



Georgia-Pacific LLC
Consumer Products

Crossett Paper Operations
100 Mill Supply Rd.
P.O. Box 3333
Crossett, AR 71635
(870) 567-8000
(870) 364-9076 fax
www.gp.com

March 20, 2015

Mr. Richard Healey
NPDES Enforcement Section
Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, AR 72118-5317

Reference: Georgia-Pacific LLC: Crossett Paper Operations
NPDES Permit # **AR0001210**

Dear Mr. Healey:

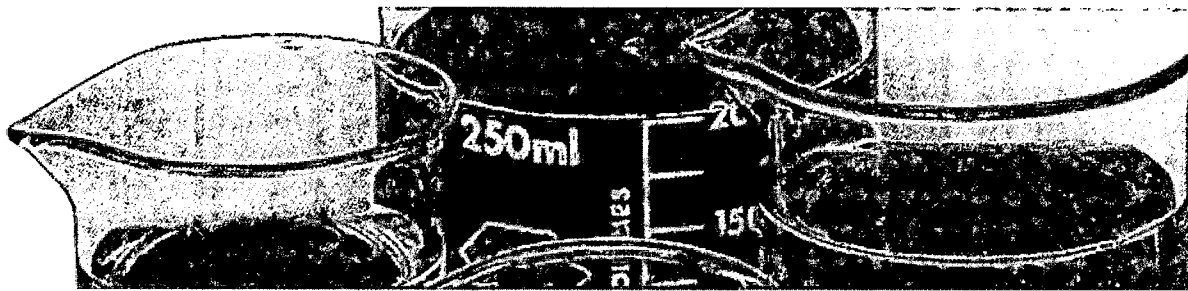
Attached are the Discharge Monitoring Reports (DMRs) for the Georgia-Pacific Crossett Paper Operations' - NPDES Permit # **AR0001210** - for February 2015. As required by Part III, Section 4 paragraph a, of our NPDES Permit, a full report of the chronic toxicity testing has also been included with this submittal.

If you have any questions or need additional information, please feel free to contact Rachel Johnson at (870) 567-8170 or by email at rachel.johnson2@gapac.com.

Sincerely,

A handwritten signature in cursive script that reads 'Sarah M. Ross'.

Sarah M. Ross
Environmental Manager
Crossett Paper Operations



**Chronic Toxicity Test Results
Outfall 001 Effluent**

Prepared for:
**Georgia Pacific Crossett Mill
Crossett, Arkansas**

Prepared by:
**ENVIRON International Corporation
Nashville, Tennessee**

Date:
January 2015

Project Number:
20-19675H



January 22, 2015

Ms. Rachel Johnson
Georgia-Pacific Crossett Mill
100 Mill Supply Road
Crossett, Arkansas 71635

**Re: Chronic Toxicity Test Results – Outfall 001 Effluent
ENVIRON Project No. 20-19675H**

Dear Ms. Johnson:

ENVIRON conducted a chronic (7-day) whole effluent toxicity (WET) test for Georgia-Pacific in Crossett, AR. The test was conducted according to WET testing requirements in Arkansas NPDES permit AR0001210. Composite samples of Outfall 001 effluent were collected on January 5, 7, and 9, 2015. The samples were received at ENVIRON on January 6, 8, and 10, 2015, within the USEPA-required receipt temperature range of 0-6.0 °C. The grab samples of river water were received in good condition on the same days as the effluent samples. Test organism utilized for the chronic toxicity test was *Ceriodaphnia dubia* (*C. dubia*). The test was initiated upon receipt of the first sample. Test concentrations consisted of 25, 34, 45, 60, and 80 percent effluent and a river water control. The river water also served as the test dilution water. A secondary control of moderately hard water was also initiated.

The test was conducted in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition (EPA-821-R-02-013). Controls met test acceptability criteria (TAC), therefore, the river water control was used for statistical analyses. The results of the chronic toxicity test are as follows:

TEST RESULTS FOR OUTFALL 001 EFFLUENT	
Permit Limits	<i>C. dubia</i>
NOEC Value 80% (lethality)	80%
NOEC Value 80% (sub-lethality)	80%

The results indicated a No Observable Effect Concentration (NOEC) value for lethality and sub-lethality of 80 percent effluent. These test results indicate no significant toxicity at the critical dilution for *C. dubia*.

The *C. dubia* reproduction CV values for the control and critical dilution (80 percent effluent) are 25.7 and 31.2 percent respectively, which meets the TAC limit of 40 percent for a finding of no toxicity. The percent minimum significant difference (PMSD) value was 26.8 percent, which is within the USEPA PMSD bounds of 13 to 47 percent for *C. dubia* reproduction. The effluent concentration-response is flat and cannot be described in EPA 821-B-00-004. A flat

ENVIRON International Corp. 201 Summit View Drive, Suite 300, Brentwood, TN 37027
V +1 615.277.7570 F +1 615.377.4976

NELAP Accredited and Laboratory Certification in the following States: AR (02-008-0), AZ (0751), CA (2465), FL (E87896), IA (386), KS (E-10391), LA (02061), MN, NC (003), OK (9973), SC (84015), TX (T104704410-11-2), VA (460171), WI (399050850), WV (351) Test Results Contained in this Report Meet NELAP Requirements

envirocorp.com

ENVIRON Test Log No. 17319

2 of 25

concentration-response curve is indicative of a lack of toxicity. This test is considered valid for assessment of permit compliance. The monthly reference toxicant data is within acceptable range.

Copies of the laboratory bench sheets with statistical data are presented in Attachment 1. Chain-of-custody documentation and reference toxicant data are presented in Attachment 2. In order to meet the NELAP requirement for listing the total number of report pages; this report consists of 25 pages, including this cover letter, attachment pages and separator pages.

If you have any questions please contact Rick Lockwood at (615) 277-7523. ENVIRON appreciates the opportunity to assist Georgia-Pacific with their testing needs.

Sincerely,
ENVIRON International Corporation



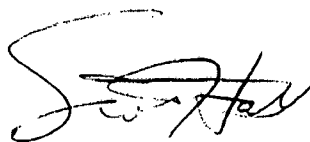
Richard e. Lockwood
Project Manager



Robin L. Richards, REM
Principal

DATA REVIEW FORM
ACUTE AND CHRONIC WET TESTS
ENVIRON International Corporation

The raw data (i.e., laboratory bench sheets) and data in the applicable summary sheets have been checked and found to be complete. Additionally, test conditions and control performance meet test acceptability criteria specified by the US Environmental Protection Agency and the certifying state authority for the tests conducted.¹



Scott Hall, Manager
Ecotoxicology Group

¹ Any data limitations regarding their applicability for determining NPDES permit compliance are discussed in the report cover letter.

**Attachment 1:
Laboratory Bench Sheets with
Statistical Data**

CETIS Analytical Report

Report Date: 13 Jan-15 11:22 (p 1 of 2)
 Test Code: 17319 | 12-8450-2693

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 10-0724-7983	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 13 Jan-15 11:20	Analysis: STP 2x2 Contingency Tables	Official Results: Yes
Batch ID: 15-4707-5177	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 06 Jan-15 11:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 12 Jan-15 11:42	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-2675-3656	Code: 78E1B78	Client: GPAC Crossett
Sample Date: 05 Jan-15 06:20	Material: Industrial Effluent	Project: WET Monthly Compliance Test (JAN)
Receive Date: 06 Jan-15 08:35	Source: Discharge Monitoring Report	
Sample Age: 29h	Station: Outfall 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU
Untransformed		C > T	NA	NA	80	>80	NA	1.25

Fisher Exact/Bonferroni-Holm Test

Control	vs	C-%	Test Stat	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	1	1.0000	Exact	Non-Significant Effect
		34	1	1.0000	Exact	Non-Significant Effect
		45	1	1.0000	Exact	Non-Significant Effect
		60	1	1.0000	Exact	Non-Significant Effect
		80	1	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria

Data Summary

C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Receiving Water	10	0	10	1	0	0.0%
25		10	0	10	1	0	0.0%
34		10	0	10	1	0	0.0%
45		10	0	10	1	0	0.0%
60		10	0	10	1	0	0.0%
80		10	0	10	1	0	0.0%

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
34		1	1	1	1	1	1	1	1	1	1
45		1	1	1	1	1	1	1	1	1	1
60		1	1	1	1	1	1	1	1	1	1
80		1	1	1	1	1	1	1	1	1	1

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
34		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
45		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
60		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
80		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 13 Jan-15 11:22 (p 2 of 2)
Test Code: 17319 | 12-8450-2693

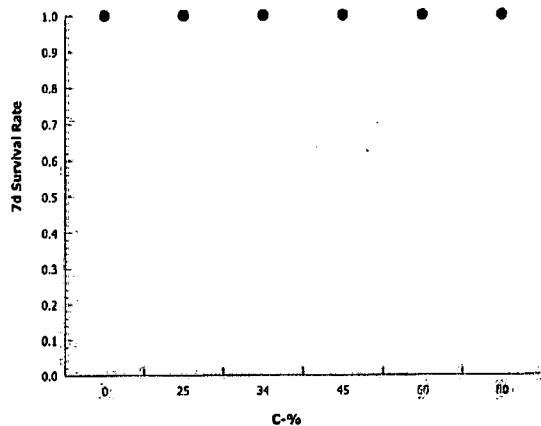
Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 10-0724-7983 Endpoint: 7d Survival Rate
Analyzed: 13 Jan-15 11:20 Analysis: STP 2x2 Contingency Tables

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 13 Jan-15 11:22 (p 1 of 2)
 Test Code: 17319 | 12-8450-2693

Ceriodaphnia 7-d Survival and Reproduction Test ENVIRON International Corp

Analysis ID: 09-7112-8858	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 13 Jan-15 11:21	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes
Batch ID: 15-4707-5177	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 06 Jan-15 11:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 12 Jan-15 11:42	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-2675-3656	Code: 78E1B78	Client: GPAC Crossett
Sample Date: 05 Jan-15 06:20	Material: Industrial Effluent	Project: WET Monthly Compliance Test (JAN)
Receive Date: 06 Jan-15 08:35	Source: Discharge Monitoring Report	
Sample Age: 29h	Station: Outfall 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	NA	C > T	NA	NA	80	>80	NA	1.25	26.8%

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	118.5	75	4	18	0.9860	Asymp	Non-Significant Effect
		34	132	75	4	18	0.9997	Asymp	Non-Significant Effect
		45	122.5	75	3	18	0.9948	Asymp	Non-Significant Effect
		60	110	75	4	18	0.9223	Asymp	Non-Significant Effect
		80	101.5	75	4	18	0.7427	Asymp	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	27.8	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.2682	0.13 - 0.47	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	398.2	79.64	5	1.501	0.2048	Non-Significant Effect
Error	2864.4	53.04445	54			
Total	3262.6		59			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	13.53	15.09	0.0189	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.8834	0.9459	<0.0001	Non-normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	10	27.8	22.69	32.91	30.5	13	34	2.26	25.71%	0.0%
25		10	29.1	23.33	34.87	32	13	36	2.549	27.7%	-4.68%
34		10	33.9	31.39	36.41	33	30	40	1.11	10.35%	-21.94%
45		10	32.5	29.71	35.29	32	27	39	1.232	11.98%	-16.91%
60		10	27.1	19.97	34.23	31	12	37	3.153	36.8%	2.52%
80		10	27.8	21.59	34.01	29	5	37	2.744	31.21%	0.0%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	17	33	31	34	26	30	32	32	13	30
25		18	13	31	24	31	34	36	33	35	36
34		30	34	40	32	32	30	37	31	35	38
45		39	29	31	31	38	27	34	29	34	33
60		13	37	31	35	33	12	31	35	30	14
80		32	29	27	37	28	5	34	31	29	26

CETIS Analytical Report

Report Date: 13 Jan-15 11:22 (p 2 of 2)
Test Code: 17319 | 12-8450-2693

Ceriodaphnia 7-d Survival and Reproduction Test

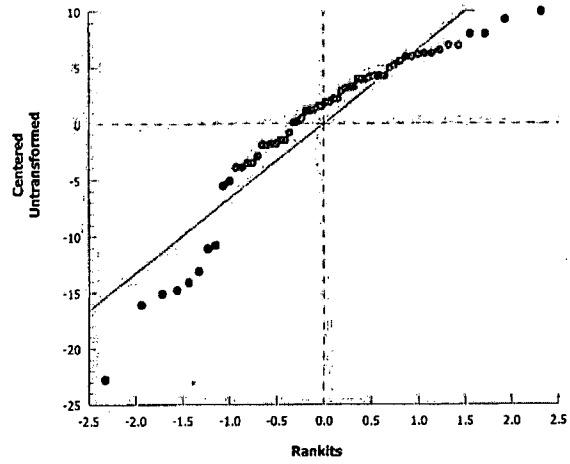
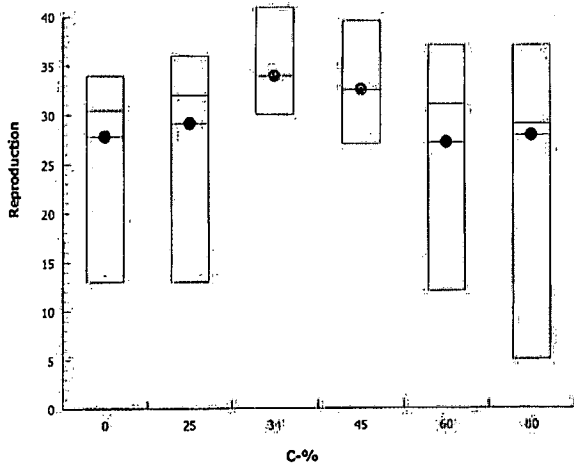
ENVIRON International Corp

Analysis ID: 09-7112-8858
Analyzed: 13 Jan-15 11:21

Endpoint: Reproduction
Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 13 Jan-15 11:22 (p 1 of 1)
 Test Code: 17319 | 12-8450-2693

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 03-2416-9357	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 13 Jan-15 11:21	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 15-4707-5177	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 06 Jan-15 11:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 12 Jan-15 11:42	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-2675-3656	Code: 78E1B78	Client: GPAC Crossett
Sample Date: 05 Jan-15 06:20	Material: Industrial Effluent	Project: WET Monthly Compliance Test (JAN)
Receive Date: 06 Jan-15 08:35	Source: Discharge Monitoring Report	
Sample Age: 29h	Station: Outfall 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	857094	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	27.8	15 - NL	Yes	Passes Acceptability Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>80	N/A	N/A	<1.25	NA	NA

