



Georgia-Pacific LLC
Consumer Products

Crossett Paper Operations
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November 18, 2014

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:

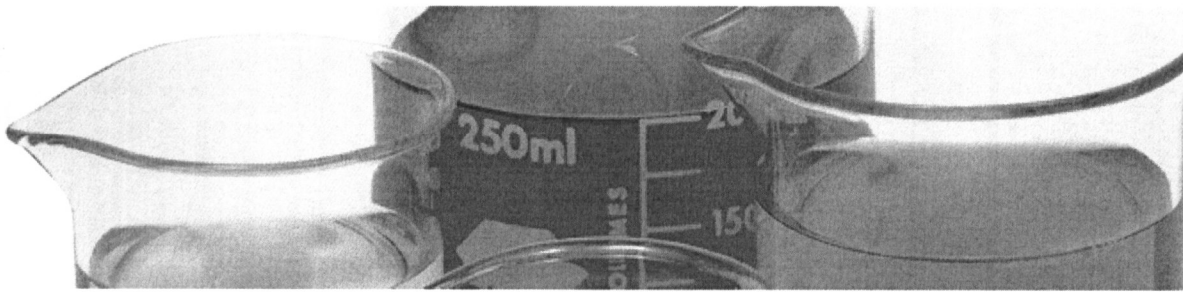
Attached are the Discharge Monitoring Reports (DMRs) for the Georgia-Pacific Crossett Paper Operations' - NPDES Permit # **AR0001210** - for October 2014. As required by Part III, Section 4 paragraph a, of our NPDES Permit, a full report of the chronic toxicity testing has also been included with this submittal.

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

Sincerely,

A handwritten signature in cursive script that reads 'Rachel M. Johnson'.

Rachel M. Johnson
Environmental Engineer
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:
September 2014

Project Number:
20-19675H



October 1, 2014

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 September 8, 10, and 12, 2014. The samples were received at ENVIRON on September 9, 11, and 13, 2014, 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 for chronic testing (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*.

The Coefficient of Variation (CV) values for the fathead minnow survival in the river water control and critical dilution are zero and six percent, respectively. The CV values for growth in the control and critical dilution are 11 and nine percent, respectively, and are below the CV limit of 40 percent for findings of no toxicity. The effluent concentration-response curve can be described as a Type

ENVIRON International Corp. 201 Summit View Drive, Suite 300, Brentwood, TN 37027
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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

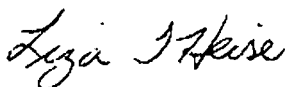
10 dose response in EPA 821-B-00-004 *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing*. A Type 10 response is characterized by an increase in fish growth as the test concentrations increase. Test precision for growth results (as Percent Minimum Significant Difference, PMSD) value was 18 which is within the USEPA PMSD bounds of 12 to 30 percent when alpha 0.05 was used for hypothesis testing. 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 17 and 10 percent respectively, which meets the TAC limit of 40 percent for a finding of no toxicity. The PMSD value was 20 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 40 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



Liza T. Heise
Project Manager



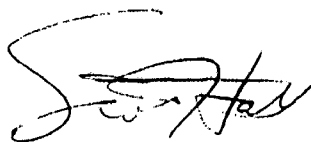
Robin L. Richards, REM
Principal

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: 23 Sep-14 13:49 (p 1 of 4)
 Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 06-1879-3516	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:45	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes
Batch ID: 03-0987-2588	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 16 Sep-14	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 00-7653-8121	Code: 48FE109	Client: GPAC Crossett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	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	5.1%

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	27.5	16	1	8	0.8333	Asymp	Non-Significant Effect
		34	27.5	16	1	8	0.8333	Asymp	Non-Significant Effect
		45	27.5	16	1	8	0.8333	Asymp	Non-Significant Effect
		60	27.5	16	1	8	0.8333	Asymp	Non-Significant Effect
		80	25	16	1	8	0.6353	Asymp	Non-Significant Effect

Test Acceptability Criteria

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

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	Grubbs Extreme Value	4.817	2.908	<0.0001	Outlier Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.00562162	0.001124324	5	1	0.4389	Non-Significant Effect
Error	0.02698378	0.001124324	24			
Total	0.03260539		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	543.4	15.09	<0.0001	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.4063	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	1	1	1	1	1	1	0	0.0%	0.0%
25		5	1	1	1	1	1	1	0	0.0%	0.0%
34		5	1	1	1	1	1	1	0	0.0%	0.0%
45		5	1	1	1	1	1	1	0	0.0%	0.0%
60		5	1	1	1	1	1	1	0	0.0%	0.0%
80		5	0.975	0.9056	1	1	0.875	1	0.025	5.73%	2.5%

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Receiving Water	5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	0.0%
25		5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	0.0%
34		5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	0.0%
45		5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	0.0%
60		5	1.393	1.393	1.393	1.393	1.393	1.393	0	0.0%	0.0%
80		5	1.356	1.254	1.458	1.393	1.209	1.393	0.03673	6.06%	2.64%

CETIS Analytical Report

Report Date: 23 Sep-14 13:49 (p 2 of 4)
 Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 06-1879-3516 Endpoint: 7d Survival Rate
 Analyzed: 23 Sep-14 13:45 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	1	1	1	1	1
25		1	1	1	1	1
34		1	1	1	1	1
45		1	1	1	1	1
60		1	1	1	1	1
80		1	1	0.875	1	1

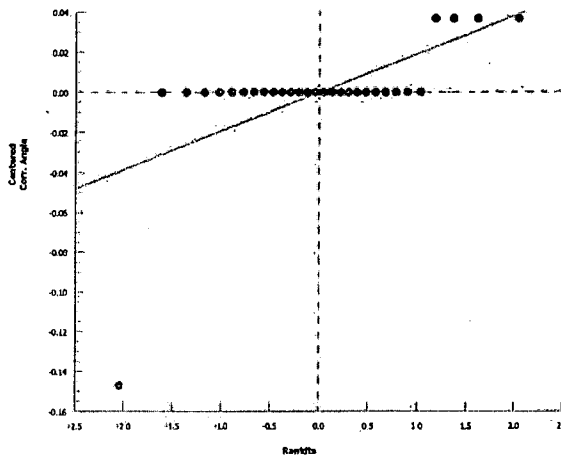
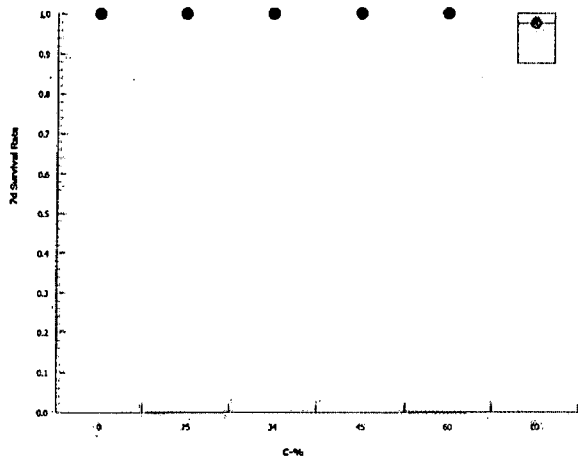
Angular (Corrected) Transformed Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	1.393	1.393	1.393	1.393	1.393
25		1.393	1.393	1.393	1.393	1.393
34		1.393	1.393	1.393	1.393	1.393
45		1.393	1.393	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	8/8	8/8	8/8	8/8	8/8
25		8/8	8/8	8/8	8/8	8/8
34		8/8	8/8	8/8	8/8	8/8
45		8/8	8/8	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: 23 Sep-14 13:49 (p 3 of 4)

Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 01-5993-6002	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:47	Analysis: Parametric-Control vs Treatments	Official Results: Yes
Batch ID: 03-0987-2588	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 16 Sep-14	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 00-7653-8121	Code: 48FE109	Client: GPAC Crosssett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	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	18.1%

Dunnett Multiple Comparison Test

Control	vs	C-%	Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	-7.391	2.362	0.08	8	1.0000	CDF	Non-Significant Effect
		34	-9.271	2.362	0.08	8	1.0000	CDF	Non-Significant Effect
		45	-9.175	2.362	0.08	8	1.0000	CDF	Non-Significant Effect
		60	-6.666	2.362	0.08	8	1.0000	CDF	Non-Significant Effect
		80	-7.961	2.362	0.08	8	1.0000	CDF	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.4412	0.25 - NL	Yes	Passes Acceptability Criteria
PMSD	0.1809	0.12 - 0.3	Yes	Passes Acceptability Criteria

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	Grubbs Extreme Value	1.949	2.908	1.0000	No Outliers Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.3406942	0.06813885	5	23.87	<0.0001	Significant Effect
Error	0.06850377	0.002854324	24			
Total	0.409198		29			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	3.473	15.09	0.6274	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9825	0.9031	0.8873	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	0.4412	0.3788	0.5037	0.415	0.4012	0.5175	0.02248	11.39%	0.0%
25		5	0.691	0.6611	0.7209	0.6875	0.665	0.7287	0.01078	3.49%	-56.6%
34		5	0.7545	0.6918	0.8172	0.78	0.68	0.7988	0.02258	6.69%	-70.99%
45		5	0.7513	0.6724	0.8301	0.7688	0.6575	0.8112	0.0284	8.45%	-70.26%
60		5	0.6665	0.5912	0.7418	0.6725	0.5775	0.7438	0.02711	9.09%	-51.05%
80		5	0.7102	0.6341	0.7864	0.7113	0.6413	0.805	0.02744	8.64%	-60.96%

CETIS Analytical Report

Report Date: 23 Sep-14 13:49 (p 4 of 4)
 Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

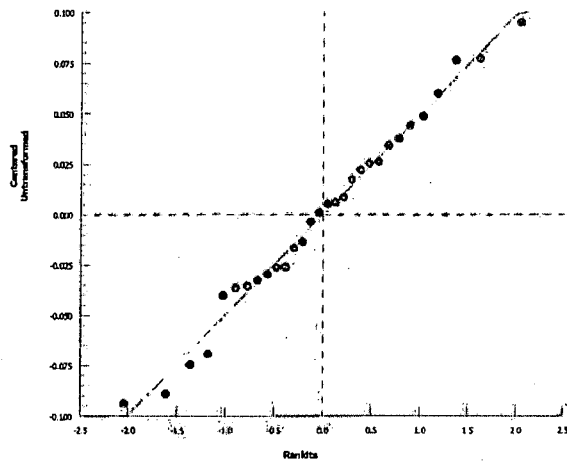
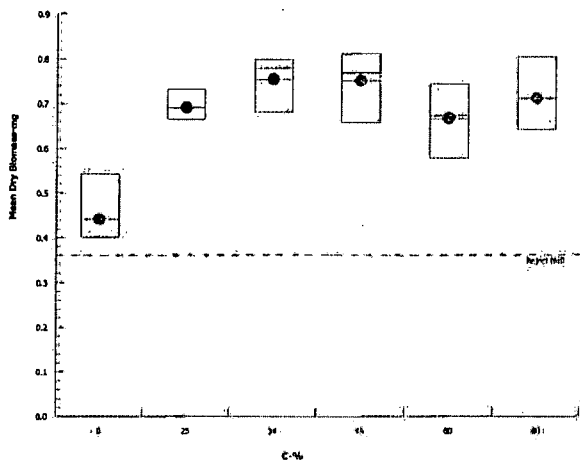
Analysis ID: 01-5993-6002 Endpoint: Mean Dry Biomass-mg
 Analyzed: 23 Sep-14 13:47 Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.8.4
 Official Results: Yes

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	0.5175	0.4012	0.405	0.415	0.4675
25		0.7287	0.6962	0.665	0.6875	0.6775
34		0.78	0.7988	0.7888	0.68	0.725
45		0.8112	0.8	0.7688	0.6575	0.7188
60		0.6888	0.7438	0.5775	0.65	0.6725
80		0.805	0.7113	0.6413	0.675	0.7188

Graphics



CETIS Analytical Report

Report Date: 23 Sep-14 13:49 (p 1 of 2)
 Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 00-7156-5610	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:47	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 03-0987-2588	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 16 Sep-14	Species: Pimephales promelas	Brine: Not Applicable
Duration: 7d 0h	Source: Environmental Consult & Test	Age:
Sample ID: 00-7653-8121	Code: 48FE109	Client: GPAC Crossett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	26010	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.4412	0.25 - NL	Yes	Passes Acceptability Criteria

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	Grubbs Extreme Value	1.949	2.908	1.0000	No Outliers Detected

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

C-%	Control Type	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	5	0.4412	0.4012	0.5175	0.02248	0.05026	11.39%	0.0%
25		5	0.691	0.665	0.7287	0.01078	0.0241	3.49%	-56.6%
34		5	0.7545	0.68	0.7988	0.02258	0.0505	6.69%	-70.99%
45		5	0.7513	0.6575	0.8112	0.0284	0.0635	8.45%	-70.26%
60		5	0.6665	0.5775	0.7438	0.02711	0.06061	9.09%	-51.05%
80		5	0.7102	0.6413	0.805	0.02744	0.06135	8.64%	-60.96%

