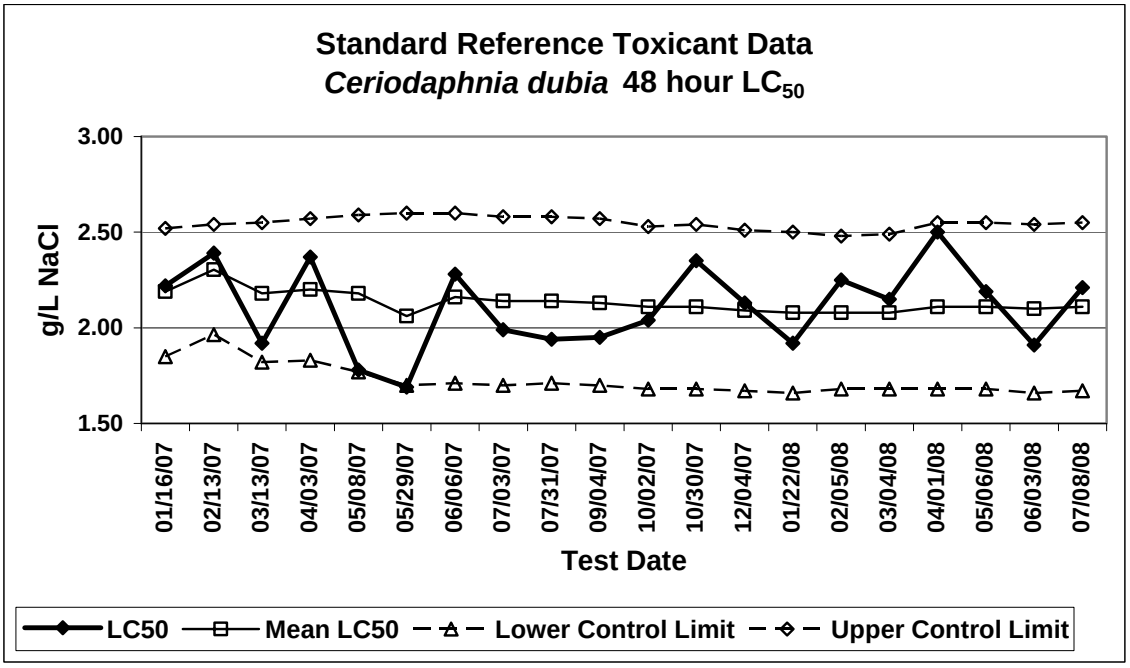
Florida Department of Environmental Protection
Bureau of Laboratories

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
01/16/07	2.22	2.19	0.17	1.85	2.52
02/13/07	2.39	2.31	0.17	1.97	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	2.06	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
06/03/08	1.91	2.10	0.22	1.66	2.54
07/08/08	2.21	2.11	0.22	1.67	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 = 10.35
EPA reference 75th quartile CV = 29%



Appendix C. (continued)