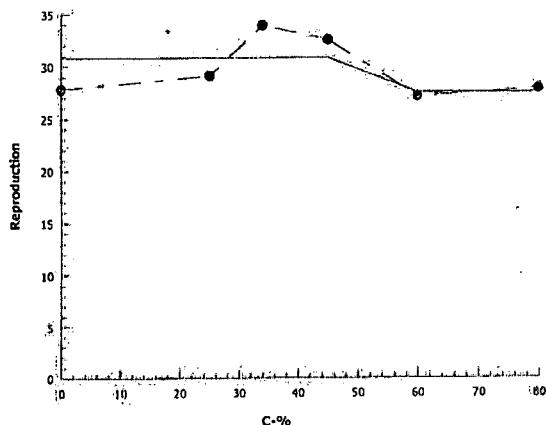
Reproduction Summary

C-%	Control Type	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	10	27.8	13	34	2.26	7.146	25.71%	0.0%
25		10	29.1	13	36	2.549	8.062	27.7%	-4.68%
34		10	33.9	30	40	1.11	3.51	10.35%	-21.94%
45		10	32.5	27	39	1.232	3.894	11.98%	-16.91%
60		10	27.1	12	37	3.153	9.972	36.8%	2.52%
80		10	27.8	5	37	2.744	8.677	31.21%	0.0%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	17	33	31	34	26	30	32	32	13	30
25		18	13	31	24	31	34	36	33	35	36
34		30	34	40	32	32	30	37	31	35	38
45		39	29	31	31	38	27	34	29	34	33
60		13	37	31	35	33	12	31	35	30	14
80		32	29	27	37	28	5	34	31	29	26

Graphics



ENVIRON CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION 3-BROOD CHRONIC TOXICITY TEST
EPA-821-R-02-013 Method 1002.0

TEST LOG NO.: 17319 PHOTOPERIOD: 16 hr light/8 hr dark
 JOB NUMBER: 20-19675H FEEDING REGIME: 0.1 mL YCT / 0.1 mL P. subcapitata per 15 mL
 INDUSTRY: Georgia Pacific-Crossett TEST VESSEL CAPACITY: 30 mL
 EFFLUENT: Outfall 001 TEST SOLUTION VOLUME: 15 mL
 DILUTION WATER: River Water NO. ORGANISMS/REPLICATE: 1
 NPDES (Y/N): Yes NO. REPLICATES: 10

ORGANISM SOURCE INFORMATION:

AGE (date): 1/5/15
 TEMP @ TEST START: 24.3
 RANDOMIZED BY: AW
 TEST START: 1120 DATE: 1/6/15
 TEST END: 1142 DATE: 1/12/15

SOURCE ID:	AGE (time):
10842	1500-2200
10843	1500-2200
10844	1500-2200
10845	1500-2200
10849	1500-2200

SURVIVAL AND REPRODUCTION DATA														Notes		
Test Start & Feeding/End Initials/Time	Daily Renewal & Feeding Initials/Time	Date	Control		43 44 REPLICATES 45 42 49											
			River Water													
			Temp (°C)		1	2	3	4	5	6	7	8	9		10	
					Adult	5	11	4	20	11	10	16	1	15	3	
AA 1120		1/6	24.2		Day 0	✓	-	✓	-	-	-	-	-	-	-	
	AA 1058	1/7	24.4	24.3	Day 1	✓	-	-	-	-	-	-	-	-	-	
	AA 1115	1/8	24.3	24.3	Day 2	✓	-	-	-	-	-	-	-	-	-	
	AA 1059	1/9	24.2	24.3	Day 3	5	5	4	4	2	4	5	6	2	5	
	AA 1141	1/10	24.0	24.1	Day 4	✓	✓	✓	6	✓	✓	✓	✓	✓	10	
	AA 1058	1/11	24.2	24.3	Day 5	12	11	8	4	9	10	12	12	11	✓	•big
AA 1142		1/12		24.1	Day 6	✓	17	19	20	15	16	15	14	✓	15	80%
					Day 7											
					Day 8											
			Total			17	33	31	34	26	30	32	32	13	30	278

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-) = Dead neonates M = Male

TEST LOG # 17319

JOB # 20-19675H

CLIENT/SAMPLE ID: Georgia Pacific - Crossett

LAB/STATE: ENVIRON / TN

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes
			25%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
PH 1120		1/6	24.3		Day 0	✓	/	/	/	/	/	/	/	/		
	PH 1058	1/7	24.5	24.7	Day 1	✓	/	/	/	/	/	/	/	/		
	PH 1115	1/8	24.0	24.1	Day 2	✓	/	/	/	/	/	/	/	/		
	PH 1009	1/9	24.4	24.2	Day 3	3	5	3	4	4	4	4	5	6	4	
	AW 1141	1/10	24.0	24.1	Day 4	5	✓	7	6	9	✓	✓	✓	✓	✓	
	AW 1058	1/11	24.2	24.7	Day 5	10	8	3	3	✓	11	12	11	10	12	
	AW 1142	1/12		24.5	Day 6	19	✓	18	12	18	19	20	17	19	20	
					Day 7											
					Day 8											
			Total			18	13	31	24	31	34	36	33	35	36	291

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes
			34%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
PH 1120		1/6	24.2		Day 0	✓	/	/	/	/	/	/	/	/		
	PH 1050	1/7	24.4	24.3	Day 1	✓	/	/	/	/	/	/	/	/		
	PH 1115	1/8	24.2	24.4	Day 2	✓	/	/	/	/	/	/	/	/		
	PH 1009	1/9	24.2	24.3	Day 3	4	4	6	4	4	2	✓	✓	4	4	
	AW 1141	1/10	24.0	24.2	Day 4	✓	✓	✓	7	✓	✓	6	4	9	12	
	AW 1057	1/11	24.1	24.4	Day 5	11	10	14	2	10	11	10	11	11	✓	
	AW 1142	1/12		24.3	Day 6	15	20	20	19	18	17	21	16	21	22	
					Day 7											
					Day 8											
			Total			30	34	40	32	32	30	37	31	35	38	389

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-) = Dead neonates M = Male

L:\Ecotox\lab\Labforms\ToxTestSheets\7ChronicCD.doc

TEST LOG # 17319

JOB # 20-19675H

CLIENT/SAMPLE ID: Georgia Pacific - Crossett

LAB/STATE: ENVIRON / TN

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes
			45%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
AB 1120		1/6	24.2		Day 0	✓	/	/	/	/	/	/	/	/	/	
	AB 1056	1/7	24.5	24.3	Day 1	✓	/	/	/	/	/	/	/	/	/	
	AB 1115	1/8	24.2	24.2	Day 2	✓	/	/	/	/	/	/	/	/	/	
	AB 1009	1/9	24.3	24.2	Day 3	5	2	4	✓	7	5	4	5	4	5	
	AB 1141	1/10	24.0	24.3	Day 4	✓	✓	✓	4	✓	✓	✓	✓	✓	✓	10
	AB 1058	1/11	24.2	24.1	Day 5	13	11	10	9	11	9	12	10	12	✓	
AB 1142		1/12	24.6		Day 6	21	16	17	18	20	13	18	14	18	18	
					Day 7											
					Day 8											
					Total	39	29	31	31	38	27	34	29	31	33	325

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes
			60%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
AB 1120		1/6	24.3		Day 0	✓	/	/	/	/	/	/	/	/	/	
	AB 1058	1/7	24.6	24.6	Day 1	✓	/	/	/	/	/	/	/	/	/	
	AB 1115	1/8	24.2	24.2	Day 2	/	/	/	/	/	/	/	/	/	/	
	AB 1009	1/9	24.3	24.2	Day 3	4	5	✓	3	3	2	5	7	4	5	
	AB 1141	1/10	24.1	24.4	Day 4	✓	✓	4	10	✓	✓	✓	✓	9	✓	
	AB 1058	1/11	24.0	24.2	Day 5	9	11	10	11	11	10	11	12	✓	9	
AB 1142		1/12	24.4		Day 6	✓	21	17	21	19	✓	15	16	17	✓	
					Day 7											
					Day 8											
					Total	13	37	31	35	33	12	31	35	30	14	271

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-) = Dead neonates M = Male

TEST LOG NO. 17319
 JOB NO. 20-19675H

CLIENT/SAMPLE ID: Georgia Pacific Crossett
 TEST ORGANISM: Cd

DATE: 1/6/15

ENVIRON Test Log No. 17319

15 OF 25

		D.O. (mg/L)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		8.1	8.1	8.0	8.3	8.5	8.3	8.2	8.4	8.3	8.4	8.0	7.8		
25		8.0	8.1	8.2	8.3	8.5	8.2	8.5	8.5	8.3	8.2	8.4	7.9		
34		8.0	8.2	8.2	8.3	8.6	8.2	8.4	8.5	8.2	8.5	8.4	7.9		
45		8.0	8.2	8.2	8.2	8.7	8.2	8.4	8.4	8.3	8.5	8.5	8.0		
60		8.1	8.3	8.3	8.2	8.7	8.5	8.7	8.4	8.4	8.1	8.3	8.1		
80		8.2	8.3	8.2	8.2	8.8	8.4	8.7	8.4	8.4	8.2	8.3	8.1		
MH		8.2	8.2	8.2	8.4	8.5	8.2	8.5	8.2	8.3	8.2	8.1	8.0		

		pH (s.u.)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		7.7	8.07	7.84	8.11	8.21	8.11	7.90	7.89	7.88	7.89	7.10	7.57		
25		7.20	7.91	7.60	7.87	7.62	7.83	7.50	7.92	7.80	7.94	7.06	7.80		
34		7.21	7.94	7.62	7.85	7.50	7.85	7.45	7.94	7.33	7.99	7.27	7.86		
45		7.24	7.92	7.71	7.85	7.51	7.85	7.46	8.11	7.33	8.18	7.31	8.05		
60		7.26	7.94	7.84	8.17	7.50	8.12	7.44	8.21	7.55	8.26	7.40	8.10		
80		7.34	7.90	8.10	8.11	7.53	8.26	7.46	8.31	7.56	8.34	7.61	8.11		
MH		7.27	7.90	7.93	7.98	2.97	8.02	7.00	8.04	7.90	8.04	7.91	8.00		

		Conductivity (umhos/cm)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		7.4 AU	170	174	177	171	173	167	176	177	174	181	155		
25		689	699	576	622	599	562	535	559	574	524	512	522		
34		671	638	714	607	615	707	223	670	752	714	677	674		
45		994	1090	924	747	970	988	900	835	907	509	871	903		
60		1278	1286	1201	1510	1121	1134	115	1052	1177	1105	1054	1112		
80		1624	1613	1520	1639	1451	1440	1423	1245	1440	1370	1356	1349		
MH		254	262	200	271	273	257	258	235	214	211	237	245		

Params Int/Time:	AB 0934	PH 1107	PH 0811	PH 1122	AB 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017	PH 1017
Dilutions Int/Time:	AB 0934	PH 0807	PH 0807	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009	PH 1009
Control Water Batch:	18402, 5755	18402, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757	18013, 5757
Food Batch	4917/4919	4912/4913	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15	4912, 15

TEST LOG NO. 17139

CLIENT: Georgia Pacific Crossett

DATE OF TEST: 1/6/15

JOB NO. 20-19675H

TEST TYPE(S) PERFORMED: Fm & Cd Chronic

ENVIRON Test Log No. 17319

100% EFFLUENT

Batch #	Sample ID	Sample Date	1st Use Date	Hardness mg/L CaCO3	Alkalinity mg/L	TRC mg/L	NH ₃ N mg/L
18403	Outfall 001	1/4-5/15	1/6/15	268	290	LO.02	0.428 0.277 ^{1/4 1/9}
18414	Outfall 001	1/6-7/15	1/8/15	284	270	LO.02	0.249 ^{1/4 1/6 5}
18433	Outfall 001	1/8-9/15	1/10/15	284	260	0.08	LO.1

CONTROL / DILUTION WATER

Batch #	Sample ID	Sample Date	1st Use Date	Hardness mg/L CaCO3	Alkalinity mg/L	TRC mg/L	NH ₃ N mg/L
18402	River Water	1/5/15	1/6/15	28	20	0.03	0.0722
5355	MH	12/23/14	1/6/15	80.8	46	LO.02	-
18413	River Water	1/6-7/15	1/8/15	24.8	19	0.05	0.249
5757	MH	12/30/14	1/7/15	80	44	LO.02	-
18432	River Water	1/5/15	1/10/15	24.0	22	0.03	LO.1
5761	MH	1/7/15	1/8/15	84	41	LO.02	-
5762	MH	1/7/15	1/10/15	96	54	LO.02	-

16 of 25

**Attachment 2:
Chain-Of-Custody Documentation and
Reference Toxicant Data**

Sample Receipt Checklist:

Client: GP Cresset

Date/Time received 0825 1/6/15 by AB

- 1. Cooler sealed and intact upon arrival? Yes No
- 2. Custody seals present? Yes No
- 3. Samples received below 6 degrees Celsius? Yes No
- 4. Was ice present? Yes No
- 5. Is the COC filled out correctly including the sample date/time and signed? Yes No
- 6. Was the sample received within 36 hours of collection? Yes No
- 7. Did the sample(s) arrive in good condition? Yes No
- 8. Was pH and DO measured and in range? Yes No
- 9. Was residual chlorine present? Yes No
 - 1.0 mg/L? (did dechlor occur) Yes No *in River water*

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18402	River	3.4	7.78	8.2	0.03
18402	Outfall out	1.6	7.50	8.2	0.02

L:\Ecotox Lab\FORMS

ENVIROTEST FORM NO. 1319 19 of 25

Project Name: _____ Project Number: _____
 Industry: GEORGIA PACIFIC PAPER
 Phone: 870-567-8170 FAX: 870-364-9074
 County: ASHLEY City: CROSSETT State: AR.

Sample Collected by (print): _____ NPDES Permit No.: AR0001210
 Sample Collected by (signature): Danny Ricen NPDES Test: No Yes
 No. of Cntrs: _____

Analysis Requested

Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other

CHAIN-OF-CUSTODY



201 Summit View Drive, Suite 300
 Brentwood, TN 37027
 PHONE: (615) 277-7570
 FAX: (615) 377-4976

Sample Location / ID	Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time	Cntrs	Analysis Requested									Description				
							Definitive or Screen	Sample B# (lab only)												
RIVER	G	PLASTIC	NA	1-5-15 12:30PM		2 20														
OUTFALL 001	C	PLASTIC	YES	1-4-15 4:05AM	1-5-15 6:00AM	2 20														

34°
1.6°

* Matrix: SS - Soil GW - Groundwater WW - Wastewater AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____

Remarks:

Measured TRC (if applicable): 0.190 mg/L

Relinquished by: (Signature)	Date: <u>1-5-15</u>	Time: <u>4:00PM</u>	Received by: (Signature)	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other Courier	<input type="checkbox"/> UPS Hand Delivered <input type="checkbox"/> Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Receipt Temp: <u>Sec chm</u>	Containers/Volume Received: <u>2 4.30 10L</u>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: <u>1/6/15</u>	Time: <u>0835</u> pH upon arrival: <u>02) 7.18</u> DO upon arrival: <u>02) 8.2</u>

03) 7.50 03) 8.2

Sample Receipt Checklist:

Client: GP Crockett

Date/Time received 1/8/15 0840 by MB

1. Cooler sealed and intact upon arrival? Yes No
2. Custody seals present? Yes No
3. Samples received below 6 degrees Celsius? Yes No
4. Was ice present? Yes No
5. Is the COC filled out correctly including the sample date/time and signed? Yes No
6. Was the sample received within 36 hours of collection? Yes No
7. Did the sample(s) arrive in good condition? Yes No
8. Was pH and DO measured and in range? Yes No
9. Was residual chlorine present? Yes No
 - 1.0 mg/L? (did dechlor occur) Yes No

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18013	River	2.0	7.44	8.9	0.05
18014	Outlet 001	2.1	7.60	8.8	20.02

CHAIN-OF-CUSTODY



201 Summit View Drive, Suite 300
Brentwood, TN 37027
PHONE: (615) 277-7570
FAX: (615) 377-4976

Analysis Requested

Acute Fathead minnow	
Acute Bannertin shiner	
Acute Ceriodaphnia dubia	
Acute Daphnia pulex	
Chronic Fathead minnow	
Chronic Ceriodaphnia dubia	
Continuous Batch Tests	
Discrete Batch Tests	
Other	

Project Number:

Project Name: GEORGIA PACIFIC PAPER
 Industry: 870-527-8170
 Phone: 870-364-9076
 County: ASHLEY
 City: CROSSETT
 State: AR.