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	0.5175	0.4012	0.405	0.415	0.4675
25		0.7287	0.6962	0.665	0.6875	0.6775
34		0.78	0.7988	0.7888	0.68	0.725
45		0.8112	0.8	0.7688	0.6575	0.7188
60		0.6888	0.7438	0.5775	0.65	0.6725
80		0.805	0.7113	0.6413	0.675	0.7188

CETIS Analytical Report

Report Date: 23 Sep-14 13:49 (p 2 of 2)

Test Code: 17072fm | 08-6038-0574

Fathead Minnow 7-d Larval Survival and Growth Test

ENVIRON International Corp

Analysis ID: 00-7156-5610

Endpoint: Mean Dry Biomass-mg

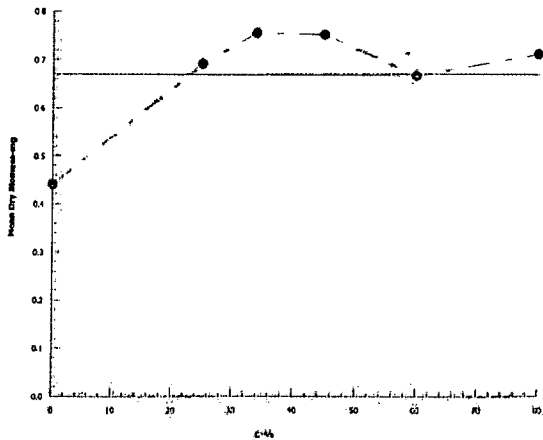
CETIS Version: CETISv1.8.4

Analyzed: 23 Sep-14 13:47

Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

Graphics



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

TEST LOG NO.: 17072
 JOB NUMBER: 20-19675H
 INDUSTRY: Georgia Pacific Crossett
 EFFLUENT: Outfall 001
 DILUTION WATER: River Water
 NPDES: Yes No
 FOOD BATCH: 4721

BEGINNING: HRS: 1248 DATE: 9/9/14
 ENDING: HRS: 1320 DATE: 9/16/14
 TEST DILUTIONS: 25, 34, 45, 60, 80%
 ORGANISM AGE (date): 9/8/14
 ORGANISM SOURCE: ECTH 1808
 SOURCE TEMP @ TEST START: 24.4
 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	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		24.1	24.3/24.1	24.4/24.2	24.1/24.2	24.0/24.0	24.0/24.3/24.1	
25	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		24.1	24.1/24.0	24.2/24.3	24.2/24.4	24.0/24.0	24.1/24.3/24.3	
34	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		24.2	24.6/24.4	24.5/24.2	24.3/24.3	24.0/24.2	24.1/24.3/24.6	
45	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		24.1	24.2/24.6	24.3/24.0	24.2/24.4	24.0/24.3	24.1/24.3/24.4	
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		24.3	24.1/24.0	24.2/24.2	24.2/24.4	24.0/24.5	24.0/24.1/24.4	
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	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	24.1/24.3	24.3/24.4	24.0/24.3	24.1/24.2/24.3/24.4	
Test Renewal	Time	1248	1324	1450	1539	1621	2010	1741	1920
	Date	9/9/14	9/10/14	9/11/14	9/12/14	9/13/14	9/14/14	9/15/14	9/16/14
	Initials	LM	LM	HM	AB	LM	LM	LM	AB
morning feeding	In/Time		140700	140700	140700	140700	140700	140700	
afternoon feeding	In/Time		141000	141500	141000	141000	141000	141000	

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

TEST LOG NO.: 17072
 JOB NUMBER: 20-19675H
 INDUSTRY: Georgia Pacific Crossett
 EFFLUENT: 001
 DILUTION WATER: River Water
 NPDES: Yes No
 FOOD BATCH: 4721

BEGINNING: HRS: 1248 DATE: 9/9/14
 ENDING: HRS: 1320 DATE: 9/16/14

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	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	24.1	24.2/24.2	24.0/24.2	24.2/24.4	24.0/24.0	24.2/24.1	24.3/24.1	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								
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.: 17072 BEGINNING: HRS: 1248 DATE: 9/9/14
 JOB NO.: 20-19675H ENDING: HRS: 1320 DATE: 9/10/14
 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

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	1.06455	1.06869	0.00414	8	0.5175
	B	2	1.09436	1.09757	0.00321	8	0.4013
	C	3	1.08144	1.08468	0.00324	8	0.4050
	D	4	1.08117	1.08449	0.00332	8	0.4150
	E	5	1.08592	1.08966	0.00374	8	0.4675
25	A	6	1.07702	1.08285	0.00583	8	AVG Control Fish wt. 0.4413 (using final #)
	B	7	1.07317	1.07874	0.00557	8	
	C	8	1.06704	1.07236	0.00532	8	
	D	9	1.08455	1.09005	0.00550	8	
	E	10	1.07104	1.08183	0.00542	8	
34	A	11	1.07116	1.07740	0.00624	8	Oven ID: <u>2</u> Tins In: Date: <u>9/16/14</u> Time: <u>1405</u> Temp (°C): <u>100</u> Initials: <u>VB</u>
	B	12	1.06558	1.07197	0.00639	8	
	C	13	1.06311	1.06942	0.00631	8	
	D	14	1.07257	1.0801	0.00544	8	
	E	15	1.08772	1.09352	0.00580	8	
45	A	16	1.04386	1.05035	0.00649	8	Tins Out: Date: <u>9/17/14</u> Time: <u>0820</u> Temp (°C): <u>100</u> Initials: <u>LM</u>
	B	17	1.05796	1.06436	0.00640	8	
	C	18	1.05534	1.06149	0.00615	8	
	D	19	1.07978	1.08504	0.00526	8	
	E	20	1.06577	1.07152	0.00575	8	
60	A	21	1.07103	1.07654	0.00551	8	FINAL WEIGHTS DATE: <u>9/18/14</u> INITIALS: <u>LTH</u>
	B	22	1.06098	1.06693	0.00595	8	
	C	23	1.1077	1.11233	0.00459	8	
	D	24	1.09504	1.10024	0.00520	8	
	E	25	1.08243	1.08781	0.00538	8	
80	A	26	1.10700	1.11344	0.00644	8	
	B	27	1.10487	1.11056	0.00569	8	
	C	28	1.09024	1.09537	0.00513	7	
	D	29	1.12906	1.13446	0.00540	8	
	E	30	1.01405	1.02480	0.00575	8	
MH	A	31	1.09098	1.09605	0.00507	8	
	B	32	1.09678	1.10174	0.00496	8	
	C	33	1.1036	1.10682	0.00546	8	
	D	34	1.08352	1.08775	0.00423	8	
	E	35	1.10412	1.10951	0.00539	8	
Initials / Date:		LM 9/10/14 LTH 9/18/14					

TEST LOG NO. 17072

CLIENT/SAMPLE ID: Georgia Pacific Crossett

JOB NO. 20-19675H

TEST ORGANISM: Fm

DATE: 9/9/14

ENVIRON Test Log No. 17072

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		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	Old	New			
RW		7.8	8.1	8.5	8.4	8.2	7.6	8.2	8.4	8.5	8.9	8.9	8.6	8.6	8.6	8.6			
25		7.5	8.1	8.5	8.0	8.1	7.4	8.4	8.3	8.3	8.6	8.9	8.7	8.7	8.7	8.7			
34		7.6	8.1	8.4	7.9	8.3	7.4	8.3	8.3	8.6	8.5	8.7	8.6	8.6	8.6	8.6			
45		7.5	8.1	8.4	7.7	8.4	7.3	8.4	8.2	8.6	9.0	8.5	8.5	8.5	8.5	8.6			
60		7.4	8.2	8.7	7.6	8.6	7.6	8.4	8.1	8.6	8.7	8.9	8.6	8.6	8.6	8.7			
80		7.4	8.2	8.7	7.4	8.4	7.4	8.4	8.1	8.7	8.6	8.9	8.6	8.6	8.6	8.6			
MH		7.9	8.5	8.7	8.6	8.3	7.2	8.4	8.7	8.1	8.6	9.1	8.4	8.4	8.4	8.4			

		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	Old	New			
RW		7.37	7.99	7.86	7.86	7.87	7.67	7.90	7.89	7.86	7.88	7.78	7.66	7.89	7.78	7.78			
25		7.83	7.24	7.65	7.59	7.33	7.60	7.74	7.81	7.95	7.88	8.01	7.76	7.85	7.90	7.90			
34		7.94	8.02	8.27	7.88	7.98	8.04	7.90	7.96	8.05	8.01	8.01	7.94	8.13	7.94	7.94			
45		7.96	8.05	8.26	8.06	7.99	8.19	7.97	8.08	8.08	8.07	8.10	8.04	8.13	8.11	8.11			
60		8.05	8.08	7.96	8.18	7.90	8.26	7.98	8.18	8.11	8.17	8.13	8.19	8.16	8.22	8.22			
80		8.05	8.24	8.02	8.27	8.01	8.35	8.02	8.20	8.14	8.23	8.20	8.30	8.19	8.34	8.34			
MH		7.85	7.99	7.79	7.66	7.89	7.60	7.90	7.80	7.86	7.89	7.80	7.91	7.81	7.91	7.91			

		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	Old	New			
RW		119	118	112	108	77	74	712	81	83	77	77	84	159	91	91			
25		591	550	570	499	556	474	585	443	587	499	500	526	587	577	577			
34		855	842	846	820	802	802	805	794	796	716	811	798	851	826	826			
45		963	920	955	930	936	897	964	889	944	864	914	942	922	927	927			
60		1230	1157	1173	1213	1191	1155	1223	1136	1217	1127	1177	1166	1195	1130	1130			
80		1594	1551	1553	1589	1558	1447	1581	1462	1567	1449	1538	1527	1470	1490	1490			
MH		238	230	203	201	202	197	202	214	226	216	216	216	252	219	219			

Params Intrl/Time:	LM 1132	PH 0614	PH 0819	LM 0510	LM 0719	LM 1124	LM 0922	LM 1335	LM 0801	LM 1206	LM 0521	LM 0712	LM 0516
Dilutions Intrl/Time:	LM 1128	PH 0812	PH 0812	LM 1014	LM 1217	LM 1217	LM 1217	LM 1525	LM 0801	LM 1232	LM 0521	LM 0712	LM 0516
Control Water Batch:	5641, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747	5643, 1747
Food Batch:	4721	4721	4721	4721	4721	4721	4721	4721	4721	4721	4721	4721	4721

AU
 AU
 5643, 1747
 4721

TEST LOG NO. 17072

CLIENT: Georgia Pacific Crossett

DATE OF TEST: 9/9/14

JOB NO. 20-19675H

TEST TYPE(S) PERFORMED: Fm & Cd Chronic

ENVIRON Test Log No. 17072

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
17977	Outfall 001	9/7-8/14	9/9/14	232	500	<0.02	0.738
17987	Outfall 001	9/9-10/14	9/11/14	276	515	0.06	1.44
18004	Outfall 001	9/11-12/14	9/13/14	272	445	0.02	1.49

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
17978	River Water	9/8/14	9/9/14	16	99/1630	0.04	<0.1
17986	River Water	9/8/14	9/11/14	224	38	<0.02	<0.1
18004S	River Water	9/8/14	9/13/14	25	22	0.03	<0.1
51241	MH	9/12/14	9/10/14	85.6	46	<0.02	-
51243	MH	9/10/14	9/10/14	80.3	43	<0.02	-
51244	MH	9/17/14	9/12/14	82.4	43	<0.02	-

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CETIS Analytical Report

Report Date: 23 Sep-14 13:16 (p 1 of 2)
 Test Code: 17072cd | 12-6799-0325

Ceriodaphnia 7-d Survival and Reproduction Test ENVIRON International Corp

Analysis ID: 08-7753-3965	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:15	Analysis: STP 2x2 Contingency Tables	Official Results: Yes
Batch ID: 01-2483-4810	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Sep-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 0h	Source: In-House Culture	Age:
Sample ID: 11-4279-9473	Code: 441DBC71	Client: GPAC Crossett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	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: 23 Sep-14 13:16 (p 2 of 2)
Test Code: 17072cd | 12-6799-0325

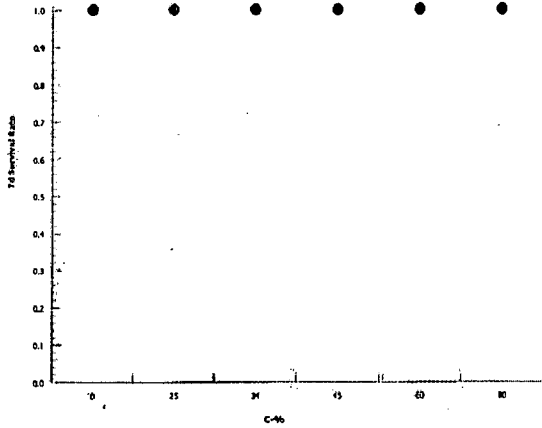
Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 08-7753-3965 Endpoint: 7d Survival Rate
Analyzed: 23 Sep-14 13:15 Analysis: STP 2x2 Contingency Tables

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 23 Sep-14 13:16 (p 1 of 2)