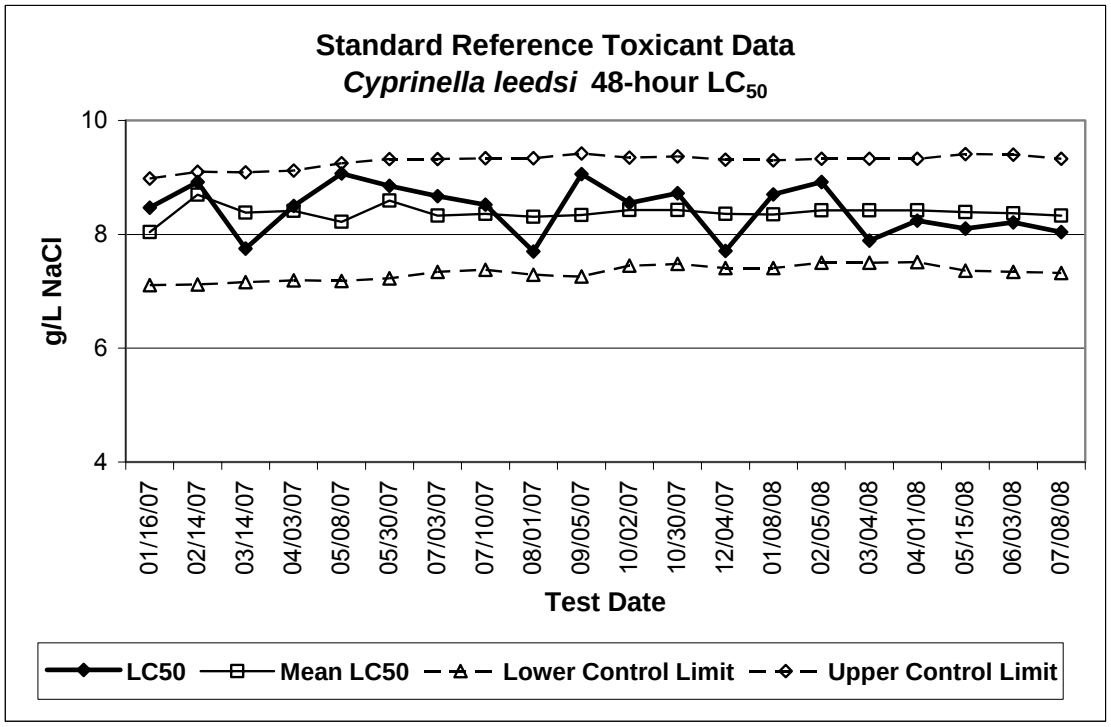
Florida Department of Environmental Protection
Bureau of Laboratories

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
01/16/07	8.47	8.04	0.47	7.11	8.98
02/14/07	8.92	8.70	0.32	7.12	9.10
03/14/07	7.75	8.38	0.59	7.16	9.09
04/03/07	8.50	8.41	0.49	7.19	9.12
05/08/07	9.07	8.22	0.52	7.18	9.25
05/30/07	8.85	8.59	0.48	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
06/03/08	8.21	8.37	0.51	7.34	9.40
07/08/08	8.04	8.33	0.50	7.32	9.33

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

CV = 6.03
EPA reference 75th quartile CV = 19%



Appendix C. (continued)

000031

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 / 6.3.08
Toxicant/ Batch#: NaCl / ~~7.8~~ 7.7.08 SD

Test Beginning: Date: 7.8.08 Time: 1140
Test Ending: Date: 7-12-08 Time: 1140

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	90	Hach	90 BA (A)
Hardness (mg.L as $CaCO_3$):	86	Hach	~~86~~ 85 BA
Total Ammonia (mg/L as N):	<0.07	Denver	mF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 24-08 / <24 hours
Feeding: (Prior to test) (Prior to renewal) / Daily
Food: YCT *C.subcapitata* Artemia: Lot #____
Food Batch: 7.21.07 1.31.08 0hr____ 24hr____ 48hr____ 72hr____
Chamber size: 30 mL
Test volume: 20 mL per replicate

Conc.	Rep.	Chamber #	Number Live			pH (SU)			Temperature (° C)			D.O. (mg/L)			Uncorrected Conductivity µmhos/cm (mmhos/cm)		
			~~0 hr~~	~~24 hr~~	~~48 hr~~	~~0 hr~~	~~24 hr~~	~~48 hr~~	~~0 hr~~	~~24 hr~~	~~48 hr~~	~~0 hr~~	~~24 hr~~	~~48 hr~~	~~0 hr~~	~~24 hr~~	~~48 hr~~
µg/L mg/L			~~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	5	5	5	8.1		8.1	25.6		24.4	7.7		7.4	0.181		0.195
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	5												
1.5	A	A	5	5	5	8.0		8.1	24.9		24.3	7.6		7.7	2.38		2.88
	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	24.7		24.4	7.5		7.5	3.73		3.81
	B	B	5	5	5												
	C	C	5	5	5												
	D	D	5	5	4 1D												
2.5	A	A	5	3 2D	0 0D	8.1		8.1	24.6		24.4	7.5		7.4	4.66		4.83
	B	B	5	5	0 0D												
	C	C	5	3 2D	0 0D												
	D	D	5	2 2D	0 0D												
3.0	A	A	5	2 2D	0 0D	8.1		8.1	24.5		24.4	7.4		7.4	5.58		5.77
	B	B	5	3 2D	0 0D												
	C	C	5	1 1D	0 0D												
	D	D	5	1 1D	0 0D												
4.0	A	A	5	0 0D	—	8.1		—	24.4		—	7.3		—	7.29		—
	B	B	5	0 0D	—		8.0			24.0			20			7.49	
	C	C	5	0 0D	—												
	D	D	5	0 0D	—												
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	mF	mF	BA	JD	mF	BA	JD	mF	BA	JD	mF	BA	JD	mF
Recorded by:			BA	mF	mF	BA	JD	mF	BA	JD	mF	BA	JD	mF	BA	JD	mF