NPDES Permit No.: AR000 R10
 NPDES Test: Yes No

Sample Collected by (print): DANNY PAUL
 Sample Collected by (signature): [Signature]

Sample Location / ID	Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time	No. of Cntrs
RIVER	6	PLASTIC		1-5-15 12:30PM	1-7-15	
DAHFALL C01	C	PLASTIC		1-6-15 6:20 AM	1-7-15	

Description	Sample B# (lab only)	Receipt Temp °C
TRILLION WATER	19013	2.0
	10014	2.1

Matrix: **SS** - Soil **GW** - Groundwater **WW** - Wastewater **AW** - Ambient Water **ML** - Mixed Liquor **SL** - Sludge **SD** - Sediment **OT** - Other _____

Remarks:

Measured TRC (if applicable): 0.00 mg/L

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
<u>[Signature]</u>	1-7-15	3:00 PM	
<u>[Signature]</u>			
<u>[Signature]</u>			

Samples shipped via: FedEx UPS Hand Delivered Other Courier
 Condition: (lab use only) on ice
 Containers/Volume Received: 40L
 Date: 1/8/15 Time: 0840
 pH upon arrival: 7.44
 DO upon arrival: 8.9
MD 7.60 8.5

Sample Receipt Checklist:


Client: GP Crosett

Date/Time received 1/10/15 0905 by AW

1. Cooler sealed and intact upon arrival? Yes No
2. Custody seals present? Yes No
3. Samples received below 6 degrees Celsius? Yes No
4. Was ice present? Yes No
5. Is the COC filled out correctly including the sample date/time and signed? Yes No
6. Was the sample received within 36 hours of collection? Yes No
7. Did the sample(s) arrive in good condition? Yes No
8. Was pH and DO measured and in range? Yes No
9. Was residual chlorine present? Yes No
 - 1.0 mg/L? (did dechlor occur) Yes No

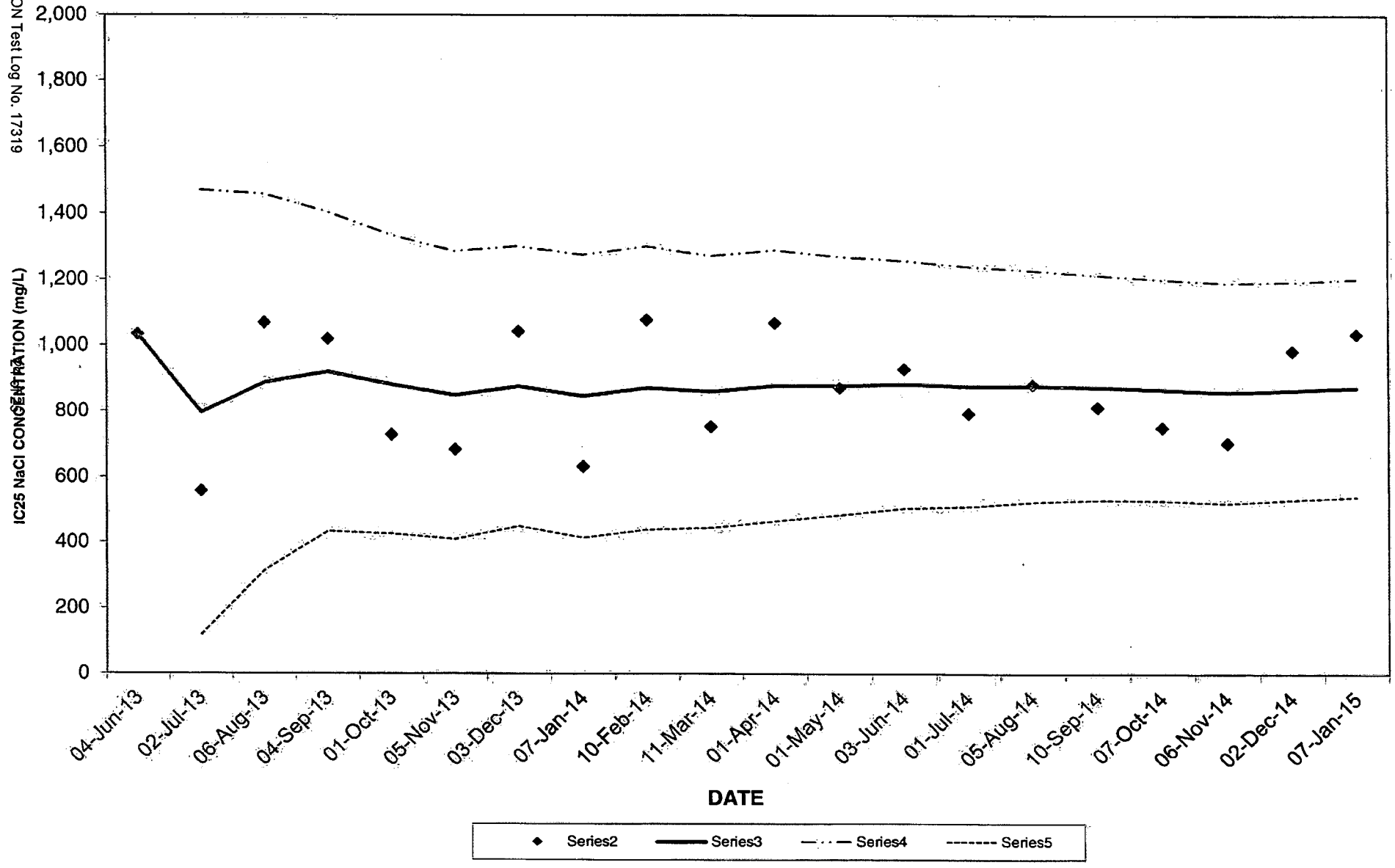
Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18432	River	1.8	8.07	9.4	0.03
18433	Outfall	2.0	7.69	8.7	0.08

Project Name:				Project Number:				Analysis Requested										CHAIN-OF-CUSTODY  201 Summit View Drive, Suite 300 Brentwood, TN 37027 PHONE: (615) 277-7570 FAX: (615) 377-4976																														
Industry: <u>GEORGIA PACIFIC PAPER</u>								<table border="1" style="width:100%; height: 100%; text-align: center;"> <tr> <td rowspan="3" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Volume in liters</td> <td>Acute Fathead minnow</td><td>Acute Bannerfin shiner</td><td>Acute Ceriodaphnia dubia</td><td>Acute Daphnia pulex</td><td>Chronic Fathead minnow</td><td>Chronic Ceriodaphnia dubia</td><td>Continuous Batch Tests</td><td>Discrete Batch Tests</td><td>Other</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>													Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other																		
Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests															Discrete Batch Tests	Other																									
Phone: <u>870-567-8170</u> FAX: <u>870-364-9074</u>																																																
County: <u>ASHLEY</u> City: <u>CROSSETT</u> State: <u>AR.</u>																																																
Sample Collected by (print): <u>DANNY PAUL</u>				NPDES Permit No.: <u>AR0001310</u>																																												
Sample Collected by (signature): <u>Danny R.</u>				NPDES Test: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes																																												
Sample Location / ID		Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time	No. of Cntrs											Description Definitive or Screen	Sample B# (lab only)	Receipt Temp °C																												
<u>RIVER</u>		<u>G</u>	<u>PLASTIC</u>	<u>NA</u>	<u>1-5-15</u>	<u>12:30PM</u>	<u>2</u>	<u>20</u>																																								
<u>WATERFALL C01</u>		<u>C</u>	<u>PLASTIC</u>	<u>YES</u>	<u>1-8-15</u>	<u>1-9-15</u>	<u>2</u>	<u>20</u>																																								
Matrix: SS - Soil GW - Groundwater WW - Wastewater AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____																																																
Remarks:																																																
Measured TRC (if applicable): <u>0.00</u> mg/L																																																
Relinquished by: (Signature)				Date: <u>1-9-15</u> Time: <u>3:00PM</u>		Received by: (Signature)				Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/> Courier				<input type="checkbox"/> UPS <input type="checkbox"/> Hand Delivered		Condition: (lab use only)																																
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Containers/Volume Received: <u>70L oteach</u>																																				
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) <u>Justin Winter</u>				Date: <u>1/10/15</u> Time: <u>0905</u>		pH upon arrival: <u>8.07</u> <u>7.69</u>		DO upon arrival: <u>9.4</u> <u>8.7</u>																																

CHRONIC REFERENCE TOXICANT (NaCl) 2013-2015
Ceriodaphnia dubia

ENVIRON Test Log No. 17319



Ceriodaphnia dubia CHRONIC REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2013-2015

ENVIRON Test Log No. 17319

25 of 25

Test Number	Log Number	Test Initiation Date	Control Survival (%) (*)	3 Brood Production (%) (*)	Control Average Repr (*)	Survival		Reproduction			IC25 VALUE (mg/L)	IC25 CUMULATIVE MEAN (mg/L)	IC25 ST. DEV. (mg/L)	IC25 2+ STD. DEV.	IC25 2- STD. DEV.	Coefficient of Variation (%)
						NOEC (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOEC (mg/L)	PMSD						
1	16137	04-Jun-13	90	90	30.0	1,000	2,000	500	1,000	16.2	1,034	1,034				
2	16188	02-Jul-13	100	80	21.5	2,000	>2,000	500	1,000	35.7	556	795	338	1,471	119	30
3	16257	06-Aug-13	100	90	29.1	1,000	2,000	500	1,000	24.9	1,068	886	286	1,459	313	26
4	16308	04-Sep-13	100	90	27.1	2,000	>2,000	500	1,000	14.6	1,018	919	243	1,405	433	23
5	16347	01-Oct-13	100	90	28.0	2,000	>2,000	1,000	2,000	26.0	726	880	227	1,335	426	23
6	16426	05-Nov-13	100	80	31.0	2,000	>2,000	250	500	27.1	681	847	219	1,285	409	24
7	16497	03-Dec-13	100	90	29.0	2,000	>2,000	500	1,000	12.3	1,041	875	213	1,301	449	23
8	16552	07-Jan-14	100	90	29.4	1,000	2,000	500	1,000	20.2	630	844	215	1,275	414	24
9	16630	10-Feb-14	100	100	31.1	1,000	2,000	500	1,000	13.4	1,076	870	216	1,301	439	23
10	16682	11-Mar-14	100	90	23.0	1,000	2,000	500	1,000	24.3	750	858	207	1,272	444	23
11	16730	01-Apr-14	100	100	28.8	2,000	>2,000	500	1,000	12.3	1,067	877	206	1,289	465	22
12	16782	01-May-14	100	100	33.6	2,000	>2,000	500	1,000	13.5	868	876	197	1,269	483	21
13	16834	03-Jun-14	100	80	26.1	1,000	2,000	1,000	2,000	22.9	926	880	189	1,258	503	21
14	16909	01-Jul-14	100	100	31.3	1,000	2,000	500	1,000	21.7	789	874	183	1,239	508	20
15	16989	05-Aug-14	100	90	28.7	2,000	>2000	500	1,000	17.4	877	874	176	1,226	521	19
16	17077	10-Sep-14	100	90	28.4	1,000	2,000	500	1,000	17.3	808	870	171	1,212	527	19
17	17124	07-Oct-14	100	100	29.7	1,000	2,000	500	1,000	26.8	747	862	168	1,199	526	19
18	17201	06-Nov-14	100	80	23.8	1,000	2,000	500	1,000	21.5	700	853	168	1,189	518	19
19	17248	02-Dec-14	100	80	26.1	2,000	>2000	500	1,000	14.1	980	860	166	1,191	529	19
20	17316	07-Jan-15	100	90	28.2	2,000	>2000	500	1,000	17.8	1,032	869	166	1,200	537	19

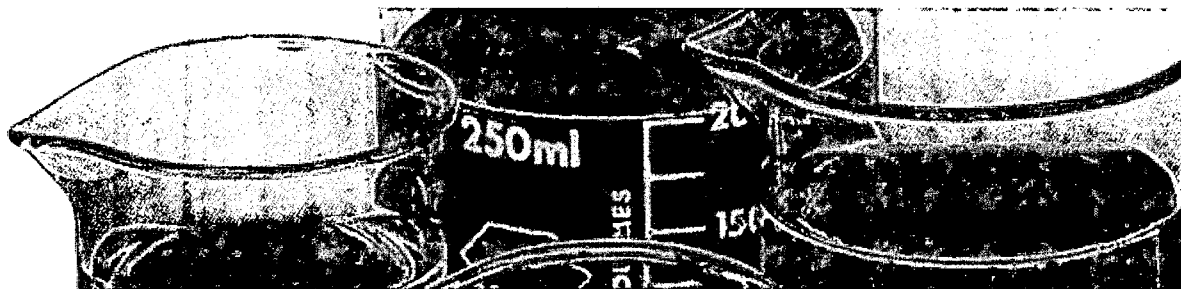
Avg	99	91	28	1444	1111	542	1083	20	860	876	213	1293	441
-----	----	----	----	------	------	-----	------	----	-----	-----	-----	------	-----

Notes:

NOEC - No Observable Effect Concentration (survival or reproduction)

LOEC - Lowest Observable Effect Concentration (survival or reproduction)

(*) Minimum USEPA CONTROL CRITERIA - 80 percent survival, 80 percent with 3 broods, and average reproduction of 15 neonates/adult.