Test Code: 17072cd | 12-6799-0325

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 16-4808-1385	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:15	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes
Batch ID: 01-2483-4810	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Sep-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 0h	Source: In-House Culture	Age:
Sample ID: 11-4279-9473	Code: 441DBC71	Client: GPAC Crossett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	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	20.1%

Steel Many-One Rank Sum Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Receiving Water		25	138.5	75	1	18	1.0000	Asymp	Non-Significant Effect
		34	145.5	75	2	18	1.0000	Asymp	Non-Significant Effect
		45	138	75	2	18	1.0000	Asymp	Non-Significant Effect
		60	131	75	3	18	0.9996	Asymp	Non-Significant Effect
		80	135.5	75	3	18	0.9999	Asymp	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	28.4	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.2011	0.13 - 0.47	Yes	Passes Acceptability Criteria

Auxiliary Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:5%)
Extreme Value	Grubbs Extreme Value	3.915	3.2	0.0016	Outlier Detected

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	357.2	71.44	5	2.294	0.0580	Non-Significant Effect
Error	1681.4	31.13704	54			
Total	2038.6		59			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	14.08	15.09	0.0151	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.8871	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	28.4	25.48	31.32	27	23	36	1.293	14.39%	0.0%
25		10	35.8	30.39	41.21	36	18	46	2.394	21.14%	-26.06%
34		10	35.5	33.23	37.77	35	31	41	1.003	8.93%	-25.0%
45		10	33.9	28.16	39.64	36.5	13	41	2.536	23.66%	-19.37%
60		10	33.4	29.6	37.2	34.5	23	39	1.681	15.92%	-17.61%
80		10	32.8	30.52	35.08	33.5	26	37	1.009	9.73%	-15.49%

CETIS Analytical Report

Report Date: 23 Sep-14 13:16 (p 2 of 2)
 Test Code: 17072cd | 12-6799-0325

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

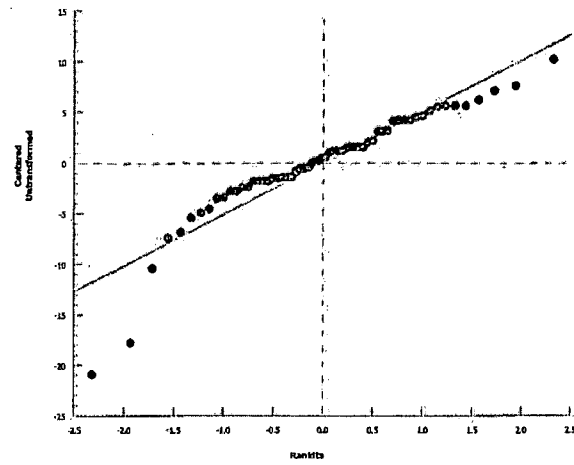
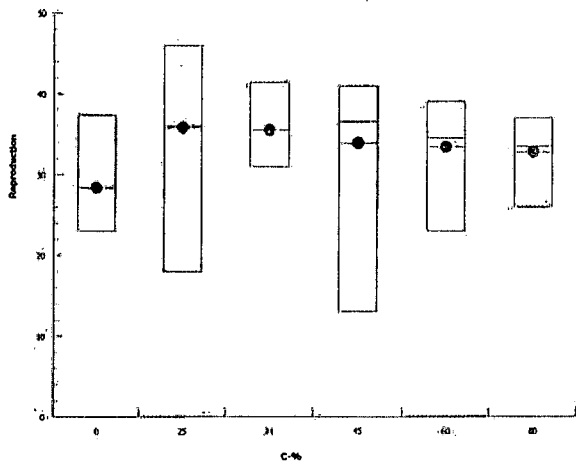
Analysis ID: 16-4808-1385 Endpoint: Reproduction
 Analyzed: 23 Sep-14 13:15 Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.8.4
 Official Results: Yes

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	27	30	27	23	26	25	26	30	36	34
25		35	18	33	40	34	33	42	37	40	46
34		35	35	36	34	40	34	41	32	31	37
45		34	37	39	35	36	29	41	13	38	37
60		33	23	34	32	39	35	38	26	35	39
80		33	36	37	31	34	26	31	31	35	34

Graphics



CETIS Analytical Report

Report Date: 23 Sep-14 13:16 (p 1 of 1)
 Test Code: 17072cd | 12-6799-0325

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 18-3116-6063	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 23 Sep-14 13:16	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 01-2483-4810	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 09 Sep-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Receiving Water
Ending Date: 16 Sep-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 0h	Source: In-House Culture	Age:
Sample ID: 11-4279-9473	Code: 441DBC71	Client: GPAC Crossett
Sample Date: 08 Sep-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (SEP)
Receive Date: 09 Sep-14	Source: Discharge Monitoring Report	
Sample Age: 24h	Station: 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2074598	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	28.4	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

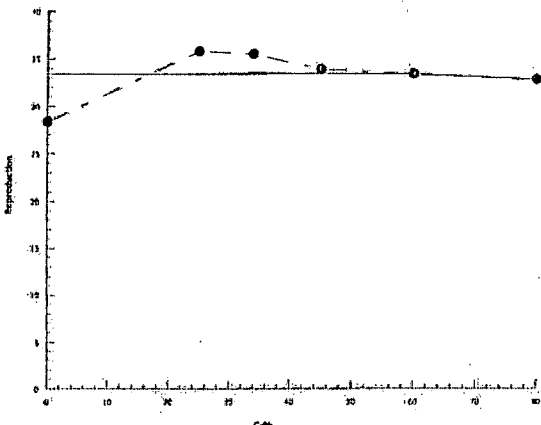
Reproduction Summary

C-%	Control Type	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	10	28.4	23	36	1.293	4.088	14.39%	0.0%
25		10	35.8	18	46	2.394	7.569	21.14%	-26.06%
34		10	35.5	31	41	1.003	3.171	8.93%	-25.0%
45		10	33.9	13	41	2.536	8.02	23.66%	-19.37%
60		10	33.4	23	39	1.681	5.317	15.92%	-17.61%
80		10	32.8	26	37	1.009	3.19	9.73%	-15.49%

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	27	30	27	23	26	25	26	30	36	34
25		35	18	33	40	34	33	42	37	40	46
34		35	35	36	34	40	34	41	32	31	37
45		34	37	39	35	36	29	41	13	38	37
60		33	23	34	32	39	35	38	26	35	39
80		33	36	37	31	34	26	31	31	35	34

Graphics



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

TEST LOG NO.: 17072 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): 9/8/14
 TEMP @ TEST START: 24.0
 RANDOMIZED BY: 24.5 LTH
 TEST START:
 HOURS: 1408 DATE: 9/9/14
 TEST END:
 HOURS: 1230 DATE: 9/16/14

SOURCE ID:	AGE (time):
107270	1554-2210
10724	1557-2212
10728a	1558-2211

SURVIVAL AND REPRODUCTION DATA												Notes					
Test Start & Feeding/End Initials/Time	Daily Renewal & Feeding Initials/Time	Date	Control		REPLICATES												
			River Water	Temp (°C)	27												
					1	2	3	4	5	6	7	8	9	10			
					Adult	8	20	13	17	1	4	5	19	13	15		
LTH 1408		9/9	24.0		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AN 108a	9/10	24.4	24.2	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LM 1143	9/11	24.0	24.0	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LM 1200	9/12	24.2	24.3	Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LM 1446	9/13	24.0	24.0	Day 4	4	4	5	4	4	5	5	4	5	6		
	LM 1828	9/14	25.2	25.6	Day 5	9	9	7	8	10	8	9	10	13	11		
	LM 1846	9/15	25.8	25.3	Day 6	✓	✓	✓	11	✓	12	12	✓	✓	✓		
LM 1230		9/16		24.8	Day 7	14	14	15	✓	12	✓	✓	16	18	17		
					Day 8												
			Total			27	30	27	23	26	25	26	30	36	34	284	✓ 75

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

TEST LOG # 17072

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	
LTH 1408		9/9	24.2		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1039	9/10	24.2	24.1	Day 1	✓	-	-	-	-	-	-	-	-	-	
	LM 1143	9/11	24.0	24.0	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	24.4	24.1	Day 3	✓	✓	5	✓	✓	✓	✓	✓	✓	✓	
	MA 146	9/13	24.0	24.0	Day 4	5	5	✓	5	6	6	6	6	6	6	
	MA 1528	9/14	25.2	25.4	Day 5	13	✓	12	13	11	14	14	13	15	16	
	MA 1548	9/15	25.3	25.5	Day 6	✓	13	16	✓	17	23	18	✓	19	✓	
Y230		9/16	24.9		Day 7	17	✓	16	22	✓	18	22	18	12	24	
					Day 8											
			Total			35	18	33	40	34	33	42	37	40	46	358

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	
LTH 1408		9/9	24.1		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1039	9/10	24.2	24.3	Day 1	✓	-	-	-	-	-	-	-	-	-	
	LM 1143	9/11	24.0	24.0	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	24.3	24.5	Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MA 146	9/13	24.0	24.0	Day 4	4	6	7	5	5	6	5	4	5	5	
	MA 1528	9/14	25.1	24.5	Day 5	11	13	13	12	13	12	14	12	12	14	
	MA 1544	9/15	25.7	25.5	Day 6	✓	16	16	17	✓	17	21	15	15	18	
Y230		9/16	24.9		Day 7	20	✓	✓	✓	22	✓	✓	✓	✓	✓	
					Day 8											
			Total			35	35	36	34	40	34	41	32	31	37	355

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

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TEST LOG # 17072

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		Temp (°C)	REPLICATES										Notes			
			45%			1	2	3	4	5	6	7	8	9	10				
						Adult													
LTH 1408		9/9	24.1			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1039	9/10	24.2	24.3		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1143	9/11	24.0	24.0		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	24.1	24.1		Day 3	✓	✓	✓	✓	✓	✓	small 3	✓	✓	✓	✓	✓	
	1446	9/13	24.0	24.0		Day 4	5	7	6	5	5	5	5	5	6	6	6	6	
	1828	9/14	25.2	25.4		Day 5	13	14	12	11	13	10	14	✓	15	15	15	15	
	1578	9/15	25.5	25.4		Day 6	✓	16	21	18	14	23	8	19	16	16	16	16	
✓ 1230		9/16		24.8		Day 7	16	✓	23	19	✓	✓	15	✓	✓	✓	✓	✓	
						Day 8													
			Total				34	37	39	35	36	29	41	13	38	37	339	339	

SURVIVAL AND REPRODUCTION DATA																			
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration		Temp (°C)	REPLICATES										Notes			
			60%			1	2	3	4	5	6	7	8	9	10				
						Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1039	9/10	24.2	24.3		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1143	9/11	24.0	24.0		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	24.3	24.2		Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	1446	9/13	24.0	24.0		Day 4	4	7	6	5	5	4	5	2	6	5	5	5	
	1828	9/14	25.1	25.0		Day 5	✓	✓	11	12	14	13	13	10	12	12	12	12	
	1578	9/15	25.6	25.4		Day 6	15	11	17	15	20	18	✓	14	17	✓	✓	✓	
✓ 1230		9/16		24.7		Day 7	14	5	✓	✓	✓	✓	20	20	✓	22	22	22	
						Day 8													
			Total				33	23	34	32	39	35	38	26	35	39	334	334	

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

TEST LOG # 17072

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		80% Temp (°C)	REPLICATES										Notes		
						1	2	3	4	5	6	7	8	9	10			
						Adult												
LTH 1408		9/9	241			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1039	9/10	242	243		Day 1	✓	-	-	-	-	-	-	-	-	-	-	
	LM 1143	9/11	240	240		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	242	241		Day 3	✓	✓	3	✓	✓	✓	4	✓	4	✓		
	LM 1416	9/13	240	240		Day 4	4	5	2	3	5	5	✓	4	✓	4		
	LM 1828	9/14	250	260		Day 5	11	12	13	12	11	11	11	9	13	12		
	LM 1548	9/15	250	249		Day 6	✓	✓	19	16	18	✓	16	16	18	18		
						Day 7	18	19	✓	✓	✓	10	✓	✓	15	✓		
						Day 8												
			Total				33	36	37	31	34	26	31	31	35	34	328	

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			
						Adult												
LTH 1408		9/9	242			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1039	9/10	241	243		Day 1	✓	-	-	-	-	-	-	-	-	-	-	
	LM 1143	9/11	240	240		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	240	241		Day 3	✓	n-1	✓	✓	✓	✓	4	✓	4	✓		
	LM 1507	9/13	240	241		Day 4	5	1	5	5	4	5	9	4	4	4		
	LM 1828	9/14	245	245		Day 5	✓	1	12	✓	12	✓	12	10	✓			
	LM 1548	9/15	256	246		Day 6	15	1	12	16	12	12	12	15	11			
		9/16				Day 7	13	1	✓	17	13	1	10	15	15			
						Day 8												
			Total				33	MISS	15	29	37	29	25	28	30	30	216/5	216