Investigators' Signatures
James Daniels
Brad [illegible]
Marshall Faircloth
[illegible]
[illegible]
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 25.7 max 26.7 mean 26.2
Incubator # ___ min _____ max _____ mean _____
Room B246 min 22.7 max 25.7 mean 24.2

Comments: (A) Parameters written in wrong space Measured by BA

Statistics: Method: Spearman-Karber
(AB) 96 hour LC_{50}: 2.21
95% Confidence Interval: lower 2.15 upper 2.26

Appendix C. (continued)

000032

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 / (48)hour renewal
Test Page 2 of 2

Diluent/ Batch #: DMW / 6.30.08
Toxicant/ Batch#: NaCl / ~~7.6.08~~ 7.7.08 JD

Test Beginning: Date: 7.8.08 Time: 1300
Test Ending: Date: 7-12-08 Time: 1140

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	90	Hach	BAT0 BA
Hardness (mg.L as $CaCO_3$):	86	Hach	8 BA
Total Ammonia (mg/L as N):	0.017	Denver	MF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 24-08 / <24 hours
Feeding: (Prior to test) / (Prior to renewal) / Daily
Food: (YCT) (C.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. (ID) 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 µmhos/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)	(0 hr) / (24 hr) / (48 hr)
Control	A	A	5 / 5 / 5	8.2 / / 8.1 MF	24.1 / / 25.0	7.8 / / 7.7	0.190 / / 0.190
	B	B	5 / 5 / 5				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
1.5	A	A	5 / 5 / 5	8.1 / / 8.1	24.1 / / 25.0	7.7 / / 7.5	2.82 / / 2.88
	B	B	5 / 5 / 5				
	C	C	5 / 5 / 5				
	D	D	5 / 5 / 5				
2.0	A	A	5 / 5 / 4 ID	8.1 / / 8.1	24.1 / / 24.8	7.7 / / 7.4	3.63 / / 3.81
	B	B	5 / 4 ID / 4				
	C	C	5 / 5 / 5				
	D	D	4 / 3 ID / 3				
2.5	A	A	— / — / —				
	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
Recorded by:			MF / MF / MF	MF / / MF	MF / / MF	MF / / MF	MF / / MF

Investigators' Signatures
James Daniels
Brad Nevels
Marshall Faircloth
Loretta Culpepper
REVIEWER

Concentrations prepared by: MF
Loading verified by: JP
Light Intensity: 50-100 FL candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 7 min. 25.7 max. 26.7 mean 26.2
Incubator # ___ min.____ max.____ mean____
Room B246 min. 22.7 max. 25.7 mean 24.2

Comments: All parameters written in wrong space. Measured by BA

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 2.12
95% Confidence Interval: lower 2.03 upper 2.22

Appendix C. (continued)

000033

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 1 7.7.08
Toxicant/ Batch#: NaCl 1.7.708

Test Beginning: Date: 7.8.08 Time: 1320
Test Ending: Date: 7-12-08 Time: 1150

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	2.00	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	152	Hach	BA
Hardness (mg.L as $CaCO_3$):	139	Hach	BA
Total Ammonia (mg/L as N):	0.017	Denver	MF
Salinity (ppth):	21	Mettler	JS