**Chronic Toxicity Test Results
Outfall 001 Effluent**

Prepared for:
**Georgia Pacific Crossett Mill
Crossett, Arkansas**

Prepared by:
**ENVIRON International Corporation
Nashville, Tennessee**

Date:
February 2015

Project Number:
20-19675H



February 24, 2015

Ms. Rachel Johnson
Georgia-Pacific Crossett Mill
100 Mill Supply Road
Crossett, Arkansas 71635

**Re: Chronic Toxicity Test Results – Outfall 001 Effluent
ENVIRON Project No. 20-19675H**

Dear Ms. Johnson:

ENVIRON conducted chronic (7-day) whole effluent toxicity (WET) tests for Georgia-Pacific in Crossett, AR. The tests were conducted according to requirements in Arkansas NPDES permit AR0001210. Composite samples of Outfall 001 effluent were collected on February 9, 11, and 13, 2015. The samples were received at ENVIRON on February 10, 12, and 14, 2015, within the USEPA-required receipt temperature range of 0-6.0 °C. The grab samples of river water were received in good condition on the same days as the effluent samples. Test organisms utilized for the chronic toxicity tests were the fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* (*C. dubia*). The tests were initiated upon receipt of the first sample. Test concentrations consisted of 25, 34, 45, 60, and 80 percent effluent and a river water control. A secondary control of moderately hard water was also initiated.

Tests were conducted in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition (EPA-821-R-02-013). All controls met test acceptability criteria (TAC), therefore, the river water control was used for statistical analyses. The results of the chronic toxicity tests are as follows:

TEST RESULTS FOR OUTFALL 001 EFFLUENT		
Permit Limits	Fathead Minnow	<i>C. dubia</i>
NOEC Value 80% (lethality)	80%	80%
NOEC Value 80% (sub-lethality)	80%	80%

The results of the chronic test with the fathead minnow indicated a No Observable Effect Concentration (NOEC) value for lethality and sub-lethality of 80 percent effluent. The results of the chronic test with *C. dubia* indicated NOEC values for lethality and sub-lethality of 80 percent effluent. These test results indicate no significant toxicity at the critical dilution for either fathead minnow or *C. dubia*.

ENVIRON International Corp. 201 Summit View Drive, Suite 300, Brentwood, TN 37027
V +1 615.277.7570 F +1 615.377.4976

NELAP Accredited and Laboratory Certification in the following States: AR (02-008-0), AZ (0751), CA (2465), FL (E87896), IA (386), KS (E-10391), LA (02061), MN, NC (003), OK (9973), SC (84015), TX (T104704410-11-2), VA (460171), WI (399050850), WV (351) Test Results Contained in this Report Meet NELAP Requirements

envirocorp.com

ENVIRON Test Log No. 17394

2 of 36

The Coefficient of Variation (CV) values for the fathead minnow survival in the river water control and critical dilution are 7.4 and 5.7 percent, respectively. The CV values for growth in the control and critical dilution are 17.0 and 7.4 percent, respectively, and meet the CV limit of 40 percent for findings of no toxicity. The effluent concentration-response curve is flat and cannot be described in EPA 821-B-00-004 *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing*. A flat concentration-response curve is indicative of a lack of toxicity. Test precision for growth results (as Percent Minimum Significant Difference, PMSD) value was 22.9 which is within the USEPA PMSD bounds of 12 to 30 percent when alpha 0.05 was used for hypothesis testing. This test is considered valid for assessment of permit compliance. The monthly reference toxicant test also met all the test acceptability criteria.

The *C. dubia* reproduction CV values for the control and critical dilution are 8.9 and 20.5 percent respectively, which meets the TAC limit of 40 percent for a finding of no toxicity. The PMSD value was 15.2 percent, which is within the USEPA PMSD bounds of 13 to 47 percent for *C. dubia* reproduction. The effluent concentration-response is flat and cannot be described in EPA 821-B-00-004. A flat concentration-response curve is indicative of a lack of toxicity. This test is considered valid for assessment of permit compliance. The monthly reference toxicant test also met all the test acceptability criteria.

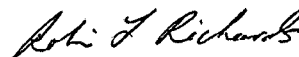
Copies of the laboratory bench sheets with statistical data are presented in Attachment 1. Chain-of-custody documentation and reference toxicant data are presented in Attachment 2. In order to meet the NELAP requirement for listing the total number of report pages; this report consists of 36 pages, including this cover letter, attachment pages and separator pages.

If you have any questions please contact Rick Lockwood at (615) 277-7523. ENVIRON appreciates the opportunity to assist Georgia-Pacific with their testing needs.

Sincerely,
ENVIRON International Corporation



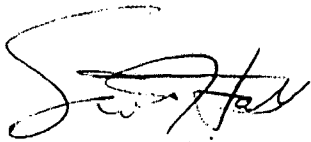
Richard e. Lockwood
Project Manager



Robin L. Richards, REM
Principal

DATA REVIEW FORM
ACUTE AND CHRONIC WET TESTS
ENVIRON International Corporation

The raw data (i.e., laboratory bench sheets) and data in the applicable summary sheets have been checked and found to be complete. Additionally, test conditions and control performance meet test acceptability criteria specified by the US Environmental Protection Agency and the certifying state authority for the tests conducted.¹



Scott Hall, Manager
Ecotoxicology Group

¹ Any data limitations regarding their applicability for determining NPDES permit compliance are discussed in the report cover letter.

**Attachment 1:
Statistical Analysis and
Raw Data Sheets**

CETIS Analytical Report

Report Date: 20 Feb-15 08:22 (p 1 of 4)
 Test Code: 17394fm | 03-2159-9267

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 11-8774-2638	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:20	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes
Batch ID: 00-6138-1530	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 17 Feb-15	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crossett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	NA	C > T	NA	NA	80	>80	NA	1.25	10.7%

Steel Many-One Rank Sum Test

Control	vs C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water	25	31	16	2	8	0.9676	Asymp	Non-Significant Effect
	34	32.5	16	3	8	0.9870	Asymp	Non-Significant Effect
	45	32.5	16	3	8	0.9870	Asymp	Non-Significant Effect
	60	35	16	2	8	0.9979	Asymp	Non-Significant Effect
	80	32.5	16	3	8	0.9870	Asymp	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.925	0.8 - NL	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.03500558	0.007001117	5	0.7738	0.5780	Non-Significant Effect
Error	0.2171379	0.009047412	24			
Total	0.2521435		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	116.8	15.09	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8185	0.9031	0.0001	Non-normal Distribution

7d Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	5	0.925	0.84	1	0.875	0.875	1	0.03062	7.4%	0.0%
25		5	0.95	0.8112	1	1	0.75	1	0.05	11.77%	-2.7%
34		5	0.975	0.9056	1	1	0.875	1	0.025	5.73%	-5.41%
45		5	0.975	0.9056	1	1	0.875	1	0.025	5.73%	-5.41%
60		5	1	1	1	1	1	1	0	0.0%	-8.11%
80		5	0.975	0.9056	1	1	0.875	1	0.025	5.73%	-5.41%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	5	1.283	1.158	1.408	1.209	1.209	1.393	0.04499	7.84%	0.0%
25		5	1.324	1.132	1.516	1.393	1.047	1.393	0.06918	11.68%	-3.2%
34		5	1.356	1.254	1.458	1.393	1.209	1.393	0.03673	6.06%	-5.73%
45		5	1.356	1.254	1.458	1.393	1.209	1.393	0.03673	6.06%	-5.73%
60		5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	-8.59%
80		5	1.356	1.254	1.458	1.393	1.209	1.393	0.03673	6.06%	-5.73%

CETIS Analytical Report

Report Date: 20 Feb-15 08:22 (p 2 of 4)
 Test Code: 17394fm | 03-2159-9267

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 11-8774-2638 Endpoint: 7d Survival Rate
 Analyzed: 20 Feb-15 8:20 Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.8.4
 Official Results: Yes

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	0.875	0.875	1	1	0.875
25		1	0.75	1	1	1
34		0.875	1	1	1	1
45		1	0.875	1	1	1
60		1	1	1	1	1
80		1	1	0.875	1	1

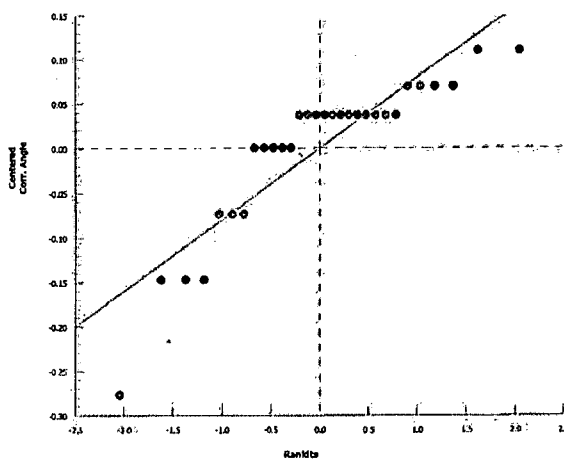
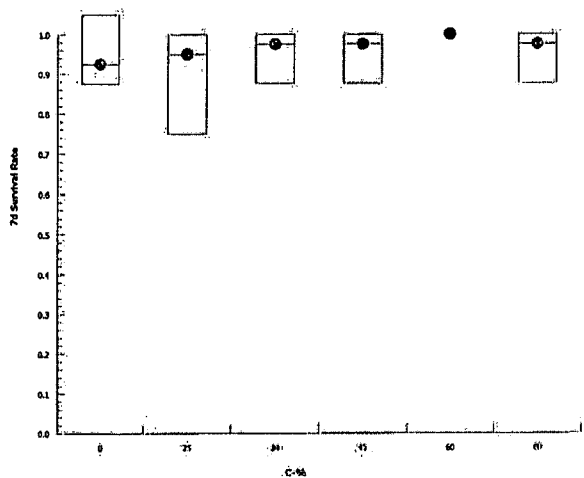
Angular (Corrected) Transformed Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	1.209	1.209	1.393	1.393	1.209
25		1.393	1.047	1.393	1.393	1.393
34		1.209	1.393	1.393	1.393	1.393
45		1.393	1.209	1.393	1.393	1.393
60		1.393	1.393	1.393	1.393	1.393
80		1.393	1.393	1.209	1.393	1.393

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	7/8	7/8	8/8	8/8	7/8
25		8/8	6/8	8/8	8/8	8/8
34		7/8	8/8	8/8	8/8	8/8
45		8/8	7/8	8/8	8/8	8/8
60		8/8	8/8	8/8	8/8	8/8
80		8/8	8/8	7/8	8/8	8/8

Graphics



CETIS Analytical Report

Report Date: 20 Feb-15 08:22 (p 3 of 4)
 Test Code: 17394fm | 03-2159-9267

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 03-9393-1787	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:21	Analysis: Parametric-Control vs Treatments	Official Results: Yes
Batch ID: 00-6138-1530	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 17 Feb-15	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crossett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	NA	C > T	NA	NA	80	>80	NA	1.25	22.9%

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	-2.291	2.362	0.095	8	0.9997	CDF	Non-Significant Effect
		34	-2.13	2.362	0.095	8	0.9995	CDF	Non-Significant Effect
		45	-3.399	2.362	0.095	8	1.0000	CDF	Non-Significant Effect
		60	-2.173	2.362	0.095	8	0.9996	CDF	Non-Significant Effect
		80	-2.811	2.362	0.095	8	1.0000	CDF	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.4163	0.25 - NL	Yes	Passes Acceptability Criteria
PMSD	0.2291	0.12 - 0.3	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0541183	0.01082366	5	2.656	0.0477	Significant Effect
Error	0.09780058	0.004075024	24			
Total	0.1519189		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	1.908	15.09	0.8617	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.968	0.9031	0.4869	Normal Distribution

Mean Dry Biomass-mg Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	5	0.4163	0.3285	0.504	0.4238	0.3438	0.5225	0.03162	16.98%	0.0%
25		5	0.5087	0.4378	0.5797	0.5275	0.4137	0.565	0.02555	11.23%	-22.22%
34		5	0.5023	0.4055	0.599	0.5163	0.39	0.6038	0.03485	15.52%	-20.66%
45		5	0.5535	0.4802	0.6268	0.5225	0.4937	0.6288	0.02639	10.66%	-32.97%
60		5	0.504	0.4154	0.5926	0.5163	0.4287	0.605	0.0319	14.15%	-21.08%
80		5	0.5298	0.4809	0.5786	0.545	0.4863	0.5788	0.01759	7.42%	-27.27%

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	0.3438	0.36	0.4238	0.5225	0.4312
25		0.565	0.4137	0.5063	0.5275	0.5313
34		0.39	0.4763	0.525	0.5163	0.6038
45		0.6037	0.5188	0.5225	0.6288	0.4937
60		0.5163	0.5275	0.4287	0.605	0.4425
80		0.4863	0.5788	0.4925	0.545	0.5462

CETIS Analytical Report

Report Date: 20 Feb-15 08:22 (p 4 of 4)
Test Code: 17394fm | 03-2159-9267

Fathead Minnow 7-d Larval Survival and Growth Test

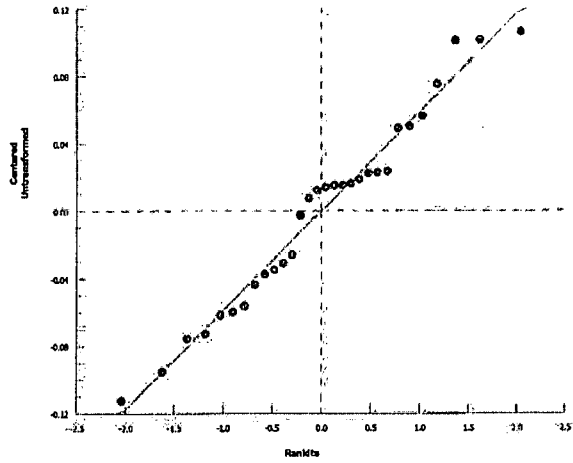
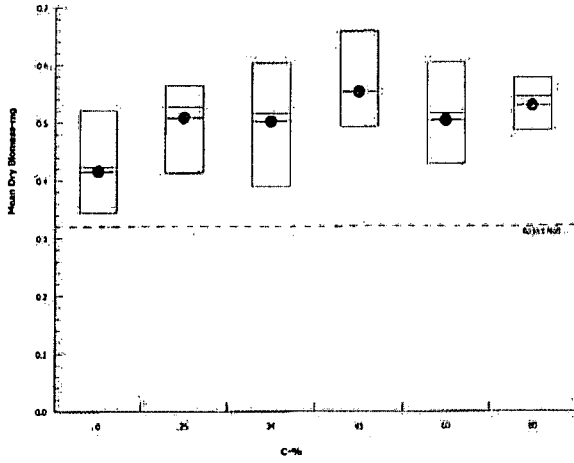
ENVIRON International Corp

Analysis ID: 03-9393-1787
Analyzed: 20 Feb-15 8:21

Endpoint: Mean Dry Biomass-mg
Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 20 Feb-15 08:22 (p 1 of 1)
 Test Code: 17394fm | 03-2159-9267

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 10-2885-8341	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:21	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 00-6138-1530	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 17 Feb-15	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crossett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1949728	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.4163	0.25 - NL	Yes	Passes Acceptability Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>80	N/A	N/A	<1.25	NA	NA