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

TEST LOG # 17072

JOB # 20-19675F

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 Filtered 80%		Temp (°C)	REPLICATES										Notes		
						1	2	3	4	5	6	7	8	9	10			
						Adult												
AM 114		9/10	242			Day 0	✓	/	/	/	/	/	/	/	/	/	/	
	LM 1143	9/11	241	240		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1200	9/12	241	240		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LS07	9/13	241	242		Day 3	✓	/	/	5	4	/	/	3	✓	7		
	LS28	9/14	254	252		Day 4	5	7	7	9	11	7	8	✓	4	✓		
	LS48	9/15	260	259		Day 5	10	13	11	/	/	14	14	9	✓	10		
W		9/16		242		Day 6	13	13	15	12	12	13	15	15	15	18		
						Day 7												
						Day 8												
						Total	28	33	33	26	27	34	37	27	19	35	299	

SURVIVAL AND REPRODUCTION DATA																		
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration Filtered 100%		Temp (°C)	REPLICATES										Notes		
						1	2	3	4	5	6	7	8	9	10			
						Day 0	✓	/	/	/	/	/	/	/	/	/	/	
	LM 1143	9/11	240	240		Day 1	✓	✓	✓	/	/	/	/	/	/	/	/	
	LM 1200	9/12	241	240		Day 2	✓	✓	✓	/	/	/	/	/	/	/	/	
	LS07	9/13	243	245		Day 3	4	✓	4	✓	✓	3	5	3	✓	✓		
	LS28	9/14	257	255		Day 4	10	5	✓	7	9	4	✓	✓	5	4		
	LS48	9/15	260	260		Day 5	✓	7	9	13	10	✓	11	10	4	9		
W		9/16		252		Day 6	13	15	14	16	16	16	13	8	14	13		
						Day 7												
						Day 8												
						Total	27	27	28	36	35	23	29	12	23	26	276	

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

TEST LOG # 17072

JOB # 20-19675F

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 Ferric 80%		Temp (°C)	REPLICATES										Notes				
						1	2	3	4	5	6	7	8	9	10					
						Adult														
AH 1114		9/10	243	244		Day 0	✓	/	/	/	/	/	/	/	/	/	/	/	/	/
	LM 1143	9/11	242	241		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	LM 1200	9/12	242	244		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MSD 1507	9/13	248	251		Day 3	5	4	4	6	6	5	4	4	✓	✓	✓	✓	✓	✓
	MSD 1508	9/14	251	248		Day 4	8	✓	10	✓	9	✓	✓	9	6	7	✓	✓	✓	✓
	MSD 1508	9/15	260	255		Day 5	✓	9	✓	11	✓	8	11	✓	9	10	✓	✓	✓	✓
		9/16		249		Day 6	25	17	16	21	18	15	23	20	20	14				
						Day 7														
						Day 8														
						Total	38	30	30	38	33	28	38	33	35	31	33	4		

SURVIVAL AND REPRODUCTION DATA																				
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration Ferric 100%		Temp (°C)	REPLICATES										Notes				
						1	2	3	4	5	6	7	8	9	10					
						Day 0	✓	/	/	/	/	/	/	/	/	/	/	/	/	/
	LM 1143	9/11	242	241		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	LM 1200	9/12	243	243		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	MSD 1507	9/13	240	250		Day 3	5	4	4	4	5	6	✓	5	5	4	✓	✓	✓	✓
	MSD 1528	9/14	251	252		Day 4	✓	✓	✓	✓	9	✓	6	7	✓	8	✓	✓	✓	✓
	MSD 1528	9/15	260	260		Day 5	13	13	11	11	✓	8	10	✓	11	✓	✓	✓	✓	✓
		9/16		252		Day 6	16	16	16	20	16	17	17	18	18	16				
						Day 7														
						Day 8														
						Total	34	33	31	35	30	31	24	30	34	28	31	3		

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

TEST LOG NO. 17072

CLIENT/SAMPLE ID: Georgia Pacific Crossett

JOB NO. 20-19675H

TEST ORGANISM: Cd

DATE: 9/11/14

ENVIRON TEST LOG No. 17072

28 of 40

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	7.8	8.0	8.5	7.6	7.7	8.5	8.2	8.1	8.5	8.5	8.9	8.4	8.7	8.7
25	7.5	8.0	8.5	7.6	7.7	8.5	8.2	8.1	8.5	8.5	8.9	8.4	8.7	8.8
34	7.6	8.0	8.4	7.9	8.3	8.7	8.7	8.1	8.6	8.7	8.9	8.4	8.7	8.9
45	7.5	7.9	8.4	7.9	8.4	8.7	8.7	8.4	8.6	8.7	8.9	8.4	8.7	8.7
60	7.4	7.8	8.4	8.1	8.6	8.2	8.4	8.6	8.4	8.7	8.9	8.4	8.7	8.9
80	7.4	7.6	8.4	8.2	8.4	8.2	8.4	8.2	8.2	8.4	8.9	8.4	8.7	8.6
MH	7.9	8.0	8.2	8.0	8.3	8.7	8.4	8.1	8.1	8.7	9.1	8.5	8.4	8.5

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	7.39	7.91	7.86	7.94	7.42	7.99	7.90	7.91	7.86	7.54	7.78	6.35	7.99	7.46
25	7.83	7.79	7.65	8.20	7.80	8.08	7.94	7.95	7.95	8.34	8.01	8.55	7.85	8.16
34	7.94	8.23	7.87	8.31	7.94	8.48	7.90	8.36	8.08	8.45	8.09	8.53	8.08	8.24
45	7.96	8.33	7.40	8.43	7.94	8.50	7.97	7.52	8.08	8.54	8.10	8.43	8.13	8.38
60	8.05	8.46	7.96	8.53	8.00	8.63	7.98	7.63	8.11	8.62	8.13	8.43	8.16	8.48
80	8.05	8.53	8.02	8.60	8.04	8.72	8.02	8.80	8.14	8.72	8.20	8.65	8.19	8.60
MH	7.85	7.78	7.79	7.88	7.85	7.79	7.90	7.79	7.86	8.11	7.80	8.28	7.91	7.63

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	113	79	112	83	77	126	112	916	82	127	77	670	159	127
25	591	438	570	544	556	534	585	308	587	628	500	644	57	644
34	855	806	846	872	802	874	805	104	796	860	811	885	854	708
45	963	918	855	955	950	950	969	587	944	947	904	1025	922	972
60	1230	1161	1177	1240	1191	1190	1223	1210	1217	1280	1177	1256	1135	1297
80	1494	1509	1393	1516	1535	1481	1587	1410	1507	1575	1537	1600	1470	1603
MH	238	211	215	209	203	245	207	217	226	277	216	283	252	286

Params Int/Time:	LH 162	LH 149	A4 0819	M120	HM 1029	AB 124	AV 1537	HM 1029	HM 1325	L	HM 1705	L	AV 0919	LH 1504
Dilutions Int/Time:	LM 1125	LM 1125	AB 0812		HM 1019		AV 1030	HM 1325	HM 1325		HM 1231		AV 0912	
Control Water Batch:	5641, 1997	5641, 1997		5643, 1986	5643, 1986	5643, 1986	5643, 1986	5641, 1904	5641, 1904	5641, 1904	5641, 1904	5641, 1904	5641, 1904	
Food Batch:	4898, 4799	4898, 4799		4898, 4799	4898, 4799	4898, 4799	4898, 4799	OK 199	OK 199	OK 199	OK 199	OK 199	OK 199	

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

Project Name: Project Number:

Industry: GEORGIA PACIFIC PAPER
Phone: 870-507-8170 **FAX:** 870-364-0706
County: ASHLEY **City:** CROCKETT **State:** AR
NPDES Permit No.: A900012D
NPDES Test: No Yes

Sample Collected by (print): Dax/Rachel
Sample Collected by (signature): *Dax/Rachel*

Sample Location ID	Comp/Grab	Container Type	Chilled During Collection (Y/N)	NPDES Test:		Start Date/Time	End Date/Time	No. of Cntrs	Total Volume in liters	Analysis Requested							Description Definitive or Screen	Sample B# (lab only)
				<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes					Acute Fathead minnow	Acute Bannertin shiner	Acute <i>Ceriodaphnia dubia</i>	Acute <i>Daphnia pulex</i>	Chronic Fathead minnow	Chronic <i>Ceriodaphnia dubia</i>	Continuous Batch Tests		
RIVER	G	Plastic	NA			9-8-14 9:27am		2	20									17978
CHAFFALOOL	C	Plastic	YES			9-7-14 4:14am	9-8-14 6:17am	7	20									17977

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>Dax/Rachel</i>	Date: 9-8-14	Time: 4:30pm	Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	Received for lab by: (Signature), <i>Dax/Rachel</i>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	

Containers/Volume Received: 20L + 20L
Time: 0840
pH upon arrival: 7.8
DO upon arrival: 8.708
Condition: ON ICE
UPS Hand Delivered: FedEx Other Courier
Receipt Temp: See above
Date: 9/14
77) 8.4

5.74
5.54

7.99

Sample Receipt Checklist:

Client: Georgia Pacific Cosset Mill


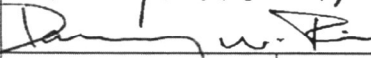
Date/Time received 9/9/14 0840 by AD

- 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
17977	Outlet SWI	5.7	7.99	8.4	<0.02
17978	River	5.5	7.08	8.3	0.04

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>870-507-8170</u> FAX: <u>870-364-9076</u>																		
County: <u>ASHLEY</u> City: <u>CROSSETT</u> State: <u>AR.</u>																		
Sample Collected by (print): <u>DANNY / ROBBIE / RACHEL</u>				NPDES Permit No.: <u>AR0001210</u>				No. of Cntrs		Description		Sample B# (lab only)						
Sample Collected by (signature): 				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	Description	Sample B# (lab only)
<u>RIVER</u>	<u>C</u>	<u>PLASTIC</u>	<u>NA</u>	<u>9-8-14</u> <u>9:37AM</u>		<u>2</u>	<u>20</u>											<u>17936</u>
<u>WH FALL 001</u>	<u>C</u>	<u>PLASTIC</u>	<u>YES</u>	<u>9-9-14</u> <u>6:16AM</u>	<u>9-10-14</u> <u>6:18AM</u>	<u>2</u>	<u>20</u>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<u>17957</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>0.0</u> mg/L																		
Relinquished by: (Signature) <u>Danny W. Rice</u>				Date:	Time:	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)				Receipt Temp: <u>EC</u> <u>RW-1.3-39</u>				Containers/Volume Received: <u>200L</u>				
Relinquished by: (Signature)				Date:	Time:	Received for lab by: (Signature) <u>Luzi Huse</u>				Date: <u>9/11/13</u>		Time: <u>0850</u>		pH upon arrival: <u>7.29, 7.92</u>		DO upon arrival: <u>8.7, 8.4</u>		

Sample Receipt Checklist:

Client: Cap Crosssett

HM 9/11
08/01

Date/Time received 9/11/14 09:01 by LH/AM

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
7986	River	1.3	7.29	8.7	0.06
7987	Quabbin	3.9	7.97	8.4	<0.02

0

ENVIROTEST Log No. 17872

Project Name: _____ Project Number: _____

Industry: GEORGIA PACIFIC PAPER

Phone: 800-567-8170 FAX: 870-364-9076

County: ASHLEY City: CROSSETT State: AR.