Organism Batch #/ Age: 7.8.08 1 11days
Feeding: (Prior to test) / (Prior to renewal) / Daily
Food: YCT *P.subcapitata* Artemia Lot # 38438
Food Batch: \ \ 0hr 1/3 24hr – 48hr 1/5 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		
(%) µg/L mg/L	Rep.	Chamber #	0hr 48 hr	24hr 72 hr	48hr 96 hr	0hr 48hr	24hr 72 hr	48hr 96 hr	0hr 48 hr	24hr 72 hr	48hr 96 hr	0hr 48 hr	24hr 72 hr	48hr 96 hr	0hr 48 hr	24hr 72 hr	48hr 96 hr
Control	A	C1	10/10	10	10	7.9		8.2	24.3		24.3	7.4		6.8	0.279		9.317
	B	C2	10	10	10		8.1			24.1			7.5			9.490	
	C																
	D																
6	A	C3	10	9/10	9	7.9		8.2	24.3		24.6	7.0		6.6	9.94		10.7
	B	C4	10	10	9/10		8.0			24.1			6.9			11.3	
	C																
	D																
7	A	C5	10	9/10	9	7.9		8.2	24.3		24.6	7.3		6.6	12.5		13.2
	B	C6	10	8/10	8		8.0			24.2			6.8	.		13.3	
	C																
	D																
8	A	C7	10	7/10	7	7.9		8.1	24.2		24.3	7.3		6.7	14.4		14.8
	B	C8	10	5/10	4/10		8.0			24.3			6.6			14.9	
	C																
	D																
9	A	C9	10	4/10	3/10	7.9		8.1	24.1		24.5	7.3		6.6	15.72		16.3
	B	C10	10	1/10	1		8.0			24.3			6.5			16.3	
	C																
	D																
10	A	C11	10	0/10	–	7.8			24.1			7.3			17.8		
	B	C12	10	0/10	–		8.0			24.2			6.3			18.2	
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			BA	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
Tonia David
Marshall Faircloth
Lorette Cichocki
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 26.1 mean 26.2
Incubator # ___ min. _____ max. _____ mean _____
Room B248 min. 22.1 max. 25.1 mean 24.2

Comments:

Statistics: Method: Spearman-Karber
(48) / 96 hour LC_{50}: 8.04
95% Confidence Interval: lower 7.44 upper 8.47

Appendix C. (continued)

000034

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 #: Well H2O / 7.708
Toxicant/ Batch#: NaCl / 7.708

Test Beginning: Date: 7.8.08 Time: 1320
Test Ending: Date: 7-12-08 Time: 1150

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<.05	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	152	Hach	BA
Hardness (mg.L as $CaCO_3$):	134	Hach	BA
Total Ammonia (mg/L as N):	<0.017	Denver	MF
Salinity (ppth):	21	Mettler	JD

Organism Batch #/ Age: 7.8.08 / 1104/5
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT P.subcapitata (Artemia) Lot # 38438
Food Batch: _____ / _____ 0hr 13 24hr — 48hr 115 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)		
% 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	C1	10	10		8.1		8.1	24.0		25.2	7.7		6.1	0.205		0.292
	B	C2	10	10			7.9			24.2			7.0			0.287	
	C																
	D																
6	A	C3	9	9		8.1		8.0	24.0		25.4	7.4		6.1	10.9		11.1
	B	C4	9	9			7.9			24.7			5.8			10.9	
	C																
	D																
7	A	C5	9	9		8.1		8.0	24.0		25.2	7.4		5.9	13.4		13.2
	B	C6	8	8			8.0			24.5			6.4			13.2	
	C																
	D																
8	A	C7	7	0 1D	5 1D	8.0		8.1	24.0		25.3	7.4		6.1	15.0		14.8
	B	C8	7	4	3 1D		8.0			24.4			6.5			14.8	
	C																
	D																
9	A	C9	3	3	3	8.0		8.1	24.0		25.0	7.3		6.4	16.8		16.5
	B	C10	1	1	0 1D		8.1			24.5			6.5			16.5	
	C																
	D																
10	A	C11															
	B	C12															
	C																
	D																
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF
Recorded by:			JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF	JD	JD	MF