Mean Dry Biomass-mg Summary

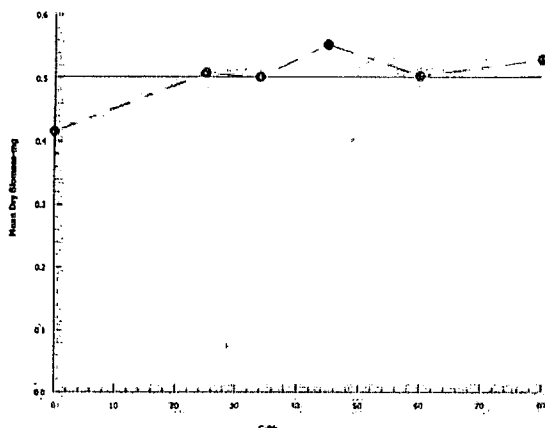
Calculated Variate

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	5	0.4163	0.3438	0.5225	0.03162	0.0707	16.98%	0.0%
25		5	0.5087	0.4137	0.565	0.02555	0.05713	11.23%	-22.22%
34		5	0.5023	0.39	0.6038	0.03485	0.07793	15.52%	-20.66%
45		5	0.5535	0.4937	0.6288	0.02639	0.05901	10.66%	-32.97%
60		5	0.504	0.4287	0.605	0.0319	0.07132	14.15%	-21.08%
80		5	0.5298	0.4863	0.5788	0.01759	0.03932	7.42%	-27.27%

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	0.3438	0.36	0.4238	0.5225	0.4312
25		0.565	0.4137	0.5063	0.5275	0.5313
34		0.39	0.4763	0.525	0.5163	0.6038
45		0.6037	0.5188	0.5225	0.6288	0.4937
60		0.5163	0.5275	0.4287	0.605	0.4425
80		0.4863	0.5788	0.4925	0.545	0.5462

Graphics



ENVIRON FATHEAD MINNOW SURVIVAL AND GROWTH 7-DAY CHRONIC TOXICITY TEST
EPA-821-R-02-013 Method 1000.0

TEST LOG NO.: 17394
 JOB NUMBER: 20-196751
 INDUSTRY: Georgia Pacific Crossett
 EFFLUENT: Outfall 001
 DILUTION WATER: River Water
 NPDES: Yes No
 FOOD BATCH: 4900

BEGINNING: HRS: 1350 DATE: 2/10/15
 ENDING: HRS: 1150 DATE: 2/17/15
 TEST DILUTIONS: 25, 34, 45, 60, 80%
 ORGANISM AGE (date): 2/9/15
 ORGANISM SOURCE: ECT#14970
 SOURCE TEMP @ TEST START: 24.0
 RANDOMIZED BY: LM

PHOTOPERIOD: 16 hr light/8 hr dark
 FEEDING REGIME:
 0.15 mL Artemia @ 2 times/day
 TEST VESSEL CAPACITY: 450 mL
 TEST SOLUTION VOLUME: 250 - 300 mL
 NO. ORGANISMS/TREATMENT: 8
 NO. REPLICATES: 5

CONC (%)	REP ID	SURVIVAL (#)							
		START	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
RW	A	8	8	8	8	8	8	8	7
	B	8	8	8	8	8	8	8	7
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.1	24.2/24.3	24.1/24.1	24.2/24.3	24.0/24.0	24.0/24.0	24.0/24.0	24.6/24.2
25	A	8	8	8	8	8	8	8	8
	B	8	8	8	7	7	7	8	6
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.1	24.2/24.2	24.2/24.0	24.2/24.3	24.0/24.1	24.0/24.0	24.0/24.0	24.6/24.1
34	A	8	8	8	8	8	7	7	7
	B	8	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.0	24.2/24.3	24.1/24.1	24.2/24.4	24.0/24.4	24.0/24.0	24.0/24.0	24.5/24.2
45	A	8	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8	7
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.0	24.2/24.3	24.0/24.1	24.2/24.5	24.0/24.3	24.0/24.0	24.0/24.0	24.6/24.1
60	A	8	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.0	24.2/24.3	24.1/24.1	24.2/24.5	24.1/24.4	24.0/24.0	24.0/24.0	24.5/24.1
80	A	8	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8	7
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.1	24.2/24.3	24.1/24.1	24.2/24.5	24.1/24.3	24.0/24.0	24.0/24.0	24.5/24.2
Test Renewal	Time	1310	1214	1240	1125	1118	1140	1450	1150
	Date	2/10	2/11/15	2/12/15	2/17/15	2/14/15	2/15/15	2/16/15	2/17/15
	Initials	LM	AM	LM	AM	AM	AM	WSH	WSH
morning feeding	Int/Time	AM0700	AM0700	AM0700	AM0800	AM0800	AM0745	WSH 1312	WSH 1312
afternoon feeding	Int/Time	AM1530	AM1530	AM1530	AM1500	AM1500	AM1448	1730WSH	1730WSH

ENVIRON FATHEAD MINNOW SURVIVAL AND GROWTH 7-DAY CHRONIC TOXICITY TEST
EPA-821-R-02-013 Method 1000.0

TEST LOG NO.: 17394
 JOB NUMBER: 20-196751
 INDUSTRY: Georgia Pacific Crossett
 EFFLUENT: 001
 DILUTION WATER: River Water
 NPDES: Yes No
 FOOD BATCH: 4900

BEGINNING: HRS: 1350 DATE: 2/10/15
 ENDING: HRS: 1156 DATE: 2/17/15

PHOTOPERIOD: 16 hr light/8 hr dark
 FEEDING REGIME:
 0.15 mL Artemia @ 2 times/day
 TEST VESSEL CAPACITY: 450 mL
 TEST SOLUTION VOLUME: 250 - 300 mL
 NO. ORGANISMS/TREATMENT: 8
 NO. REPLICATES: 5

CONC (%)	REP ID	SURVIVAL (#)							
		START	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
MH	A	8	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	7	7
	C	8	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8	8
	Temp(°c):old/new	24.1	24.2/24.3	24.1/24.0	24.2/24.1	24.1/24.0	24.0/24.0	24.1/24.1	24.1
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
	A								
	B								
	C								
	D								
	E								
	Temp(°c):old/new								
Test Renewal	Time								
	Date								
	Initials								
morning feeding	Int/Time								
afternoon feeding	Int/Time								

ENVIRON FATHEAD MINNOW SURVIVAL AND GROWTH 7-DAY CHRONIC TOXICITY TEST
EPA-821-R-02-013 Method 1000.0

TEST LOG NO.: 17394 BEGINNING: HRS: 1350 DATE: 2/10/15
 JOB NO.: 20-196751 ENDING: HRS: 1156 DATE: 2/17/15
 INDUSTRY: Georgia Pacific-Crossett
 EFFLUENT: Outfall 001 NO. ORGANISMS/TREATMENT: 8
 NPDES: Yes No NO. REPLICATES: 5

PHOTOPERIOD: 16 hr light
 FEEDING REGIME:
 0.15 mL Artemia @ 2 times/day
 TEST VESSEL CAPACITY: 450 mL
 TEST SOLUTION VOLUME: 250 mL

1.11520

GROWTH RESULTS							
CONC (%)	REP ID	Boat ID	Tare wt (g)	Combined wt (g)	Tot Fish wt (g)	# of Fish	Fish Wt (mg) Per Final # of Fish
RW	A	1	1.11245	1.11654	0.00275	7	0.0392
	B	2	1.11371	1.11659	0.00286	7	0.0411
	C	3	1.11938	1.12277	0.00339	8	0.0423
	D	4	1.11499	1.11917	0.00418	8	0.0522
	E	5	1.10699	1.11044	0.00345	7	0.0492
25	A	6	1.11340	1.11792	0.00452	8	
	B	7	1.11005	1.11336	0.00391	6	
	C	8	1.11976	1.12381	0.00405	8	
	D	9	1.10954	1.11336	0.00422	8	
	E	10	1.10128	1.10553	0.00425	8	
34	A	11	1.10005	1.10317	0.00312	7	
	B	12	1.10982	1.11363	0.00381	8	
	C	13	1.10818	1.1238	0.0042	8	
	D	14	1.09787	1.10200	0.00413	8	
	E	15	1.11194	1.11677	0.00483	8	
45	A	16	1.11603	1.12026	0.00483	8	
	B	17	1.11520	1.11935	0.00415	7	
	C	18	1.12003	1.12421	0.00418	8	
	D	19	1.11773	1.12276	0.00503	8	
	E	20	1.11489	1.11884	0.00395	8	
60	A	21	1.10715	1.11128	0.00413	8	
	B	22	1.10944	1.11966	0.00422	8	
	C	23	1.12226	1.12569	0.00343	8	
	D	24	1.10779	1.11263	0.00484	8	
	E	25	1.11370	1.11724	0.00354	8	
80	A	26	1.09308	1.09617	0.00389	8	
	B	27	1.10553	1.11016	0.00463	8	
	C	28	1.10635	1.11029	0.00394	7	
	D	29	1.10223	1.10659	0.00436	8	
	E	30	1.10705	1.11142	0.00437	8	
MH	A	31	1.12131	1.12421	0.0029	8	
	B	32	1.12086	1.12334	0.00246	7	
	C	33	1.10705	1.10962	0.00257	8	
	D	34	1.10223	1.10504	0.00281	8	
	E	35	1.11876	1.12143	0.00267	8	
Initials / Date:		AH 2/13/15		AH 2/17			

AVG Control Fish wt. 0.0448
(using final #)

Oven ID: 2
 Tins In: 2/17/15
 Date: 10/20
 Time: 1202
 Temp (°C): WSH
 Initials: WSH
 Tins Out: 2/19
 Date: 0900
 Time: 100
 Temp (°C): Hm
 Initials: Hm

FINAL WEIGHTS
 DATE: 2/17/15
 INITIALS: AH

TEST LOG NO.

17394

CLIENT/SAMPLE ID: Georgia Pacific Crossett

JOB NO. 20-196751

TEST ORGANISM: Fm

DATE:

2/10/15

ENVIRON Test Log No. 17394

14 of 36

D.O. (mg/L)														
Concentration (%)	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW	8.4	8.1	8.2	8.0	8.4	8.2	8.8	8.1	8.4	8.6	8.5	7.6	8.7	9.1
25	8.4	8.1	8.2	7.8	8.4	8.2	8.8	8.1	8.4	8.4	8.5	7.5	8.3	9.2
34	8.4	8.1	8.2	7.6	8.3	8.3	8.7	8.6	8.7	8.5	8.4	7.6	8.8	9.2
45	8.3	8.3	8.4	7.6	8.3	8.3	8.6	8.1	8.5	8.6	8.4	7.7	8.4	8.9
60	8.3	8.3	8.4	7.3	8.3	8.2	8.8	8.2	8.4	8.7	8.3	7.7	8.5	8.6
80	8.3	8.3	8.4	7.4	8.2	8.2	8.8	8.2	8.2	8.3	8.3	7.6	8.5	8.7
MH	8.5	8.4	8.2	8.1	8.4	8.2	8.9	8.1	8.2	8.3	8.4	7.7	8.4	8.8

pH (s.u.)														
Concentration (%)	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW	7.7	7.90	7.4	7.00	7.55	7.77	7.77	7.27	7.104	7.21	6.44	7.26	7.02	7.76
25	7.4	7.81	7.3	7.78	7.33	7.34	7.59	7.54	7.57	7.50	7.78	7.5	7.3	7.79
34	7.52	7.95	7.5	7.89	7.65	7.86	7.109	7.89	7.61	7.89	7.79	7.56	7.46	7.81
45	7.58	7.6	7.67	7.92	7.72	7.87	7.76	7.93	7.604	7.62	7.54	7.67	7.66	7.54
60	7.67	7.84	7.74	8.05	7.7	8.06	7.76	7.94	7.7	7.68	7.67	7.6	7.86	7.89
80	7.75	7.81	7.78	8.03	7.67	8.06	7.86	8.06	7.7	7.69	7.75	7.7	7.91	7.76
MH	8.04	7.84	7.92	7.68	7.82	7.85	7.9	7.96	7.79	7.81	7.73	7.94	7.74	7.79

Conductivity (µmhos/cm)														
Concentration (%)	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW	1608	159	165	101	166	164	177	96	139	157	130	146	161	156
25	542	542	545	453	545	568	1027	444	1034	523	582	529	591	660
34	258	349	383	659	740	223	798	1070	780	677	782	680	691	677
45	975	952	981	846	972	946	980	853	967	876	943	920	981	1060
60	1155	1187	1254	1098	1200	1156	1204	1074	1200	1127	1214	1100	1110	1200
80	1542	1548	1557	1447	1544	1471	1570	1430	1500	1432	1524	1260	1290	1320
MH	259	145	244	202	217	244	200	224	204	252	232	250	236	291

Params Int/Time:	AW 0458	AW 0727	AW 0813	AW 0650	AW 0944	AW 0733	AW 0815	AW 0820	AW 1007	AW 0800	AW 0950	AW 0720	AW 1510	AW 1420
Dilutions Int/Time:	AW 0950	AW 0812	AW 0933	AW 0910	AW 1008	AW 0910	AW 1008	AW 0912	AW 0950	AW 1012	AW 1500	AW 1500	AW 1500	AW 1500
Control Water Batch#:	5790, 18516	5790, 18516	5791, 18524	5794, 18524	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533	5794, 18533
Food Batch	4900	4900	4900	4900	4900	4900	4900	4900	4900	4900	4900	4900	4900	4900

TEST LOG NO. 17394

CLIENT: Georgia Pacific Crossett

DATE OF TEST: 2/10/15

JOB NO. 20-196751

TEST TYPE(S) PERFORMED: Fm & Cd Chronic

ENVIRON Test Log No. 17394

100% EFFLUENT

Batch #	Sample ID	Sample Date	1st Use Date	Hardness mg/L CaCO3	Alkalinity mg/L	TRC mg/L	NH ₃ N mg/L
18517	Outfall 001	2/8-9/15	2/10/15	380	360	20.02	7.05
18525	Outfall 001	2/10-11/15	2/12/15	269	350	20.02	7.28 2.81 #2/11/15
18533	Outfall 001	2/12-13/15	2/14/15	284	345	20.02	1.65

CONTROL / DILUTION WATER

Batch #	Sample ID	Sample Date	1st Use Date	Hardness mg/L CaCO3	Alkalinity mg/L	TRC mg/L	NH ₃ N mg/L
18516	River Water	2/9/15	2/10/15	23.2	27	0.06	20.1
18524	River Water	2/9/15	2/12/15	29.8	26	0.03	20.1
18532	River Water	2/9/15	2/14/15	28 84.7	31 45	20.02	0.275
+5790	MH	2/8/15	2/7/15	81.6	44	20.02	-
5791	MH	2/10/15	2/10/15	81.6	44	20.02	-
5794	MH	2/9/15	2/12/15	85.0	40	20.02	-
5795	MH	2/10/15	2/14/15	88	49	20.02	-

15 of 36

CETIS Analytical Report

Report Date: 20 Feb-15 08:07 (p 1 of 2)
 Test Code: 17394cd | 12-6832-1673

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 03-9472-5536	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:06	Analysis: STP 2x2 Contingency Tables	Official Results: Yes
Batch ID: 03-9539-6068	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Feb-15	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crosssett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU
Untransformed		C > T	NA	NA	80	>80	NA	1.25