Sample Collected by (print): _____ NPDES Permit No.: AR 0001210

Sample Collected by (signature): Danny W. [Signature] NPDES Test: No Yes

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	Analysis Requested								Description Definitive or Screen	Sample B# (lab only)		
								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	
<u>RIVER</u>	<u>G</u>	<u>PLASTIC</u>	<u>NA</u>	<u>9-8-14</u>		<u>2</u>	<u>20</u>												
<u>OUTFALL 001</u>	<u>C</u>	<u>PLASTIC</u>		<u>9-11-14</u> <u>6:18am</u>	<u>9-12-14</u> <u>10:15am</u>	<u>2</u>	<u>20</u>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<u>18005</u>	<u>1.4</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): 000 mg/L

Relinquished by: (Signature) [Signature] Date: 9-12-14 Time: _____

Received by: (Signature) _____

Samples shipped via: FedEx Other Courier UPS Hand Delivered Condition: (lab use only)

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received by: (Signature) _____

Receipt Temp: 1.4, 1.8°C Containers/Volume Received: 10L, 10L

Relinquished by: (Signature) _____ Date: _____ Time: _____

Received for lab by: (Signature) _____

Date: 9/13/14 Time: 1004 pH upon arrival: 7.42 DO upon arrival: 8.8, 8.9

8.07

35 of 40

temp
1.4
1.8

Sample Receipt Checklist:

Client: COP CROSSETT

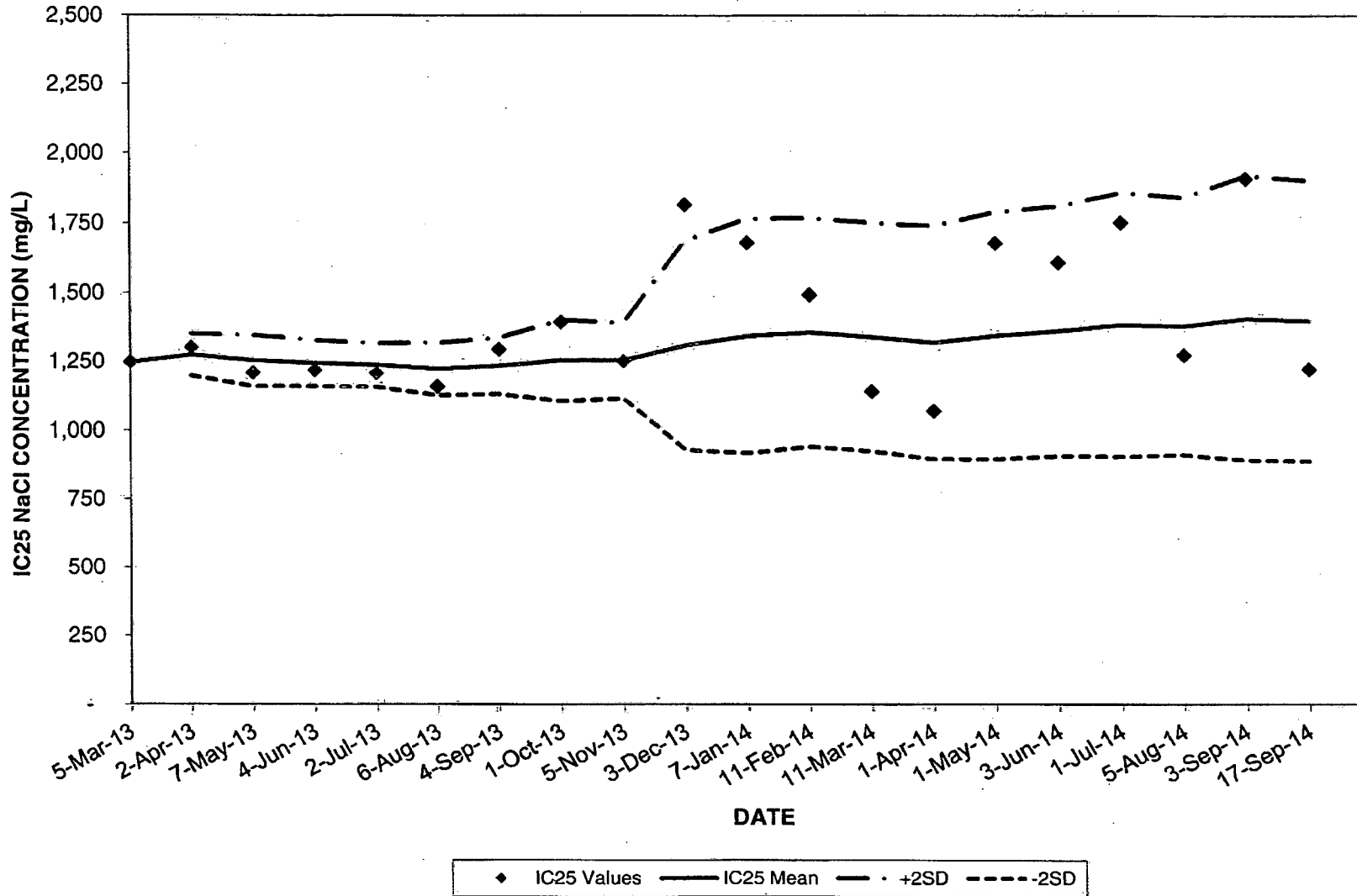
Date/Time received 9/13/14 1001 by HM

- 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
18004	custalod	1.8	8.09	8.9	0.07
18005	River	1.4	7.42	8.8	0.03

CHRONIC REFERENCE TOXICANT TEST (NaCl) 2013 - 2014 FATHEAD MINNOWS



Fathead Minnow CHRONIC REFERENCE TOXICANT TESTING-SODIUM CHLORIDE (NaCl) 2013 - 2014

ENVIRON Test Log No. 17072

38 of 40

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	15965	05-Mar-13	100	0.538	750	1,500	750	1,500	28.1	1,246	1,246				
2	16017	02-Apr-13	100	0.504	750	1,500	750	1,500	25.8	1,300	1,273	38	1,349	1,197	2
3	16088	07-May-13	100	0.390	750	1,500	750	1,500	29.3	1,207	1,251	47	1,344	1,158	3
4	16137	04-Jun-13	100	0.402	750	1,500	750	1,500	21.5	1,215	1,242	42	1,326	1,158	3
5	16189	02-Jul-13	100	0.444	750	1,500	750	1,500	26.7	1,205	1,235	40	1,315	1,154	3
6	16256	06-Aug-13	100	0.382	750	1,500	750	1,500	19.3	1,157	1,222	48	1,317	1,126	4
7	16309	04-Sep-13	97.5	0.369	750	1,500	750	1,500	27.1	1,293	1,232	51	1,335	1,129	4
8	16348	01-Oct-13	97.5	0.310	1,500	3,000	750	1,500	23.4	1,391	1,252	74	1,399	1,104	6
9	16425	05-Nov-13	100	0.335	750	1,500	750	1,500	19.7	1,248	1,251	69	1,389	1,114	5
10	16489	03-Dec-13	97.5	0.417	750	1,500	1,500	3,000	31.8	1,814	1,308	189	1,686	929	14
11	16554	07-Jan-14	100	0.464	750	1,500	1,500	3,000	27.8	1,679	1,341	212	1,765	918	15
12	16631	11-Feb-14	92.5	0.484	750	1,500	750	1,500	13.5	1,491	1,354	206	1,767	941	15
13	16684	11-Mar-14	100	0.543	750	1,500	750	1,500	28.8	1,138	1,337	207	1,750	924	15
14	16729	01-Apr-14	90	0.430	750	1,500	750	1,500	29.2	1,067	1,318	211	1,740	896	15
15	16782	01-May-14	97.5	0.378	1,500	3,000	1,500	3,000	28.2	1,678	1,342	224	1,789	895	16
16	16835	03-Jun-14	100	0.467	750	1,500	1,500	3,000	24.9	1,607	1,359	226	1,811	906	16
17	16907	01-Jul-14	100	0.447	1,500	3,000	1,500	3,000	22.3	1,751	1,382	239	1,859	904	17
18	16989	05-Aug-14	97.5	0.511	750	1,500	750	1,500	25.8	1,270	1,375	233	1,841	909	16
19	17054	03-Sep-14	100	0.519	750	1,500	1,500	3,000	34.4	1,907	1,403	257	1,918	889	18
20	17095	17-Sep-14	100	0.458	750	1,500	750	1,500	17.3	1,218	1,394	254	1,902	887	18

Avg	99	0.440	863	1725	975	1950	25	1394	1306	151	1611	1007
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Notes:

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

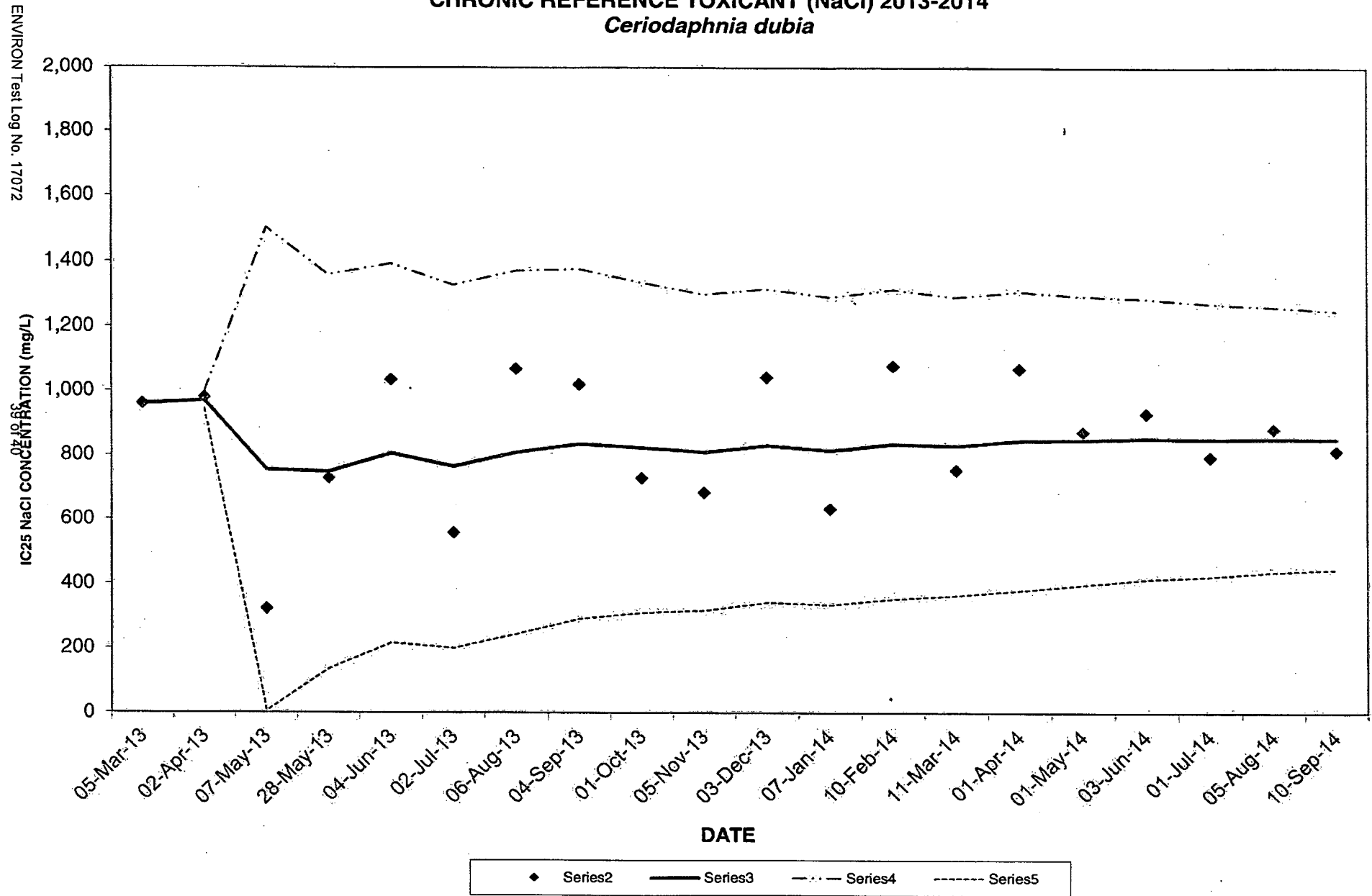
NOEC - No Observable Effect Concentration (survival or growth)

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) 2013-2014
Ceriodaphnia dubia



Ceriodaphnia dubia CHRONIC REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2012-2014

ENVIRON Test Log No. 17072

40 of 40

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	15966	05-Mar-13	100	100	33.7	2,000	>2,000	500	1,000	21.8	960	960				
2	16018	02-Apr-13	90	100	29.3	2,000	>2,000	500	1,000	16.8	979	970	13	996	943	1
3	16087	07-May-13	100	80	34.4	1,000	2,000	<125	125	27.3	321	753	375	1,502	4	41
4	16124	28-May-13	100	90	28.9	2,000	>2,000	500	1,000	20.5	727	747	306	1,359	135	35
5	16137	04-Jun-13	90	90	30.0	1,000	2,000	500	1,000	16.2	1,034	804	295	1,393	215	33
6	16188	02-Jul-13	100	80	21.5	2,000	>2,000	500	1,000	35.7	556	763	282	1,327	198	34
7	16257	06-Aug-13	100	90	29.1	1,000	2,000	500	1,000	24.9	1,068	806	282	1,371	242	32
8	16308	04-Sep-13	100	90	27.1	2,000	>2,000	500	1,000	14.6	1,018	833	272	1,377	289	31
9	16347	01-Oct-13	100	90	28.0	2,000	>2,000	1,000	2,000	26.0	726	821	257	1,335	307	29
10	16426	05-Nov-13	100	80	31.0	2,000	>2,000	250	500	27.1	681	807	246	1,299	315	29
11	16497	03-Dec-13	100	90	29.0	2,000	>2,000	500	1,000	12.3	1,041	828	244	1,316	340	28
12	16552	07-Jan-14	100	90	29.4	1,000	2,000	500	1,000	20.2	630	812	240	1,291	333	28
13	16630	10-Feb-14	100	100	31.1	1,000	2,000	500	1,000	13.4	1,076	832	241	1,314	351	28
14	16682	11-Mar-14	100	90	23.0	1,000	2,000	500	1,000	24.3	750	826	232	1,291	362	27
15	16730	01-Apr-14	100	100	28.8	2,000	>2,000	500	1,000	12.3	1,067	842	232	1,307	378	27
16	16782	01-May-14	100	100	33.6	2,000	>2,000	500	1,000	13.5	868	844	225	1,293	395	26
17	16834	03-Jun-14	100	80	26.1	1,000	2,000	1,000	2,000	22.9	926	849	218	1,285	412	25
18	16909	01-Jul-14	100	100	31.3	1,000	2,000	500	1,000	21.7	789	845	212	1,270	421	24
19	16989	05-Aug-14	100	90	28.7	2,000	>2000	500	1,000	17.4	877	847	206	1,260	434	24
20	17077	10-Sep-14	100	90	28.4	1,000	2,000	500	1,000	17.3	808	845	201	1,247	443	23

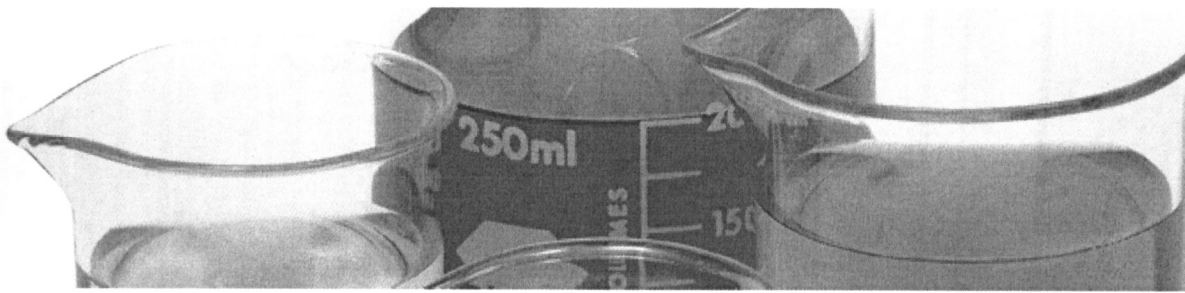
Avg	99	91	29	1579	842	513	1033	20	847	831	243	1310	337
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Notes:

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:
October 2014

Project Number:
20-19675H



November 4, 2014

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 are conducted according to requirements in Arkansas NPDES permit AR0001210. Composite samples of Outfall 001 effluent were collected on October 13, 15, and 17, 2014. The samples were received at ENVIRON on October 14, 16, and 18, 2014, 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. The 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. A secondary control of moderately hard water was also evaluated.