Investigators' Signatures
Anna Sand
Brent Aaron
Marshall Fairchild
_____
_____
Dorothy C Wolfe
REVIEWER

Concentrations prepared by: JD
Loading verified by: JD
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min 25.7 max 26.7 mean 26.2
Incubator # ___ min ___ max ___ mean ___
Room B246 min 22.7 max 25.7 mean 24.2

Comments:

Statistics: Method: Spearman-Karber
48 (96) hour LC_{50}: 7.81
95% Confidence Interval: lower 7.43 upper 8.21

Appendix C. (continued)

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

DATE: 7-8-08 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	1
	2.50	20	20
	3.00	20	20
	4.00	20	20

SPEARMAN-KARBER TRIM: .00%

SPEARMAN-KARBER ESTIMATES: **LC50: 2.21**
95% LOWER CONFIDENCE: 2.15
95% UPPER CONFIDENCE: 2.26

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

DATE: 7-8-08 DURATION: 48 hr TOXICANT : NaCl
SPECIES: *Cyprinella leedsi*

RAW DATA:	Concentration (g/L)	Number Exposed	Mortalities
	0.00	20	0
	6.00	20	2
	7.00	20	3
	8.00	20	9
	9.00	20	16
	10.00	20	20

SPEARMAN-KARBER TRIM: 0.00%

SPEARMAN-KARBER ESTIMATES: **LC50: 8.04**
95% LOWER CONFIDENCE: 7.64
95% UPPER CONFIDENCE: 8.47

Appendix D. Test Organism Receipt(s)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 7/7/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	150	4 DAYS	MS 080703	26°C	8.1 s.u	20‰
Menidia beryllina	150	12 DAYS	SS 080625	25°C	8.0 s.u	20‰
						Hardness
Cyprinella leedsi	150	10 DAYS	CL 080627	26°C	7.9	90mg/L
Pimephales promelas	150	8 DAYS	FM 080629	25°C	7.8	86mg/L

Packed by: JU

Shipped Via: FedEx

Notes: _____

Thank you for your order.

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

Appendix D. (continued)

MARINCO BIOASSAY LABORATORY
The Aquatic Toxicology Specialists

NELAP Certification # E84191

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 7/28/08

Shipped to: FDEP

P.O. No: _____

Species	Quantity	Age	Brood Number	Temp.	pH	Salinity
Mysidopsis bahia	100	4 DAYS	MS080724	25°C	7.7	18ppt
Menidia beryllina	100	12 DAYS	SS080716	25°C	7.8	18ppt
						Hardness
Cyprinella leedsi	100	10 DAYS	CL080718	25°C	7.6	88mg/L
Pimephales promelas						

Packed by: [signature]

Shipped Via: FedEx

Notes: _____

Thank you for your order.

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

Appendix E. Chemical Analyses performed on the effluent from the Crystal facility Outfall D-001, sampled on July 28, 2008.