Fisher Exact/Bonferroni-Holm Test

Control	vs	C-%	Test Stat	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	1	1.0000	Exact	Non-Significant Effect
		34	1	1.0000	Exact	Non-Significant Effect
		45	1	1.0000	Exact	Non-Significant Effect
		60	1	1.0000	Exact	Non-Significant Effect
		80	1	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	1	0.8 - NL	Yes	Passes Acceptability Criteria

Data Summary

C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Receiving Water	10	0	10	1	0	0.0%
25		10	0	10	1	0	0.0%
34		10	0	10	1	0	0.0%
45		10	0	10	1	0	0.0%
60		10	0	10	1	0	0.0%
80		10	0	10	1	0	0.0%

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
34		1	1	1	1	1	1	1	1	1	1
45		1	1	1	1	1	1	1	1	1	1
60		1	1	1	1	1	1	1	1	1	1
80		1	1	1	1	1	1	1	1	1	1

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
34		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
45		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
60		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
80		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 20 Feb-15 08:07 (p 2 of 2)
Test Code: 17394cd | 12-6832-1673

Ceriodaphnia 7-d Survival and Reproduction Test

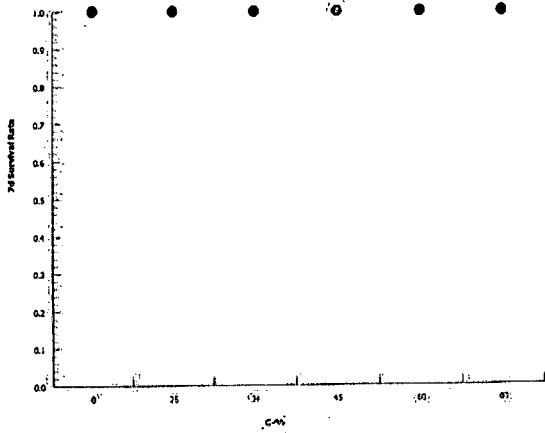
ENVIRON International Corp

Analysis ID: 03-9472-5536
Analyzed: 20 Feb-15 8:06

Endpoint: 7d Survival Rate
Analysis: STP 2x2 Contingency Tables

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 20 Feb-15 08:07 (p 1 of 2)
 Test Code: 17394cd | 12-6832-1673

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 02-5157-3661	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:06	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes
Batch ID: 03-9539-6068	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Feb-15	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crosssett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Data Transform	Zeta	Alt Hyp	Trials	Seed	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	NA	C > T	NA	NA	80	>80	NA	1.25	15.2%

Steel Many-One Rank Sum Test

Control	vs C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water	25	142.5	75	3	18	1.0000	Asymp	Non-Significant Effect
	34	118	75	4	18	0.9843	Asymp	Non-Significant Effect
	45	149	75	2	18	1.0000	Asymp	Non-Significant Effect
	60	127.5	75	3	18	0.9988	Asymp	Non-Significant Effect
	80	127	75	3	18	0.9986	Asymp	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	27	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.152	0.13 - 0.47	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	162	32.4	5	2.017	0.0908	Non-Significant Effect
Error	867.4	16.06296	54			
Total	1029.4		59			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	17.95	15.09	0.0030	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8102	0.9459	<0.0001	Non-normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	10	27	25.28	28.72	27	22	30	0.7601	8.9%	0.0%
25		10	31.3	29.33	33.27	32	26	35	0.8699	8.79%	-15.93%
34		10	28.2	24.81	31.59	29.5	18	33	1.497	16.78%	-4.44%
45		10	31	29.83	32.17	31	29	34	0.5164	5.27%	-14.81%
60		10	27.7	24.15	31.25	29.5	14	31	1.571	17.93%	-2.59%
80		10	28.2	24.07	32.33	29.5	13	33	1.825	20.46%	-4.44%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	30	25	26	27	29	29	27	29	26	22
25		34	32	32	33	35	26	29	30	33	29
34		25	25	30	31	33	29	18	26	33	32
45		31	29	32	34	29	31	31	33	30	30
60		28	29	28	31	30	14	30	27	30	30
80		32	31	32	13	33	29	28	26	30	28

CETIS Analytical Report

Report Date: 20 Feb-15 08:07 (p 2 of 2)
Test Code: 17394cd | 12-6832-1673

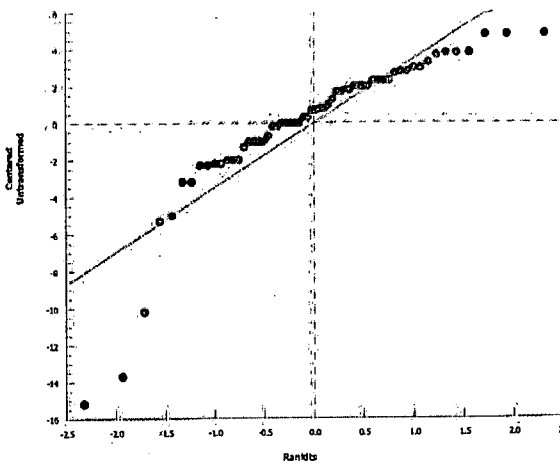
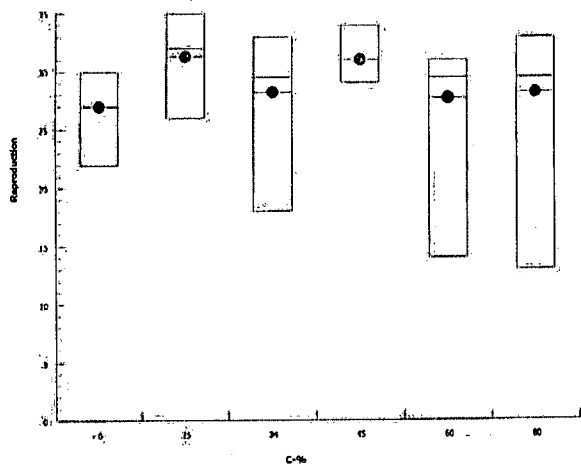
Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 02-5157-3661 Endpoint: Reproduction
Analyzed: 20 Feb-15 8:06 Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 20 Feb-15 08:07 (p 1 of 1)
 Test Code: 17394cd | 12-6832-1673

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 00-4778-7410	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 20 Feb-15 8:06	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 03-9539-6068	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Feb-15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Feb-15	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 20-6909-3625	Code: 7B53DCF9	Client: GPAC Crossett
Sample Date: 09 Feb-15	Material: Industrial Effluent	Project: WET Monthly Compliance Test (FEB)
Receive Date: 10 Feb-15	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	82799	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	27	15 - NL	Yes	Passes Acceptability Criteria

Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC25	>80	N/A	N/A	<1.25	NA	NA

Reproduction Summary

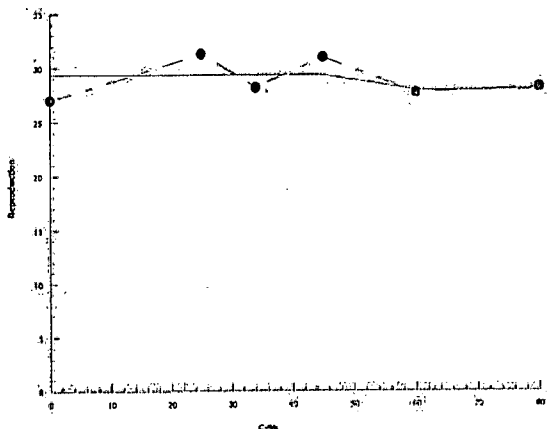
Calculated Variate

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	10	27	22	30	0.7601	2.404	8.9%	0.0%
25		10	31.3	26	35	0.8699	2.751	8.79%	-15.93%
34		10	28.2	18	33	1.497	4.733	16.78%	-4.44%
45		10	31	29	34	0.5164	1.633	5.27%	-14.81%
60		10	27.7	14	31	1.571	4.968	17.93%	-2.59%
80		10	28.2	13	33	1.825	5.77	20.46%	-4.44%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Receiving Water	30	25	26	27	29	29	27	29	26	22
25		34	32	32	33	35	26	29	30	33	29
34		25	25	30	31	33	29	18	26	33	32
45		31	29	32	34	29	31	31	33	30	30
60		28	29	28	31	30	14	30	27	30	30
80		32	31	32	13	33	29	28	26	30	28

Graphics



ENVIRON CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION 3-BROOD CHRONIC TOXICITY TEST
EPA-821-R-02-013 Method 1002.0

TEST LOG NO.: 17394 PHOTOPERIOD: 16 hr light/8 hr dark
 JOB NUMBER: 20-196751 FEEDING REGIME: 0.1 mL YCT / 0.1 mL P. subcapitata per 15 mL
 INDUSTRY: Georgia Pacific-Crossett TEST VESSEL CAPACITY: 30 mL
 EFFLUENT: Outfall 001 TEST SOLUTION VOLUME: 15 mL
 DILUTION WATER: River Water NO. ORGANISMS/REPLICATE: 1
 NPDES (Y/N): Yes NO. REPLICATES: 10

ORGANISM SOURCE INFORMATION:

AGE (date): 2/9/15
 TEMP @ TEST START: 24.2
 RANDOMIZED BY: AH
 TEST START:
 HOURS: 1039 DATE: 2/10/15
 TEST END:
 HOURS: 1111 DATE: 2/11/15

SOURCE ID:	AGE (time):
10884	1208-1500

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding/ End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Control		River Water	REPLICATES										Notes
			Temp (°C)			84										
						1	2	3	4	5	6	7	8	9	10	
					Adult	8	10	9	12	11	14	13	10	15	18	
AH 1039		2/10	24.1		Day 0	✓	-	-	✓	✓	✓	✓	✓	✓	✓	
	AH 1017	2/11	24.3	24.2	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1050	2/12	24.4	24.5	Day 2	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 0854	2/13	24.2	24.9	Day 3	✓	4	4	4	4	5	4	5	✓	4	
	AH 1038	2/14	24.5	24.2	Day 4	4	8	11	9	11	11	10	10	3	8	
	AH 1034	2/15	24.1	24.1	Day 5	12	✓	9	✓	✓	✓	✓	✓	9	✓	
AH 1111		2/16		24.2	Day 6	14	13	12	14	14	13	13	14	14	10	
					Day 7											
					Day 8											
					Total	30	25	24	27	29	29	27	29	26	22	270

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-0) = Dead neonates M = Male

TEST LOG #

17394

JOB # 20-19675I

CLIENT/SAMPLE ID: Georgia Pacific - Crossett

ENVIRON / TN

LAB/STATE:

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials / Time	Daily Renewal & Feeding Initials / Time	Date	Concentration		Adult	REPLICATES										Notes
			25%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
AM 1039		2/10	24.7		Day 0	/	/	/	/	/	/	/	/	/	/	
	AM 1017	2/11	24.4	24.1	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AM 1050	2/12	24.5	24.7	Day 2	✓	/	/	/	/	/	/	/	/	/	
	AM 0954	2/13	24.3	24.2	Day 3	5	5	5	6	5	4	4	5	5	4	
	AM 1038	2/14	24.4	24.1	Day 4	✓	✓	10	11	12	9	9	10	✓	✓	
	AM 1039	2/15	24.0	24.3	Day 5	15	12	17	✓	18	✓	✓	✓	14	13	
AM 1111		2/16		24.0	Day 6	14	15	15	16	✓	13	15	15	14	12	
					Day 7											
					Day 8											
			Total			34	32	32	33	35	26	29	30	33	29	313

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials / Time	Daily Renewal & Feeding Initials / Time	Date	Concentration		Adult	REPLICATES										Notes
			34%	Temp (°C)		1	2	3	4	5	6	7	8	9	10	
AM 1039		2/10	24.2		Day 0	/	/	/	/	/	/	/	/	/	/	
	AM 1017	2/11	24.3	24.4	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AM 1050	2/12	24.2	24.3	Day 2	/	/	/	/	/	/	/	/	/	/	
	AM 0954	2/13	24.3	24.2	Day 3	4	4	4	4	5	4	✓	4	5	4	
	AM 1038	2/14	24.5	24.4	Day 4	✓	9	11	11	12	11	10	11	11	✓	
	AM 1039	2/15	24.0	24.7	Day 5	9	✓	✓	✓	✓	✓	✓	✓	17	11	
AM 1111		2/16		24.1	Day 6	12	12	15	16	16	14	12	11	✓	14	
					Day 7											
					Day 8											
			Total			25	25	30	31	33	29	18	26	33	32	282

✓ = Test Organism Alive
D = Test Organism Dead

0 = Live neonates
(-) = Dead neonates

Miss = Lost or Missing
M = Male

L:\Ecotox\lab\Labforms\ToxTestSheets\7DchronicCD.doc

TEST LOG # 17394

JOB # 20-19675I

CLIENT/SAMPLE ID: Georgia Pacific - Crossett

LAB/STATE: ENVIRON / TN

SURVIVAL AND REPRODUCTION DATA																	
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes	
			45%	Temp (°C)		1	2	3	4	5	6	7	8	9	10		
PH 1029		2/10	243		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	HM 1017	2/11	245	244	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PH 1050	2/12	244	245	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PH 0954	2/13	242	243	Day 3	5	5	5	4	4	5	5	5	4	5		
	HM 1037	2/14	246	242	Day 4	10	10	12	✓	11	10	11	✓	10	10		
	PH 1039	2/15	240	243	Day 5	✓	✓	15	14	14	✓	✓	14	✓	✓		
HM 1111		2/16		244	Day 6	110	14	17	14	14	16	15	14	16	15		
					Day 7												
					Day 8												
			Total			31	29	32	34	29	31	31	33	30	30	310	

SURVIVAL AND REPRODUCTION DATA																	
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Adult	REPLICATES										Notes	
			60%	Temp (°C)		1	2	3	4	5	6	7	8	9	10		
PH 1029		2/10	242		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	HM 1017	2/11	244	241	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PH 1050	2/12	247	245	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PH 0954	2/13	242	243	Day 3	5	5	5	5	5	4	4	4	4	4		
	HM 1037	2/14	243	245	Day 4	✓	11	12	10	10	10	11	10	12	12		
	PH 1039	2/15	240	242	Day 5	9	✓	11	✓	15	✓	✓	✓	✓	✓	14	
HM 1111		2/16		245	Day 6	14	13	14	16	✓	✓	15	13	14	15		
					Day 7												
					Day 8												
			Total			28	29	28	31	30	14	30	27	30	30	277	

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-0) = Dead neonates M = Male

TEST LOG # 17394

JOB # 20-19675I

CLIENT/SAMPLE ID: Georgia Pacific - Crossett

LAB/STATE: ENVIRON / TN

SURVIVAL AND REPRODUCTION DATA																		
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		80% Temp (°C)	REPLICATES										Notes		
							1	2	3	4	5	6	7	8	9		10	
						Adult												
AB 1035		2/10	242			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	HM 107	2/11	243	241		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AB 1050	2/12	247	245		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AB 0954	2/13	244	243		Day 3	5	5	5	4	5	5	5	4	5	5		
	HM 1038	2/14	243	246		Day 4	10	10	11	✓	10	10	9	8	10	10		
	AB 1034	2/15	240	244		Day 5	✓	✓	16	✓	17	✓	2	✓	✓	✓		
HM 1111		2/15	242			Day 6	17	16	12	9	11	14	12	14	15	13		
						Day 7												
						Day 8												
			Total				32	31	32	13	33	29	28	26	30	28	282	

SURVIVAL AND REPRODUCTION DATA																		
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		MH Temp (°C)	REPLICATES										Notes		
							1	2	3	4	5	6	7	8	9		10	
AB 1035		2/10	243			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	HM 107	2/11	245	242		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AB 1050	2/12	244	245		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AB 0954	2/13	243	244		Day 3	5	4	4	5	4	5	4	4	5	5		
	HM 1038	2/14	241	246		Day 4	9	11	9	10	9	10	10	10	12	11		
	AB 1034	2/15	243	248		Day 5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	11	
HM 1111		2/16	244			Day 6	14	14	15	14	15	15	16	16	15	16	male	
						Day 7												
						Day 8												
			Total				28	29	28	29	28	30	30	30	32	30	297	

✓ = Test Organism Alive
 D = Test Organism Dead

0 = Live neonates
 (-0) = Dead neonates

Miss = Lost or Missing
 M = Male

L:\Ecotoxlab\Labforms\ToxTestSheets\7DchronicCD.doc

TEST LOG NO.