Tests are 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 tests 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 of the chronic test with *C. dubia* indicated NOEC values for lethality and sub-lethality of 80 percent effluent. The test results indicate no significant toxicity at the critical dilution for *C. dubia*.

The *C. dubia* reproduction CV values for the river water control and critical dilution are 37.3 and 36.4 percent respectively, which meets the TAC limit of 40 percent for a finding of no toxicity. The PMSD value was 26.3 percent, which is within the USEPA PMSD bounds of 13 to 47 percent for *C. dubia* reproduction. The effluent concentration-response is flat and not described in EPA 821-B-00-004. A flat concentration-response curve is indicative of a lack of toxicity. The monthly reference toxicant test also met all the test acceptability criteria. This test is considered valid for assessment of permit compliance.

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

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 30 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



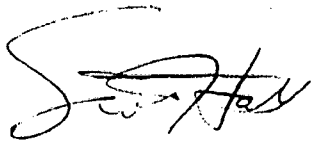
Robin L. Richards, REM
Principal

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: 29 Oct-14 16:00 (p 1 of 2)
 Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 19-6482-2028	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.8.4
Analyzed: 29 Oct-14 15:58	Analysis: STP 2x2 Contingency Tables	Official Results: Yes
Batch ID: 00-7810-4690	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 14 Oct-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 20 Oct-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-3409-2979	Code: 7FE18B3	Client: GPAC Crossett
Sample Date: 14 Oct-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (OCT)
Receive Date: 21 Oct-14	Source: Discharge Monitoring Report	
Sample Age: NA	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%)
Lab Water		25	1	1.0000	Exact	Non-Significant Effect
		34	1	1.0000	Exact	Non-Significant Effect
		45	0.7632	1.0000	Exact	Non-Significant Effect
		60	1	1.0000	Exact	Non-Significant Effect
		80	0.7632	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	0.9	0.8 - NL	Yes	Passes Acceptability Criteria

Data Summary

C-%	Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect
0	Lab Water	9	1	10	0.9	0.1	0.0%
25	<i>rw</i>	10	0	10	1	0	-11.11%
34		9	0	9	1	0	-11.11%
45		9	1	10	0.9	0.1	0.0%
60		10	0	10	1	0	-11.11%
80		9	1	10	0.9	0.1	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	Lab Water	1	1	1	1	1	0	1	1	1	1
25	<i>rw</i>	1	1	1	1	1	1	1	1	1	1
34		1	1	1	1	1	1	1	1	1	1
45		1	0	1	1	1	1	1	1	1	1
60		1	1	1	1	1	1	1	1	1	1
80		1	0	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	Lab Water	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1
25	<i>rw</i>	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	0/1	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	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 29 Oct-14 16:00 (p 2 of 2)
Test Code: 17145Cd | 03-0064-3379

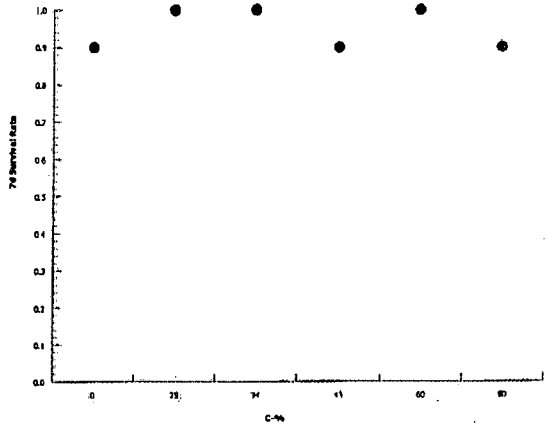
Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 19-6482-2028 Endpoint: 7d Survival Rate
Analyzed: 29 Oct-14 15:58 Analysis: STP 2x2 Contingency Tables

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 29 Oct-14 15:59 (p 1 of 2)
 Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 04-4472-0705	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 29 Oct-14 15:58	Analysis: Nonparametric-Multiple Comparison	Official Results: Yes
Batch ID: 00-7810-4690	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 14 Oct-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 20 Oct-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-3409-2979	Code: 7FE18B3	Client: GPAC Crosssett
Sample Date: 14 Oct-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (OCT)
Receive Date: 21 Oct-14	Source: Discharge Monitoring Report	
Sample Age: NA	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	26.3%

Wilcoxon/Bonferroni Adj Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Water		25	121	NA	3	18	1.0000	Exact	Non-Significant Effect
		34	101.5	NA	4	17	1.0000	Exact	Non-Significant Effect
		45	111	NA	4	18	1.0000	Exact	Non-Significant Effect
		60	98	NA	4	18	1.0000	Exact	Non-Significant Effect
		80	100.5	NA	1	18	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	28	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.2633	0.13 - 0.47	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	228.4252	45.68505	5	0.9676	0.4461	Non-Significant Effect
Error	2502.422	47.21552	53			
Total	2730.847		58			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	21.61	15.09	0.0006	Unequal Variances
Distribution	Shapiro-Wilk W Normality	0.8529	0.9451	<0.0001	Non-normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	10	28	20.52	35.48	31.5	0	35	3.307	37.34%	0.0%
25		10	32.8	30.59	35.01	33	28	37	0.9752	9.4%	-17.14%
34		9	31.44	27.16	35.73	33	20	38	1.857	17.71%	-12.3%
45		10	31.3	28.32	34.28	32	21	35	1.317	13.31%	-11.79%
60		10	29.6	26.77	32.43	29.5	24	36	1.249	13.34%	-5.71%
80		10	27.3	20.19	34.41	31	10	40	3.141	36.39%	2.5%

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	Lab Water	33	25	32	31	35	0	25	31	33	35
25		30	37	36	35	34	32	28	35	32	29
34		33	34	38	20	36	28	35	27	32	
45		29	32	34	21	35	34	30	35	32	31
60		24	31	28	31	36	28	27	25	31	35
80		24	10	40	11	26	30	32	32	32	36

CETIS Analytical Report

Report Date: 29 Oct-14 15:59 (p 2 of 2)
Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test

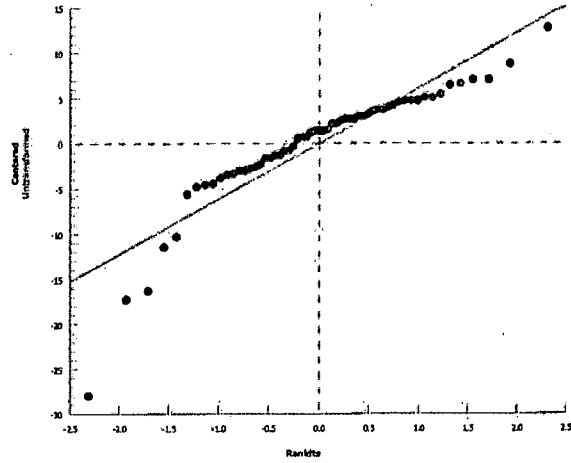
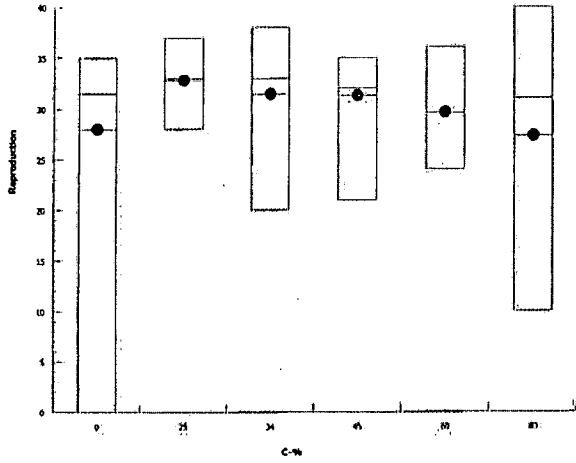
ENVIRON International Corp

Analysis ID: 04-4472-0705
Analyzed: 29 Oct-14 15:58

Endpoint: Reproduction
Analysis: Nonparametric-Multiple Comparison

CETIS Version: CETISv1.8.4
Official Results: Yes

Graphics



CETIS Analytical Report

Report Date: 29 Oct-14 15:59 (p 1 of 1)
 Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 01-5048-6413	Endpoint: Reproduction	CETIS Version: CETISv1.8.4
Analyzed: 29 Oct-14 15:58	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 00-7810-4690	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 14 Oct-14	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 20 Oct-14	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 6d 0h	Source: In-House Culture	Age:
Sample ID: 01-3409-2979	Code: 7FE18B3	Client: GPAC Crosssett
Sample Date: 14 Oct-14	Material: Industrial Effluent	Project: WET Monthly Compliance Test (OCT)
Receive Date: 21 Oct-14	Source: Discharge Monitoring Report	
Sample Age: NA	Station: 001	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1757055	1000	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	28	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

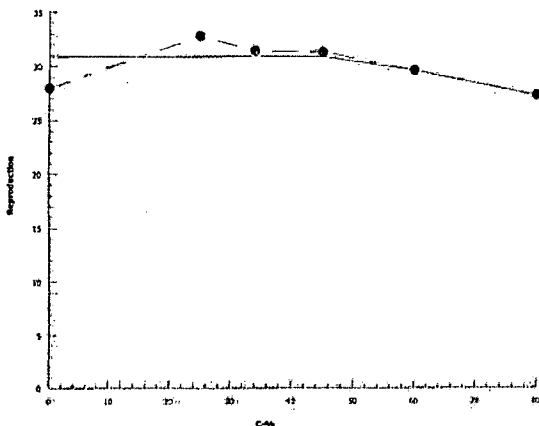
Reproduction Summary

C-%	Control Type	Count	Calculated Variate						
			Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Water	10	28	0	35	3.307	10.46	37.34%	0.0%
25		10	32.8	28	37	0.9752	3.084	9.4%	-17.14%
34		9	31.44	20	38	1.857	5.57	17.71%	-12.3%
45		10	31.3	21	35	1.317	4.165	13.31%	-11.79%
60		10	29.6	24	36	1.249	3.95	13.34%	-5.71%
80		10	27.3	10	40	3.141	9.934	36.39%	2.5%

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	Lab Water	33	25	32	31	35	0	25	31	33	35
25		30	37	36	35	34	32	28	35	32	29
34		33	34	38	20	36	28	35	27	32	
45		29	32	34	21	35	34	30	35	32	31
60		24	31	28	31	36	28	27	25	31	35
80		24	10	40	11	26	30	32	32	32	36

Graphics



CV% based on Surviving Organisms

CETIS Analytical Report

Report Date: 29 Oct-14 16:01 (p 1 of 2)
 Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test				ENVIRON International Corp			
Analysis ID:	07-0206-4778	Endpoint:	Reproduction	CETIS Version:	CETISv1.8.4		
Analyzed:	29 Oct-14 16:01	Analysis:	Nonparametric-Multiple Comparison	Official Results:	Yes		
Batch ID:	00-7810-4690	Test Type:	Reproduction-Survival (7d)	Analyst:			
Start Date:	14 Oct-14	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Mod-Hard Synthetic Water		
Ending Date:	20 Oct-14	Species:	Ceriodaphnia dubia	Brine:	Not Applicable		
Duration:	6d 0h	Source:	In-House Culture	Age:			
Sample ID:	01-3409-2979	Code:	7FE18B3	Client:	GPAC Crossett		
Sample Date:	14 Oct-14	Material:	Industrial Effluent	Project:	WET Monthly Compliance Test (OCT)		
Receive Date:	21 Oct-14	Source:	Discharge Monitoring Report				
Sample Age:	NA	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	18.6%