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:00	Effluent	AGP/LN	Algal Growth Potential	12.3		mg DryWt/L	0.3	0.9
7/28/2008 10:00	Effluent	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.2	U	mg/L	0.2	2
7/28/2008 10:00	Effluent	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	0.55	U	ug/L	0.55	1.7
7/28/2008 10:00	Effluent	Chlorophyll/Grain Size/BOD	Phaeophytin-a	0.24	U	ug/L	0.24	0.71
7/28/2008 10:00	Effluent	Overflow	Fecal Coliforms-Membrane Filter	1	U	#/100 mL	1	
7/28/2008 10:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-Fish, LC50	100	L	LC50		
7/28/2008 10:00	Effluent	Toxicology	Bioassay-Acute-Screen-FW-C.dubia, LC50	100	L	LC50		
7/28/2008 10:00	Effluent	Metals	Aluminum	60	U	ug/L	60	240
7/28/2008 10:00	Effluent	Metals	Magnesium	11	A	mg/L	0.04	0.16
7/28/2008 10:00	Effluent	Metals	Arsenic	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
7/28/2008 10:00	Effluent	Metals	Lead	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Metals	Calcium	57.1	A	mg/L	0.075	0.3
7/28/2008 10:00	Effluent	Metals	Iron	53	I	ug/L	30	120
7/28/2008 10:00	Effluent	Metals	Zinc	5	U	ug/L	5	20
7/28/2008 10:00	Effluent	Metals	Antimony	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Metals	Chromium	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Metals	Nickel	0.25	U	ug/L	0.25	1
7/28/2008 10:00	Effluent	Metals	Selenium	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
7/28/2008 10:00	Effluent	Metals	Silver	0.025	U	ug/L	0.025	0.1
7/28/2008 10:00	Effluent	Metals	Copper	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Nutrients	NO2NO3-N	0.005	I	mg N/L	0.004	0.01
7/28/2008 10:00	Effluent	Nutrients	Ammonia-N	0.17		mg N/L	0.01	0.02
7/28/2008 10:00	Effluent	Nutrients	O-Phosphate-P	0.039		mg P/L	0.004	0.01
7/28/2008 10:00	Effluent	Nutrients	Total-P	0.046	I	mg P/L	0.02	0.06
7/28/2008 10:00	Effluent	Nutrients	Kjeldahl Nitrogen	0.2	J	mg N/L	0.08	0.2
7/28/2008 10:00	Effluent	Pesticides	Fonofos	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Ethoprop	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Butylate	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Pesticides	Parathion Ethyl	0.15	U	ug/L	0.15	0.6
7/28/2008 10:00	Effluent	Pesticides	Bromacil	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Pesticides	Metalaxyl	0.25	U	ug/L	0.25	1

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:00	Effluent	Pesticides	Chlorpyrifos Methyl	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Atrazine	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Ametryn	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Prometryn	0.15	U	ug/L	0.15	0.6
7/28/2008 10:00	Effluent	Pesticides	Parathion Methyl	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Naled	0.8	UJ	ug/L	0.8	3.2
7/28/2008 10:00	Effluent	Pesticides	Metolachlor	0.5	U	ug/L	0.5	2
7/28/2008 10:00	Effluent	Pesticides	Chlorpyrifos Ethyl	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Alachlor	0.6	U	ug/L	0.6	2.4
7/28/2008 10:00	Effluent	Pesticides	Simazine	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Phorate	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Mevinphos	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Pesticides	Fenamiphos	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Pesticides	Ethion	0.05	U	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Azinphos Methyl	0.2	U	ug/L	0.2	0.8
7/28/2008 10:00	Effluent	Pesticides	Metribuzin	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Diazinon	0.05	UJ	ug/L	0.05	0.2
7/28/2008 10:00	Effluent	Pesticides	Hexazinone	0.1	U	ug/L	0.1	0.4
7/28/2008 10:00	Effluent	Pesticides	Malathion	0.15	U	ug/L	0.15	0.6
7/28/2008 10:00	Effluent	Pesticides	Norflurazon	0.15	U	ug/L	0.15	0.6
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Endosulfan II	3.8	UJ	ug/L	3.8	15
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
7/28/2008 10:00	Effluent	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
7/28/2008 10:00	Effluent	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Endrin aldehyde	3.8	UJ	ug/L	3.8	15
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
7/28/2008 10:00	Effluent	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Dimethyl phthalate	9.6	UJ	ug/L	9.6	38
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Pentachlorophenol	2.9	UJ	ug/L	2.9	12