17394

CLIENT/SAMPLE ID: Georgia Pacific Crossett

JOB NO.

20-196751

TEST ORGANISM: Cd

DATE:

2/10/15

ENVIRON Test Log No. 17394

25 of 36


		D.O. (mg/L)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		8.4	8.2	8.2	8.3	8.4	8.2	8.4	8.0	8.4	8.1	8.5	8.1	8.1	
25		8.4	8.2	8.3	8.3	8.4	8.2	8.4	8.0	8.4	8.1	8.5	8.1	8.1	
34		8.4	8.4	8.3	8.3	8.3	8.3	8.5	8.0	8.4	8.1	8.5	8.1	8.1	
45		8.5	8.4	8.4	8.4	8.5	8.4	8.0	8.2	8.5	8.4	8.4	8.4	8.5	
60		8.5	8.2	8.4	8.4	8.4	8.4	8.4	8.1	8.4	8.5	8.2	8.5	8.5	
80		8.5	8.2	8.3	8.2	8.2	8.4	8.4	8.1	8.2	8.5	8.3	8.3	8.3	
MH		8.5	8.2	8.2	8.2	8.4	8.0	8.4	8.3	8.2	8.4	8.4	8.1	8.1	

		pH (s.u.)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		7.87	7.91	7.84	7.91	7.85	7.85	7.87	7.100	7.104	7.1	6.40	7.10	7.10	
25		7.94	7.96	7.83	8.10	7.83	8.02	7.89	8.11	7.82	8.00	7.20	8.00	7.50	
34		7.92	8.20	7.85	8.32	7.85	8.26	7.69	8.24	7.81	8.00	7.49	8.00	7.55	
45		7.80	8.27	7.63	8.42	7.72	8.25	7.70	8.37	7.64	8.00	7.54	8.00	7.54	
60		7.67	8.44	7.71	8.51	7.81	8.46	7.86	8.41	7.85	8.34	7.67	8.00	7.60	
80		7.75	8.54	7.78	8.56	7.82	8.56	7.86	8.41	7.85	8.34	7.75	8.00	7.60	
MH		8.04	7.84	7.92	7.75	7.82	7.95	7.98	7.90	7.84	7.03	7.73	8.00	7.70	

		Conductivity (µmhos/cm)													
		Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7
Concentration (%)			Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	
RW		166	175	165	123	166	170	171	168	134	174	136	168	168	
25		542	570	585	549	545	620	1027	620	1024	1094	582	1094	1094	
34		750	773	782	784	790	747	764	800	786	815	782	815	1109	
45		925	1004	981	984	937	978	984	957	910	1005	945	1005	1120	
60		1195	1233	1234	1233	1220	1225	1204	1184	1230	1304	1214	1304	1304	
80		1542	1573	1557	1866	1544	1572	1570	1524	1500	1624	1574	1624	1554	
MH		259	248	244	262	247	263	222	221	224	214	232	214	234	

Params Int/Time:	10:09:58	11:10:00	11:40:15	11:11:00	11:40:44	11:10:10	11:40:35	11:11:11	11:40:08	11:11:11	11:40:00	11:11:32	11:40:11
Dilutions Int/Time:	11:09:58	11:08:12	11:08:12	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55	11:08:55
Control Water Batch#:	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824	5790, 1824
Food Batch	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17	4960, 17

**Attachment 2:
Chain-Of-Custody Documentation and
Reference Toxicant Data**

Project Name:				Project Number:				Analysis Requested										CHAIN-OF-CUSTODY  201 Summit View Drive, Suite 300 Brentwood, TN 37027 PHONE: (615) 277-7570 FAX: (615) 377-4976								
Industry: GEORGIA PACIFIC PAPER				Phone: 870-567-8170 FAX: 870-364-9076				Acute Fathead minnow Acute Bannerfin shiner Acute Ceriodaphnia dubia Acute Daphnia pulex Chronic Fathead minnow Chronic Ceriodaphnia dubia Continuous Batch Tests Discrete Batch Tests Other																		
County: Ashley City: CROCKETT State: AR.				Sample Collected by (print): DANNY PAUL				NPDES Permit No.: AR0001210				No. of Cntrs												Description	Sample B# (lab only)	Receipt Temp °C
Sample Collected by (signature): <i>[Signature]</i>				NPDES Test: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes																Definitive or Screen						
Sample Location / ID	Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time	No. of Cntrs		Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other									
RIVER	G	PLASTIC	NA	2-9-15 11:24am		2	20														18516	1.8				
OUTFALL 001	C	PLASTIC	YES	2-8-15 4:10am	2-9-15 6:10am	2	20						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								18517	2.0			
* Matrix: SS - Soil GW - Groundwater WW - Wastewater AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____																										
Remarks: Measured TRC (if applicable): 0.00 mg/L																										
Relinquished by: (Signature) <i>[Signature]</i>				Date: 2-9-15		Time: 3:00PM		Received by: (Signature) <i>[Signature]</i>				Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other Courier <input type="checkbox"/> UPS <input type="checkbox"/> Hand Delivered				Condition: (lab use only) on ice										
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Containers/Volume Received: 40L x 40L														
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) <i>[Signature]</i>				Date: 2/10/15		Time: 0900		pH upon arrival: 16) 6.86		DO upon arrival: 8.4								
																		17) 7.49		8.3						

Sample Receipt Checklist:

Client: Georgia Pacific Corsett

Date/Time received 2/10/15 0900 by ALP

- 1. Cooler sealed and intact upon arrival? Yes No
- 2. Custody seals present? Yes No
- 3. Samples received below 6 degrees Celsius? Yes No
- 4. Was ice present? Yes No
- 5. Is the COC filled out correctly including the sample date/time and signed? Yes No
- 6. Was the sample received within 36 hours of collection? Yes No
- 7. Did the sample(s) arrive in good condition? Yes No
- 8. Was pH and DO measured and in range? Yes No
- 9. Was residual chlorine present? Yes No
 > 1.0 mg/L? (did dechlor occur) Yes No *in River water*

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18516	River	1.8	6.86	8.4	0.04
18517	Outfall 021	2.0	7.49	8.3	<0.02

L:\Ecotox Lab\FORMS

ENVIRON Test Log No. 1A894

Project Name: _____ Project Number: _____

Industry: **GEORGIA PACIFIC PAPER**

Phone: **870-567-8170** FAX: **870-364-9076**

County: **ASHLEY** City: **CROSSETT** State: **AR.**

Sample Collected by (print): **DANNY PAUL** NPDES Permit No.: **AR0001210**

Sample Collected by (signature): _____ NPDES Test: No Yes

Analysis Requested										
Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other	

CHAIN-OF-CUSTODY



201 Summit View Drive, Suite 300
Brentwood, TN 37027
PHONE: (615) 277-7570
FAX: (615) 377-4976

Sample Location / ID	Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time	No. of Cntrs	Analysis Requested										Description Definitive or Screen	Sample B# (lab only)	Receipt Temp °C	
							Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other					
RIVER	G	PLASTIC	NA	2-9-15 11:24am		2 20												DILUTION WATER	18524	08 °C
WATERFALL 001	C	PLASTIC	YES	2-10-15 6:17am	2-11-15 6:17am	2 20													18525	1.0 °C

* Matrix: SS - Soil GW - Groundwater WW - Wastewater AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____

Remarks: _____

Measured TRC (if applicable): **0.00** mg/L

Relinquished by: (Signature) Danny Rice	Date: 2-11-15	Time: 3:00 PM	Received by: (Signature) _____	Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other Courier <input type="checkbox"/> UPS Hand Delivered	Condition: (lab use only) on ice
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Containers/Volume Received: 80L x 20L	
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Date: 2/12/15	Time: 6:35
				pH upon arrival: 25) 7.42	DO upon arrival: 8.2

25) 7.79 **2.4**

29 of 36

Sample Receipt Checklist:

Client: George & Pacific Cruisette


Date/Time received 2/12/5 0835 by ALB

- 1. Cooler sealed and intact upon arrival? Yes No
- 2. Custody seals present? Yes No
- 3. Samples received below 6 degrees Celsius? Yes No
- 4. Was ice present? Yes No
- 5. Is the COC filled out correctly including the sample date/time and signed? Yes No
- 6. Was the sample received within 36 hours of collection? Yes No
- 7. Did the sample(s) arrive in good condition? Yes No
- 8. Was pH and DO measured and in range? Yes No
- 9. Was residual chlorine present? Yes No
 - 1.0 mg/L? (did dechlor occur) Yes No

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18524	River	0.8	7.42	82	0.03
18525	Outfall w 1	1.0	7.79	84	0.02

L:\Ecotox Lab\FORMS

Project Name:				Project Number:				Analysis Requested										CHAIN-OF-CUSTODY  201 Summit View Drive, Suite 300 Brentwood, TN 37027 PHONE: (615) 277-7570 FAX: (615) 377-4976		
Industry: <u>GEORGIA PACIFIC PAPER</u>								Total Volume in liters	Acute Fathead minnow	Acute Bannerfin shiner	Acute Ceriodaphnia dubia	Acute Daphnia pulex	Chronic Fathead minnow	Chronic Ceriodaphnia dubia	Continuous Batch Tests	Discrete Batch Tests	Other			
Phone: <u>870-567-8170</u> FAX: <u>870-364-9076</u>																				
County: <u>Ashley</u>		City: <u>CROWL</u>		State: <u>AR</u>																
Sample Collected by (print): <u>DANNY PAUL</u>				NPDES Permit No.: <u>AR0001210</u>																
Sample Collected by (signature): <u>[Signature]</u>				NPDES Test: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				No. of Cntrs											Description	
Sample Location ID		Comp/Grab	Container Type	Chilled During Collection (Y/N)	Start Date/Time	End Date/Time											Definitive or Screen	Sample B# (lab only)		
<u>RIVER</u>		<u>G</u>	<u>PLASTIC</u>	<u>NA</u>	<u>2-9-15</u>	<u>11:24am</u>												<u>18532</u>		
<u>OUTFALL 001</u>		<u>C</u>	<u>PLASTIC</u>	<u>YES</u>	<u>2-12-15</u>	<u>2-13-15</u>												<u>18533</u>		
* Matrix: SS - Soil GW - Groundwater WW - Wastewater AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____ Remarks: Measured TRC (if applicable): <u>0.00</u> mg/L																				
Relinquished by: (Signature) <u>[Signature]</u>				Date: <u>2-13-15</u>		Time: <u>3:00pm</u>		Received by: (Signature) _____				Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other Courier <input type="checkbox"/> UPS <input type="checkbox"/> Hand Delivered				Condition: (lab use only)				
Relinquished by: (Signature) _____				Date: _____		Time: _____		Received by: (Signature) _____				Receipt Temp: <u>2.8°C, 2.0°C</u>				Containers/Volume Received: <u>20 L of each</u>				
Relinquished by: (Signature) _____				Date: _____		Time: _____		Received for lab by: (Signature) <u>[Signature]</u>				Date: <u>2/14/15</u>		Time: <u>0934</u>		pH upon arrival: <u>6.74, 7.70</u>		DO upon arrival: <u>8.3, 8.7</u>		

Sample Receipt Checklist:

Client: G.P. Crosslett

Date/Time received 2/14/15 0934 by AW

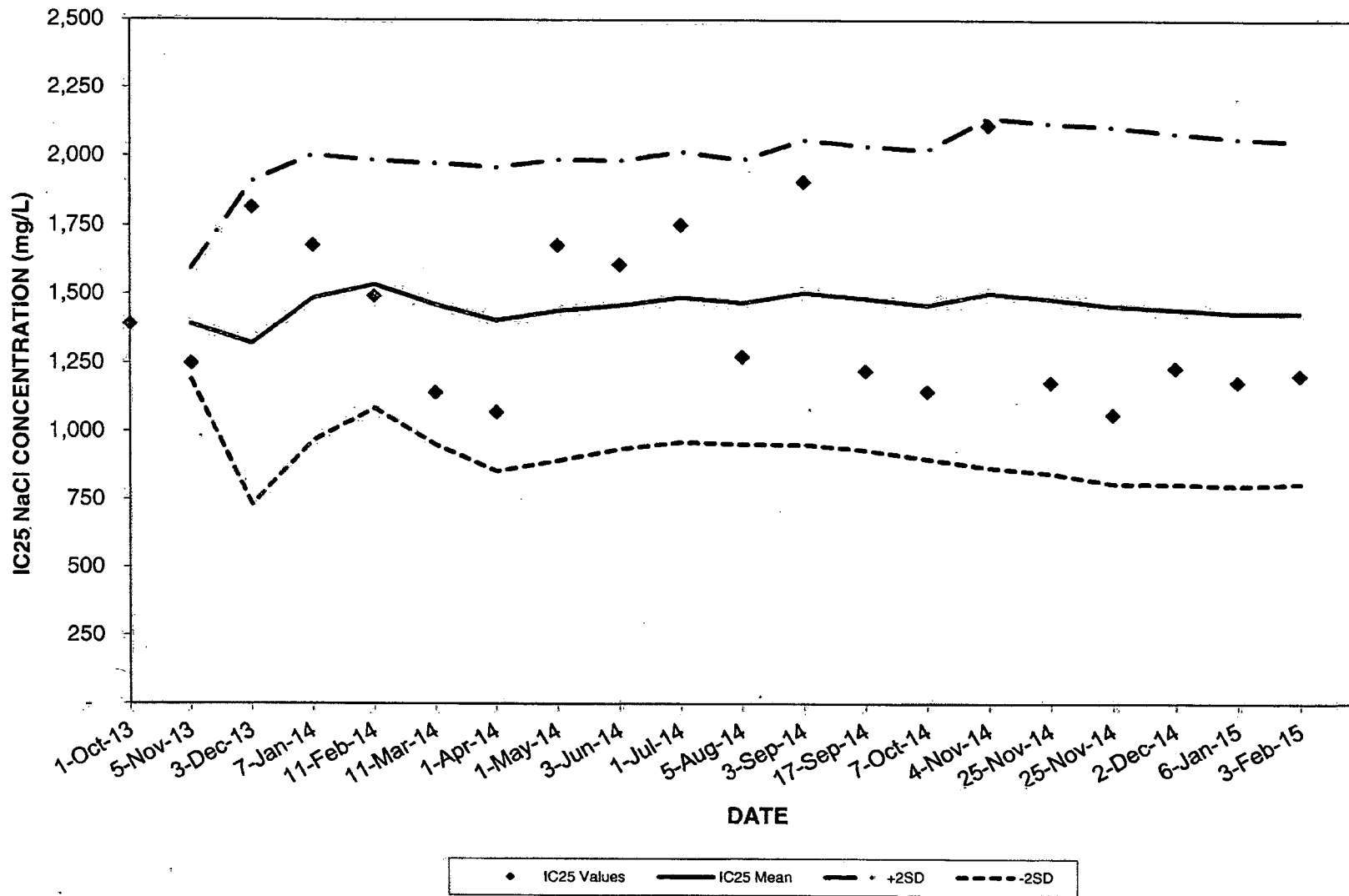
1. Cooler sealed and intact upon arrival? Yes No
2. Custody seals present? Yes No
3. Samples received below 6 degrees Celsius? Yes No