Wilcoxon/Bonferroni Adj Test

Control	vs	C-%	Test Stat	Critical	Ties	DF	P-Value	P-Type	Decision(α:5%)
Lab Water		25	111	NA	3	17	1.0000	Exact	Non-Significant Effect
		34	92.5	NA	4	16	1.0000	Exact	Non-Significant Effect
		45	86.5	NA	4	16	1.0000	Exact	Non-Significant Effect
		60	88	NA	4	17	0.8529	Exact	Non-Significant Effect
		80	80.5	NA	1	16	1.0000	Exact	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	31.11	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.1856	0.13 - 0.47	Yes	Passes Acceptability Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	82.33135	16.46627	5	0.6342	0.6745	Non-Significant Effect
Error	1298.222	25.96445	50			
Total	1380.553		55			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance	11	15.09	0.0513	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.93	0.9426	0.0030	Non-normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Lab Water	9	31.11	28.22	34	32	25	35	1.252	12.07%	0.0%
25	<i>du</i>	10	32.8	30.59	35.01	33	28	37	0.9752	9.4%	-5.43%
34		9	31.44	27.16	35.73	33	20	38	1.857	17.71%	-1.07%
45		9	31.22	27.83	34.61	32	21	35	1.47	14.12%	-0.36%
60		10	29.6	26.77	32.43	29.5	24	36	1.249	13.34%	4.86%
80		9	29.22	22.82	35.63	32	11	40	2.778	28.52%	6.07%

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	Lab Water	33	25	32	31	35	25	31	33	35	
25	<i>du</i>	30	37	36	35	34	32	28	35	32	29
34		33	34	38	20	36	28	35	27	32	
45		29	34	21	35	34	30	35	32	31	
60		24	31	28	31	36	28	27	25	31	35
80		24	40	11	26	30	32	32	32	36	

CETIS Analytical Report

Report Date: 29 Oct-14 16:01 (p 2 of 2)

Test Code: 17145Cd | 03-0064-3379

Ceriodaphnia 7-d Survival and Reproduction Test

ENVIRON International Corp

Analysis ID: 07-0206-4778

Endpoint: Reproduction

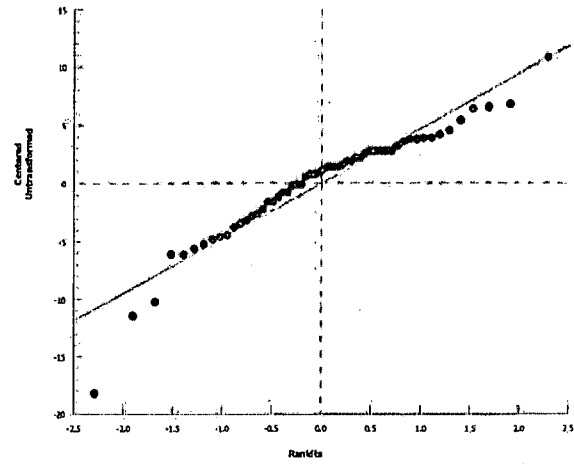
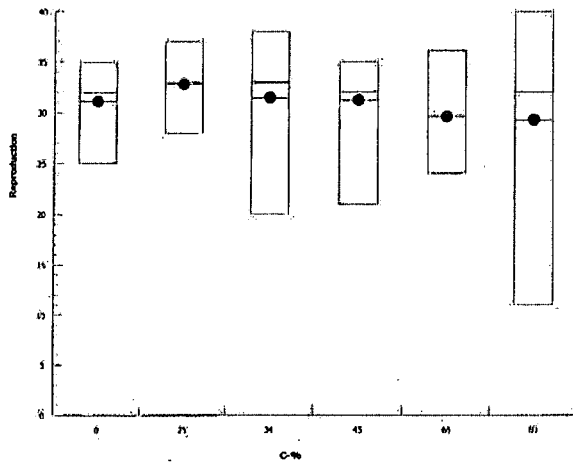
CETIS Version: CETISv1.8.4

Analyzed: 29 Oct-14 16:01

Analysis: Nonparametric-Multiple Comparison

Official Results: Yes

Graphics



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

TEST LOG NO.: 17145 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): 10/13/14
 TEMP @ TEST START: 24.6
 RANDOMIZED BY: AW
 TEST START: 1105 DATE: 10/14/14
 TEST END: 1305 DATE: 10/21/14

SOURCE ID:	AGE (time):
10761	1225-1530
10764	1228-1540

SURVIVAL AND REPRODUCTION DATA																	
Test Start & Feeding/End Initials/Time	Daily Renewal & Feeding Initials/Time	Date	Control River Water		Temp (°C)	10761 REPLICATES										Notes	
						1	2	3	4	5	6	7	8	9	10		
						Adult	16	4	1	13	6	7	5	4	1	2	
AW 1105		10/14	24.3			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1152	10/15	24.4	24.3		Day 1	✓	/	/	/	/	/	/	/	/	/	
	AW 1204	10/16	24.3	24.2		Day 2	✓	/	/	/	/	/	/	/	/	/	
	AW 1204	10/17	25.1	25.2		Day 3	✓	6	✓	✓	✓	✓	✓	4	✓	✓	
	AW 1046	10/18	24.2	24.3		Day 4	4	8	7	4	5	✓	3	✓	5	6	
	AW 1018	10/19	24.0	24.1		Day 5	12	✓	9	11	13	10	9	11	10	11	
	AW 1033	10/20	24.7	24.4		Day 6	✓	11	✓	16	✓	✓	✓	16	13	✓	
AW 1305		10/21		25.4		Day 7	17	18	16	14	17		13	✓	15	18	90
						Day 8											
			Total				33	25	32	31	35	10	25	31	33	35	280

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

TEST LOG # 17145

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	
AW 1105		10/14	24.1		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AW 1152	10/15	24.3	24.2	Day 1	-	-	-	-	-	-	-	-	-		
	AW 1204	10/16	24.3	24.2	Day 2	-	-	-	-	-	-	-	-	-		
	LM 1204	10/17	25.1	24.9	Day 3	5	5	✓	✓	✓	5	4	5	✓		
	AW 1040	10/18	24.0	24.1	Day 4	✓	✓	5	4	4	✓	2	✓	4		
	AW 1018	10/19	24.0	24.1	Day 5	11	14	14	13	11	10	9	13	11	10	
	AW 1033	10/20	24.3	24.9	Day 6	14	18	17	18	19	17	✓	18	16	15	
AW 1205		10/21		24.8	Day 7	17	19	20	18	20	✓	17	20	✓		
					Day 8											
			Total			30	37	36	35	34	32	28	35	32	29	328

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	
AW 1105		10/14	24.2		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AW 1152	10/15	24.6	24.4	Day 1	-	-	-	-	-	-	-	-	-		
	AW 1204	10/16	24.3	24.4	Day 2	-	-	-	-	-	-	-	-	-		
	LM 1204	10/17	25.0	24.9	Day 3	5	6	✓	✓	✓	5	6	6	✓		
	AW 1040	10/18	24.0	24.2	Day 4	✓	10	4	5	4	✓	4	✓	3	5	
	AW 1018	10/19	24.0	24.0	Day 5	11	✓	10	✓	Miss	14	7	11	9	13	
	AW 1032	10/20	24.3	24.9	Day 6	17	18	14	15		17	✓	18	15	14	
AW 1305		10/21		25.2	Day 7	20	19	19	✓		19	17	19	✓	20	
					Day 8											
			Total			33	34	38	20	21	36	25	35	27	32	283/9

2314.4

✓ = Test Organism Alive
D = Test Organism Dead

0 = Live neonates
(-0) = Dead neonates

Miss = Lost or Missing
M = Male

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TEST LOG # 17145

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	
AW 1105		10/14	243		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AW 1152	10/15	244	246	Day 1	/	/	/	/	/	/	/	/	/		
	AW 1204	10/16	245	246	Day 2	/	/	/	/	/	/	/	/	/		
	LM 1204	10/17	249	250	Day 3	6	6	4	✓	✓	6	✓	✓	4	✓	
	AW 1046	10/18	240	241	Day 4	✓	12	✓	7	7	✓	3	6	✓	4	
	AW 1018	10/19	240	241	Day 5	7	14	13	14	7	10	11	12	12	9	
	AW 1033	10/20	247	244	Day 6	16	16	17	✓	✓	18	✓	✓	16	18	
AW 1305		10/21		254	Day 7	21	21	21	✓	21	✓	16	17	21	22	
					Day 8											
Total						29	32	34	21	35	34	30	35	32	31	313

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	
AW 1105		10/14	241		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1152	10/15	242	243	Day 1	/	/	/	/	/	/	/	/	/	/	
	AW 1204	10/16	243	244	Day 2	✓	/	/	/	/	/	/	/	/	/	
	LM 1204	10/17	251	241	Day 3	✓	4	✓	6	✓	✓	✓	✓	5	✓	
	AW 1046	10/18	242	241	Day 4	5	10	7	✓	6	3	4	3	✓	5	
	AW 1018	10/19	240	240	Day 5	5	✓	11	10	13	8	7	8	11	✓	
	AW 1033	10/20	246	245	Day 6	✓	17	✓	15	17	✓	✓	14	15	13	
AW 1305		10/21		255	Day 7	14	16	✓	21	✓	17	16	✓	18	17	
					Day 8											
Total						24	31	28	31	36	28	27	25	31	35	296

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

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TEST LOG # 17145

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		80% Temp (°C)	REPLICATES										Notes	
						1	2	3	4	5	6	7	8	9	10		
						Adult											
AW 1165		10/14	24.1			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AH 1152	10/15	24.2	24.4		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	AH 1204	10/16	24.2	24.4		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LM 1204	10/17	24.8	24.9		Day 3	3	5	✓	✓	✓	✓	5	5	✓		
	AW 1046	10/18	24.0	24.0		Day 4	✓	✓	✓	4	5	3	4	✓	6		
	AW 1018	10/19	24.0	24.1		Day 5	8	5	9	7	8	9	9	11	14		
	AW 1033	10/20	24.2	24.6		Day 6	13	D/O	14	✓	13	✓	✓	16	15		
AW 1305		10/21		25.2		Day 7	17	✓	17	✓	✓	18	19	✓	18		
						Day 8											
			Total				24	D/O	40	11	26	30	32	32	32	36	278

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			
AW 1165		10/14	24.0			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	AH 1152	10/15	24.1	24.2		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	AH 1204	10/16	24.4	24.5		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	LM 1204	10/17	24.7	24.7		Day 3	✓	4	✓	✓	✓	✓	4	4	✓			
	AW 1046	10/18	24.1	24.2		Day 4	5	✓	4	2	5	4	3	2	✓			
	AW 1018	10/19	24.0	24.4		Day 5	6	5	7	7	4	✓	2	7	8			
	AW 1033	10/20	24.1	24.2		Day 6	✓	✓	D/O	✓	✓	✓	✓	9	✓			
AW 1305		10/21	24.4	24.6		Day 7	D/O	✓	✓	✓	✓	✓	11	✓	13			
LM 1200		10/22				Day 8		✓		14	17	✓	✓	14	13			
			Total				11	9	D/O	11	23	26	4	16	22	34	19	126

✓ = Test Organism Alive
 D = Test Organism Dead

12/15/80
 (-0) = Live neonates
 = Dead neonates

Miss = Lost or Missing
 M = Male

166

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TEST LOG # 17145

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 80% Filtered		Temp (°C)	REPLICATES										Notes		
						1	2	3	4	5	6	7	8	9	10			
						Adult												
AH 1152	1	10/15	243			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1209	10/16	244	243		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	UM 1204	10/17	243	241		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1046	10/18	24.0	24.3		Day 3	✓	✓	✓	✓	3	✓	4	✓	✓	✓	✓	
	AW 1018	10/19	24.0	24.1		Day 4	5	6	4	3	✓	5	✓	4	6	5		
	AW 1033	10/20	24.1	24.5		Day 5	✓	7	13	13	14	15	15	14	15	11		
AW 1305-7		10/21	24.4	25.1		Day 6	15	✓	✓	17	18	14	17	✓	15	17		
LM 1200		10/22		25.0		Day 7	16	16	16	✓	✓	✓	15	17	✓	✓		
						Day 8												
			Total				36	29	33	33	35	34	36	35	36	33	340	

SURVIVAL AND REPRODUCTION DATA																		
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration 100% Filtered		Temp (°C)	REPLICATES										Notes		
						1	2	3	4	5	6	7	8	9	10			
AH 1152		10/15	244			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AH 1209	10/16	243	244		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	UM 1204	10/17	241	241		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1046	10/18	24.1	24.3		Day 3	✓	✓	✓	✓	3	✓	4	✓	✓	✓		
	AW 1018	10/19	24.1	24.1		Day 4	✓	3	3	4	✓	5	✓	6	6	7		
	AW 1033	10/20	24.0	24.7		Day 5	cup spilled	9	9	9	13	9	12	9	14	11		
AW 1305-7		10/21	24.5	24.9		Day 6	1	✓	✓	✓	17	18	19	✓	✓	18		
LM 1200		10/22		25.1		Day 7		12	12	13	✓	✓	15	15	15	✓		
						Day 8												
			Total				N=1	34	24	16	33	32	35	30	35	36	285	