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:00	Effluent	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Aldrin	1.4	UJ	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
7/28/2008 10:00	Effluent	Field Parameter	Specific Conductance	374		umhos/cm		
7/28/2008 10:00	Effluent	Field Parameter	Dissolved Oxygen	7.53		mg/L		
7/28/2008 10:00	Effluent	Field Parameter	Temperature	30.11		C		
7/28/2008 10:00	Effluent	Field Parameter	pH	7.86				
7/28/2008 10:15	Blank	Chlorophyll/Grain Size/BOD	Biochemical Oxygen Demand-5 Day,N-Inhib	0.2	U	mg/L	0.2	2
7/28/2008 10:15	Blank	Metals	Lead	0.2	U	ug/L	0.2	0.8
7/28/2008 10:15	Blank	Metals	Zinc	5	U	ug/L	5	20
7/28/2008 10:15	Blank	Metals	Aluminum	60	U	ug/L	60	240
7/28/2008 10:15	Blank	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
7/28/2008 10:15	Blank	Metals	Copper	0.5	U	ug/L	0.5	2
7/28/2008 10:15	Blank	Metals	Silver	0.025	U	ug/L	0.025	0.1
7/28/2008 10:15	Blank	Metals	Chromium	0.5	U	ug/L	0.5	2
7/28/2008 10:15	Blank	Metals	Beryllium	0.025	U	ug/L	0.025	0.1
7/28/2008 10:15	Blank	Metals	Arsenic	0.5	U	ug/L	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:15	Blank	Metals	Calcium	0.075	U	mg/L	0.075	0.3
7/28/2008 10:15	Blank	Metals	Antimony	0.5	U	ug/L	0.5	2
7/28/2008 10:15	Blank	Metals	Iron	30	U	ug/L	30	120
7/28/2008 10:15	Blank	Metals	Selenium	0.5	U	ug/L	0.5	2
7/28/2008 10:15	Blank	Metals	Nickel	0.25	U	ug/L	0.25	1
7/28/2008 10:15	Blank	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
7/28/2008 10:15	Blank	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
7/28/2008 10:15	Blank	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
7/28/2008 10:15	Blank	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
7/28/2008 10:15	Blank	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
7/28/2008 10:15	Blank	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
7/28/2008 10:15	Blank	Pesticides	Prometryn	0.14	U	ug/L	0.14	0.56
7/28/2008 10:15	Blank	Pesticides	Atrazine	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Fenamiphos	0.19	U	ug/L	0.19	0.76
7/28/2008 10:15	Blank	Pesticides	Hexazinone	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Metribuzin	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Ethoprop	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Simazine	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Phorate	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Naled	0.76	UJ	ug/L	0.76	3
7/28/2008 10:15	Blank	Pesticides	Mevinphos	0.19	U	ug/L	0.19	0.76
7/28/2008 10:15	Blank	Pesticides	Malathion	0.14	U	ug/L	0.14	0.56
7/28/2008 10:15	Blank	Pesticides	Ethion	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Ametryn	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Parathion Ethyl	0.14	U	ug/L	0.14	0.56
7/28/2008 10:15	Blank	Pesticides	Metalaxyl	0.24	U	ug/L	0.24	0.96
7/28/2008 10:15	Blank	Pesticides	Parathion Methyl	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Azinphos Methyl	0.19	U	ug/L	0.19	0.76
7/28/2008 10:15	Blank	Pesticides	Metolachlor	0.48	U	ug/L	0.48	1.9
7/28/2008 10:15	Blank	Pesticides	Diazinon	0.048	UJ	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Pesticides	Chlorpyrifos Methyl	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Butylate	0.19	U	ug/L	0.19	0.76
7/28/2008 10:15	Blank	Pesticides	Fonofos	0.095	U	ug/L	0.095	0.38
7/28/2008 10:15	Blank	Pesticides	Alachlor	0.57	U	ug/L	0.57	2.3