4. Was ice present? Yes No
5. Is the COC filled out correctly including the sample date/time and signed? Yes No
6. Was the sample received within 36 hours of collection? Yes No
7. Did the sample(s) arrive in good condition? Yes No
8. Was pH and DO measured and in range? Yes No
9. Was residual chlorine present? Yes No
 - 1.0 mg/L? (did dechlor occur) Yes No

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18532	RW(River)	2.8	6.74	8.3	<0.02
18533	Outfall 1001	2.0	7.76	8.7	<0.02

CHRONIC REFERENCE TOXICANT TEST (NaCl) 2013 - 2015 FATHEAD MINNOWS



Fathead Minnow CHRONIC REFERENCE TOXICANT TESTING-SODIUM CHLORIDE (NaCl) 2013 - 2015

ENVIRON Test Log No. 17394

34 of 36

Test Number	Log Number	Test Initiation Date	Control Survival (%) (*)	Control Mean Dry Weight (mg/fish) (*)	SURVIVAL		GROWTH		PMSD (%)	IC25 VALUE (mg/L)	IC25 CUMULATIVE MEAN (mg/L)	IC25 ST. DEV. (mg/L)	IC25 2+ STD. DEV.	IC25 2- STD. DEV.	Coefficient of Variation (%)
					NOEC (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOEC (mg/L)							
1	16348	01-Oct-13	97.5	0.310	1,500	3,000	750	1,500	23.4	1,391					
2	16425	05-Nov-13	100	0.335	750	1,500	750	1,500	19.7	1,248	1,391	101	1,593	1,189	5
3	16489	03-Dec-13	97.5	0.417	750	1,500	1,500	3,000	31.8	1,814	1,320	294	1,908	731	16
4	16554	07-Jan-14	100	0.464	750	1,500	1,500	3,000	27.8	1,679	1,484	259	2,003	966	15
5	16631	11-Feb-14	92.5	0.484	750	1,500	750	1,500	13.5	1,491	1,533	225	1,984	1,082	13
6	16684	11-Mar-14	100	0.543	750	1,500	750	1,500	28.8	1,138	1,460	256	1,972	948	16
7	16729	01-Apr-14	90	0.430	750	1,500	750	1,500	29.2	1,067	1,404	277	1,958	850	18
8	16782	01-May-14	97.5	0.378	1,500	3,000	1,500	3,000	28.2	1,678	1,438	274	1,986	890	18
9	16835	03-Jun-14	100	0.467	750	1,500	1,500	3,000	24.9	1,607	1,457	262	1,982	932	17
10	16907	01-Jul-14	100	0.447	1,500	3,000	1,500	3,000	22.3	1,751	1,486	264	2,015	958	17
11	16989	05-Aug-14	97.5	0.511	750	1,500	750	1,500	25.8	1,270	1,467	259	1,985	948	17
12	17054	03-Sep-14	100	0.519	750	1,500	1,500	3,000	34.4	1,907	1,503	278	2,059	948	18
13	17095	17-Sep-14	100	0.458	750	1,500	750	1,500	17.3	1,218	1,481	278	2,037	926	18
14	17125	07-Oct-14	100	0.280	750	1,500	750	1,500	32.7	1,141	1,457	282	2,021	894	19
15	17193	04-Nov-14	100	0.400	750	1,500	1,500	3,000	31.3	2,111	1,501	320	2,140	861	21
16	17242	25-Nov-14	100	0.433	750	1,500	750	1,500	17.4	1,175	1,480	319	2,119	842	21
17	17243	25-Nov-14	97.5	0.483	750	1,500	750	1,500	22.1	1,057	1,455	326	2,107	804	22
18	17258	02-Dec-14	100	0.317	750	1,500	750	1,500	27.7	1,228	1,443	321	2,084	801	22
19	17317	06-Jan-15	97.5	0.476	1,500	3,000	1,500	3,000	42.2	1,176	1,429	318	2,064	794	22
20	17379	03-Feb-15	100	0.515	750	1,500	750	1,500	25.3	1,200	1,429	313	2,055	802	22
Avg			98	0.433	900	1800	1050	2100	26	1417	1454	275	2004	903	

Notes:

Dilution series - 0.375 g/L - 6.0 g/L

NOEC - No Observable Effect Concentration (survival or growth)

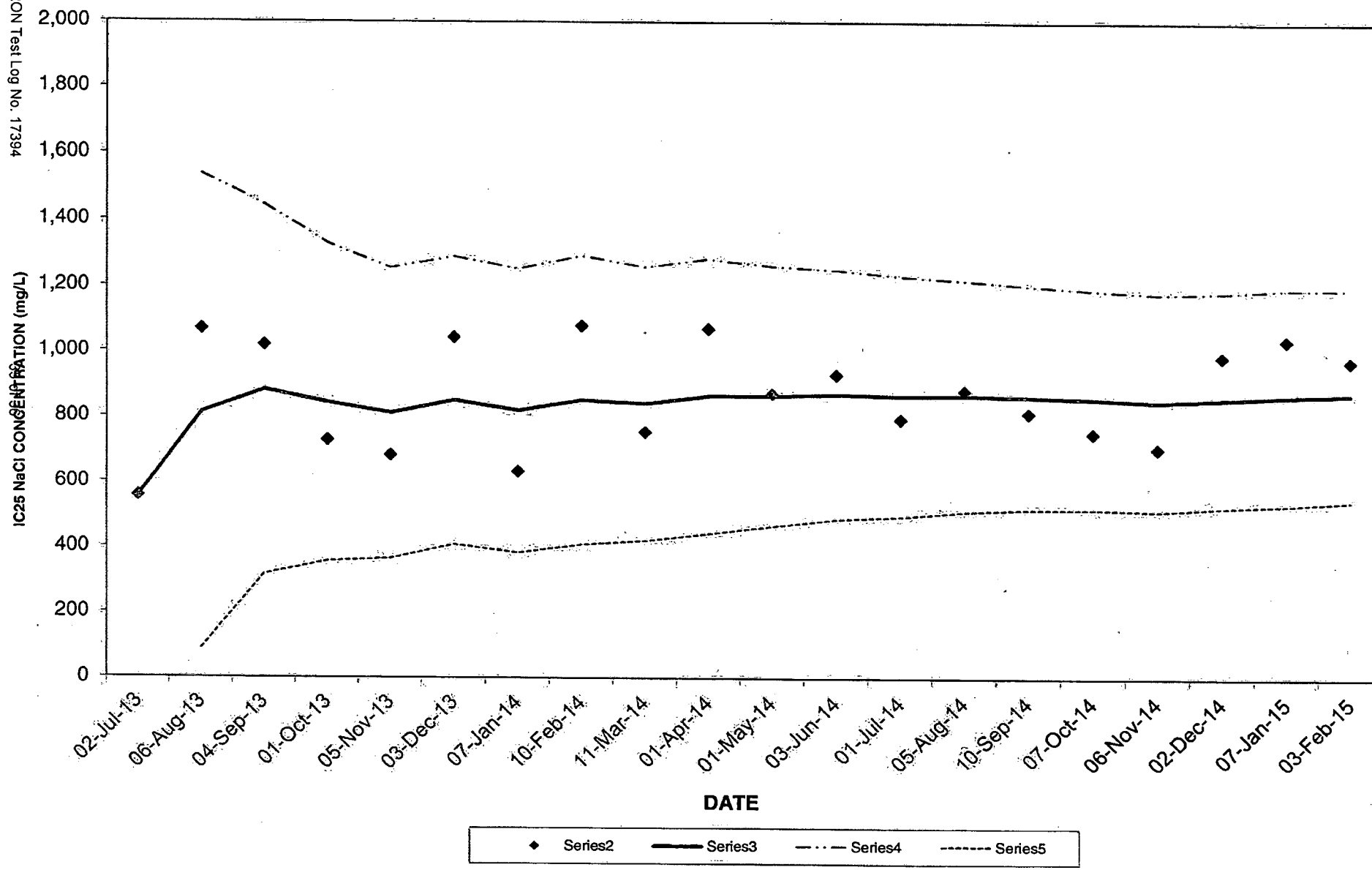
LOEC - Lowest Observable Effect Concentration (survival or growth)

ACCEPTABLE TEST RESULTS - A growth NOEC ranging from 750 mg/L to 3,000 mg/L.

(*) Minimum USEPA CONTROL CRITERIA - 80 percent survival and average dry weight of 0.25 mg (weight based on surviving number of fish).

CHRONIC REFERENCE TOXICANT (NaCl) 2013-2015
Ceriodaphnia dubia

ENVIRON Test Log No. 17394



Ceriodaphnia dubia CHRONIC REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2013-2015

ENVIRON Test Log No. 17394

36 of 36

Test Number	Log Number	Test Initiation Date	Control Survival (%) (*)	3 Brood Production (%) (*)	Control Average Repro (*)	Survival		Reproduction			IC25 VALUE (mg/L)	IC25 CUMULATIVE MEAN (mg/L)	IC25 ST. DEV. (mg/L)	IC25 2+ STD. DEV.	IC25 2- STD. DEV.	Coefficient of Variation (%)
						NOEC (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOEC (mg/L)	PMSD						
1	16188	02-Jul-13	100	80	21.5	2,000	>2,000	500	1,000	35.7	556	556				
2	16257	06-Aug-13	100	90	29.1	1,000	2,000	500	1,000	24.9	1,068	812	362	1,536	88	32
3	16308	04-Sep-13	100	90	27.1	2,000	>2,000	500	1,000	14.6	1,018	881	282	1,445	316	26
4	16347	01-Oct-13	100	90	28.0	2,000	>2,000	1,000	2,000	26.0	726	842	243	1,328	356	25
5	16426	05-Nov-13	100	80	31.0	2,000	>2,000	250	500	27.1	681	810	223	1,255	365	25
6	16497	03-Dec-13	100	90	29.0	2,000	>2,000	500	1,000	12.3	1,041	848	220	1,289	408	24
7	16552	07-Jan-14	100	90	29.4	1,000	2,000	500	1,000	20.2	630	817	217	1,252	382	25
8	16630	10-Feb-14	100	100	31.1	1,000	2,000	500	1,000	13.4	1,076	850	221	1,292	407	24
9	16682	11-Mar-14	100	90	23.0	1,000	2,000	500	1,000	24.3	750	838	209	1,257	420	24
10	16730	01-Apr-14	100	100	28.8	2,000	>2,000	500	1,000	12.3	1,067	861	210	1,282	441	23
11	16782	01-May-14	100	100	33.6	2,000	>2,000	500	1,000	13.5	868	862	199	1,261	463	22
12	16834	03-Jun-14	100	80	26.1	1,000	2,000	1,000	2,000	22.9	926	867	191	1,249	485	21
13	16909	01-Jul-14	100	100	31.3	1,000	2,000	500	1,000	21.7	789	861	184	1,230	493	21
14	16989	05-Aug-14	100	90	28.7	2,000	>2000	500	1,000	17.4	877	862	177	1,216	508	20
15	17077	10-Sep-14	100	90	28.4	1,000	2,000	500	1,000	17.3	808	859	171	1,201	516	19
16	17124	07-Oct-14	100	100	29.7	1,000	2,000	500	1,000	26.8	747	852	168	1,187	516	19
17	17201	06-Nov-14	100	80	23.8	1,000	2,000	500	1,000	21.5	700	843	167	1,176	510	19
18	17248	02-Dec-14	100	80	26.1	2,000	>2000	500	1,000	14.1	980	850	165	1,180	521	19
19	17316	07-Jan-15	100	90	28.2	2,000	>2000	500	1,000	17.8	1,032	860	165	1,191	529	19
20	17380	03-Feb-15	100	90	33.2	2,000	>2000	500	1,000	18.7	966	865	163	1,191	540	18

Avg:	100	90	28	1500	1000	542	1083	20	860	832	212	1273	423
------	-----	----	----	------	------	-----	------	----	-----	-----	-----	------	-----

Notes:

NOEC - No Observable Effect Concentration (survival or reproduction)

LOEC - Lowest Observable Effect Concentration (survival or reproduction)

(*) Minimum USEPA CONTROL CRITERIA - 80 percent survival, 80 percent with 3 broods, and average reproduction of 15 neonates/adult.

FedEx®

Express

Extrem ent

RT 177
ST 2
10:30 A
4537
03/24

Page 1 of 3

From: (870) 567-8812
Becky Blankenship
Georgia-Pacific
100 Supply Road
Drop Point 33
Crossett, AR 71635

Origin ID: ELDA



Ship Date: 23MAR15
ActWgt: 1.0 LB
CAD: 102787395/ANET3610

Delivery Address Bar Code



SHIP TO: (501) 682-0718
RICHARD HEALEY
ADEQ
5301 NORTSHORE DR

NORTH LITTLE ROCK, AR 72118

BILL SENDER

Ref #
Invoice #
PO #
Dept #

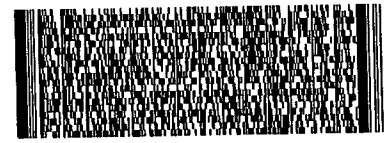
1 of 2

TUE - 24 MAR 10:30A
PRIORITY OVERNIGHT

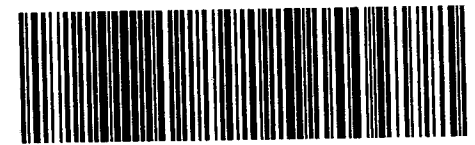
TRK# 7731 8562 4537

0201
MASTER

72118
AR-US
LIT



X2 LITA



537J1678AEE48

After printing this label:

1. Use the "Print" button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Insert shipping document here