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:15	Blank	Pesticides	Norflurazon	0.14	U	ug/L	0.14	0.56
7/28/2008 10:15	Blank	Pesticides	Bromacil	0.19	U	ug/L	0.19	0.76
7/28/2008 10:15	Blank	Pesticides	Chlorpyrifos Ethyl	0.048	U	ug/L	0.048	0.19
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,4-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	57
7/28/2008 10:15	Blank	Priority Organic Pollutants	Acenaphthene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,4-Dimethylphenol	9.5	U	ug/L	9.5	38
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzo(b)fluoranthene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Chrysene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
7/28/2008 10:15	Blank	Priority Organic Pollutants	Endosulfan II	3.8	UJ	ug/L	3.8	15
7/28/2008 10:15	Blank	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Pentachlorophenol	2.9	UJ	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	Pyrene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,6-Dinitrotoluene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzidine	95	U	ug/L	95	380
7/28/2008 10:15	Blank	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
7/28/2008 10:15	Blank	Priority Organic Pollutants	Dimethyl phthalate	9.5	UJ	ug/L	9.5	38
7/28/2008 10:15	Blank	Priority Organic Pollutants	Phenanthrene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	U	ug/L	38	150
7/28/2008 10:15	Blank	Priority Organic Pollutants	Endrin aldehyde	3.8	UJ	ug/L	3.8	15
7/28/2008 10:15	Blank	Priority Organic Pollutants	Fluoranthene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Fluorene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Phenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	2-Chlorophenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	2-Nitrophenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Acenaphthylene	0.95	U	ug/L	0.95	3.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:15	Blank	Priority Organic Pollutants	Anthracene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Isophorone	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.6
7/28/2008 10:15	Blank	Priority Organic Pollutants	Aldrin	1.4	UJ	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzo(a)anthracene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Di-n-octyl phthalate	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Diethyl phthalate	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	Naphthalene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,4-Dichlorophenol	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	57
7/28/2008 10:15	Blank	Priority Organic Pollutants	2-Chloronaphthalene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzo(k)fluoranthene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.6
7/28/2008 10:15	Blank	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.6
7/28/2008 10:15	Blank	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.7
7/28/2008 10:15	Blank	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Benzo(a)pyrene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	57
7/28/2008 10:15	Blank	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
7/28/2008 10:15	Blank	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.7

Appendix E. (continued)

Date Sampled	Field ID	Analysis	Component	Result	Remark	Units	MDL	PQL
7/28/2008 10:15	Blank	Priority Organic Pollutants	Hexachlorobenzene	0.95	U	ug/L	0.95	3.8
7/28/2008 10:15	Blank	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	11
7/28/2008 10:15	Blank	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.6

Appendix F. Bioassay Instruments

Test Dates: July 29 - 31, 2008

Test ID: Crystals

SRT Dates: July 8 - 12, 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.

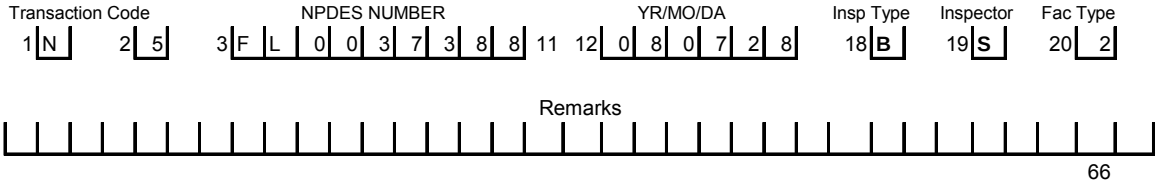
Insert other device information in blank spaces(if used). Test ID = Facility or SRTs (acute SRT--Chronic SRT)

Comments:

V 1.4 8/21/08 BA

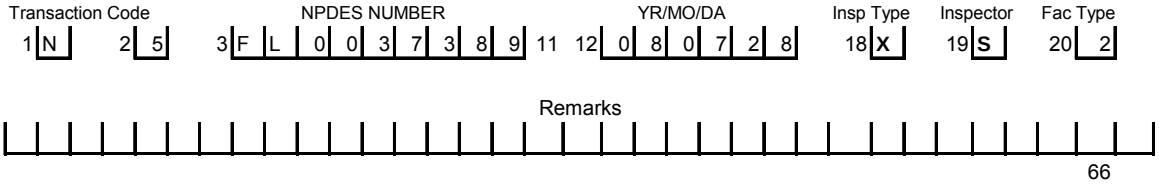
The Bioassay of the Crystals effluent sampled on July 28, 2008. NPDES #FL0037389.

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



The Priority Pollutants Analysis of the Crystals effluent sampled on July 28, 2008. NPDES #FL0037389.

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



Biological Analyses of the Crystals effluent sampled on July 28, 2008. NPDES #FL0037389.

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