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

TEST LOG # 17145

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 80% Ferric		Temp (°C)	REPLICATES										Notes
						1	2	3	4	5	6	7	8	9	10	
						Adult										
MH 115L		10/13	244			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MH 1209	10/16	249	24.4		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1204	10/17	243	24.3		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1046	10/18	240	24.0		Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1018	10/14	240	24.1		Day 4	3	4	5	6	✓	6	4	3	6	
	AW 1033	10/20	25.1	24.8		Day 5	✓	✓	2	13	2	12	7	5	9	
	AW 1305	10/21	247	24.9		Day 6	13	7	13	15	5	✓	11	✓	11	
LM 1200		10/22		24.9		Day 7	13	14	16	0	10	12	✓	12	0	
						Day 8										
			Total				29	25	28	34	8	30	32	20	15	

36

249 2/10

SURVIVAL AND REPRODUCTION DATA																
Test Start & Feeding / End Initials/ Time	Daily Renewal & Feeding Initials/ Time	Date	Concentration 100% Ferric		Temp (°C)	REPLICATES										Notes
						1	2	3	4	5	6	7	8	9	10	
MH 115L		10/13	275			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	MH 1209	10/16	244	24.3		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1204	10/17	241	24.1		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1046	10/18	240	24.0		Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	AW 1018	10/14	240	24.2		Day 4	✓	✓	5	6	5	4	5	✓	5	
	AW 1033	10/20	25.0	24.9		Day 5	5	3	7	11	0	15	✓	11	✓	
	AW 1305	10/21	245	24.8		Day 6	7	7	✓	✓	✓	9	✓	11	✓	
LM 1200		10/22		24.9		Day 7	✓	✓	15	4	✓	14	15	13	13	
						Day 8										
			Total				12	10	27	21	0	10	27	16	24	

209 1/10

✓ = Test Organism Alive
D = Test Organism Dead

0 = Live neonates
(-0) = Dead neonates

Miss = Lost or Missing
M = Male

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TEST LOG NO.

DAUS

CLIENT/SAMPLE ID: Georgia Pacific Crossett

JOB NO. 20-19675H

TEST ORGANISM: Cd

DATE: 10/14/14

ENVIRON Test Log No. 17145

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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	8.3	8.1	8.4	8.1	8.1	8.2	8.1	8.4	8.0	8.5	8.2	8.2	8.3	7.9
25	8.2	8.4	8.4	8.1	8.2	8.5	8.2	8.3	8.1	8.0	8.3	8.1	8.3	7.8
34	8.3	8.2	8.5	8.2	8.1	8.6	8.1	8.4	8.2	8.0	8.7	8.1	8.4	7.8
45	8.4	8.2	8.3	8.2	8.2	8.4	8.1	8.4	8.1	8.5	8.7	8.2	8.4	7.8
60	8.5	8.4	8.4	8.2	8.2	8.4	8.1	8.3	8.3	8.4	8.0	8.1	8.3	7.6
80	7.8	8.1	8.4	8.2	8.2	8.5	8.1	8.0	8.4	8.0	8.4	8.1	8.3	7.4
MH	7.8	8.4	8.3	8.2	8.1	7.9	8.2	7.3	8.4	8.6	8.0	7.4	8.3	8.2

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	7.14	7.06	7.16	6.08	6.24	7.15	7.35	7.58	7.17	7.81	6.84	7.04	7.04	7.75
25	7.90	7.94	7.59	7.44	7.38	7.62	7.4	7.60	7.32	7.84	7.00	7.78	7.51	8.13
34	7.53	8.19	7.37	8.00	7.72	7.86	7.33	8.07	7.42	8.11	7.44	8.22	7.42	8.27
45	7.63	8.26	7.37	8.14	7.72	8.15	7.5	8.19	7.56	8.27	7.57	8.34	7.59	8.33
60	7.70	8.48	7.37	8.32	7.69	8.32	7.55	8.38	7.61	8.39	7.62	8.40	7.62	8.40
80	7.72	8.55	7.81	8.44	7.88	8.41	7.63	8.51	7.66	8.47	7.71	8.54	7.62	8.51
MH	7.43	7.80	7.4	7.87	7.57	7.71	7.90	7.90	7.43	7.94	7.47	7.90	7.93	7.67

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	73	872	87	140	131	110	140	112	90	96	134	90	130	59
25	53.4	514	510	552	529	498	522	550	530	419	531	568	569	554
34	75.7	753	739	760	751	770	708	728	712	677	667	738	745	753
45	93.4	977	898	993	923	867	909	928	876	889	862	997	925	971
60	121.8	1350	1739	1430	1077	1158	1163	1288	1131	1174	1099	1321	1164	1234
80	156.9	1640	1578	1704	1520	1454	1482	1580	1460	1508	1414	1677	1507	1611
MH	22.8	230	224	261	256	210	252	230	235	253	218	244	242	276

Param's Int/Time:	AW 1037	AW 1205	AW 0904	AW 210	AW 119	AW 1350	AW 0907	AW 1230	AW 0958	AW 1225	AW 0550	AW 1203	AW 0839	AW 1053
Dilutions Int/Time:	AW 1027		AW 0948		AW 112		AW 0900		AW 0940		AW 0840		AW 0820	
Control Water Batch:	MH5673	AW18134	567, 18148		567, 18148		567, 18148		567, 18148		567, 18148		567, 18148	
Food Batch:	45, 28	33121	40, 20		40, 20		40, 20		40, 20		45, 28		45, 28	

TEST LOG NO. 17145

CLIENT/SAMPLE ID: Georgia Pacific Crossett TIE

JOB NO. 20-19875H

TEST ORGANISM: CD

DATE: 10/14/14

ENVIRON Test Log No. 17145

20 of 30

		D.O. (mg/L)																	
		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	Old	New	Old	New		
Filtered 80%	8.1	8.2	8.5	8.4	8.1	7.5	8.5	8.4	8.6	7.9	8.4	7.4	8.2	8.2	8.1	8.2	8.1		
Filtered 100%	8.2	8.2	8.4	8.6	8.2	7.4	8.5	8.5	8.6	8.0	8.7	7.3	8.2	8.0	8.3	8.2	8.3		
Ferric 80%	8.3	8.3	8.4	8.4	8.1	7.5	8.10	8.5	8.5	8.0	8.3	7.2	8.3	8.0	8.3	8.2	8.3		
Ferric 100%	8.2	8.3	8.3	8.4	8.1	7.5	8.6	8.6	8.4	7.9	8.1	7.4	8.1	8.0	8.3	8.2	8.1		

		pH (s.u.)																	
		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	Old	New	Old	New		
Filtered 80%	7.45	8.44	7.83	8.50	7.81	8.53	7.90	8.53	7.93	8.62	7.90	8.57	7.95	8.49	8.00	8.49	8.00		
Filtered 100%	7.45	8.58	8.45	8.60	7.83	8.62	7.92	8.62	7.94	8.64	7.95	8.63	8.00	8.51	8.00	8.58	8.00		
Ferric 80%	7.50	8.44	8.15	8.50	7.94	8.45	7.94	8.55	7.96	8.60	8.16	8.51	8.00	8.51	8.00	8.58	8.00		
Ferric 100%	7.50	8.53	8.23	8.59	7.92	8.49	7.94	8.54	7.94	8.63	8.21	8.58	8.02	8.58	8.02	8.58	8.02		

		Conductivity (µmhos/cm)																	
		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	Old	New	Old	New		
Filtered 80%	1441	1510	1549	1555	1467	1434	1334	1550	1457	1536	1480	1596	1440	1596	1440	1491	1491		
Filtered 100%	1870	1845	1844	1753	1886	1804	1862	1911	1754	1917	1831	1954	1756	1954	1756	1759	1759		
Ferric 80%	2330	2270	1901	1921	1621	1801	1774	1723	1634	1649	1667	1775	1215	1775	1215	1696	1696		
Ferric 100%	2370	2250	2330	2110	1956	2050	2050	2020	1969	2100	1991	2200	1917	2200	1917	2200	2200		

Params Int/Time:	AW 0520				AW 0520	AW 0515			AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520
Dilutions Int/Time:	AW 0520				AW 0520	AW 0520			AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520	AW 0520
Control Water Batch:																	
Food Batch:																	855, 892 845, 86

TEST LOG NO. 17145

CLIENT: Georgia Pacific Crossett

DATE OF TEST: 10/14/14

JOB NO. 20-19675H

TEST TYPE(S) PERFORMED: Fm & Cd Chronic

ENVIRON Test Log No. 17145

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
18134	Outfall 001	10/12/14	10/14/14	272	340	0.02	0.625
18149	Outfall 001	10/14/14	10/16/14	288	335	0.02	0.440
18154	Outfall 001	10/16/14	10/18/14	264	320	0.02	0.583

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
18135	River Water	10/13/14	10/14/14	21.6	27	0.06	20.1
18148	River Water	10/13/14	10/16/14	18.4	25	0.08	20.1
18155	River Water	10/13/14	10/18/14	21.6	24	0.07	20.1
5675	MH	10/10/14	10/13/14	84.8	47	0.02	
5677	MH	10/12/14	10/15/14	81.6	49	0.02	
5681	MH	10/14/14	10/17/14	89.6	47	0.02	

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**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: <u>Georgia Pacific Paper</u>				Phone: <u>870-567-8170</u> FAX: <u>870-34-9076</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						
County: <u>ASHLEY</u> City: <u>CROSBY</u> State: <u>AR.</u>				Sample Collected by (print): <u>DANNY/ROLIE</u>																NPDES Permit No.: <u>AR 0001210</u>			
Sample Collected by (signature): <u>[Signature]</u>				NPDES Test: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes																No. of Cntrs			
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	Description Definitive or Screen	Sample B# (lab only)					
<u>RIVER</u>	<u>G</u>	<u>Plastic</u>	<u>NA</u>	<u>10-13-14</u>	<u>9:15am</u>	<u>1</u>	<u>10</u>										<u>DILUTION</u>	<u>18134</u>					
<u>CH FALL 001</u>	<u>C</u>	<u>Plastic</u>	<u>YES</u>	<u>10-12-14</u>	<u>10-13-14</u>	<u>1</u>	<u>10</u>											<u>WATER</u>	<u>18135</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>10-13-14</u>		Time: <u>3:00pm</u>		Received by: (Signature) <u>[Signature]</u>				Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other Courier <input type="checkbox"/> UPS Hand Delivered <input type="checkbox"/> Delivered				Condition: (lab use only) <u>On Ice</u>							
Relinquished by: (Signature) _____				Date: _____		Time: _____		Received by: (Signature) _____				Receipt Temp: <u>3.1°C, 4.8°C</u>				Containers/Volume Received: <u>10 L of each</u>							
Relinquished by: (Signature) _____				Date: _____		Time: _____		Received for lab by: (Signature) <u>[Signature]</u>				Date: <u>0840 10/14/14</u>		Time: <u>0840</u>		pH upon arrival: <u>3.9-7.96</u>		DO upon arrival: <u>7.8, 8.1</u>					

35) 7.82

Sample Receipt Checklist:

Client: Georgia Pacific

Date/Time received 12/14/14 0840 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*

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18134	River	3.1	7.96	7.8	0.06
18135	Wtfall pool	4.8	7.82	8.1	0.02

ENVIRON Test Log No. 17145

Project Name: _____ Project Number: _____

Industry: GEORGIA PACIFIC PAPER

Phone: 870-567-8170 FAX: 870-344-9076

County: ASHLEY City: CROSSETT State: AR.

Sample Collected by (print): DANNY/ROBIE 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

 **ENVIRON**

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		
							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	Definitive or Screen	Sample B# (lab only)		
<u>RIVER</u>	<u>B</u>	<u>PLASTIC</u>	<u>NA</u>	<u>10-13-14</u>	<u>9:15am - 1</u>	<u>10</u>													<u>18148</u>
<u>OUTFALL 001</u>	<u>C</u>	<u>PLASTIC</u>	<u>YES</u>	<u>10-14-14</u>	<u>10:15am - 1</u>	<u>10</u>													<u>18149</u>

00
1.6
2.2

* 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) <u>Danny Rein</u>	Date: <u>10-15-14</u>	Time: <u>3:00pm</u>	Received by: (Signature) _____	<input checked="" type="checkbox"/> Samples shipped via: FedEx <input type="checkbox"/> Other Courier <input type="checkbox"/> UPS Hand Delivered Condition: (lab use only) <u>on ice</u>
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Receipt Temp: <u>See above</u> Containers/Volume Received: <u>2/10L</u> Date: <u>10/16/14</u> Time: <u>0835</u> pH upon arrival: <u>4.8</u> DO upon arrival: <u>8.32</u>

4.8 7.91 8.6

25 of 30

Sample Receipt Checklist:


Client: Georgia Pacific Crosscut

Date/Time received 0835 10/16/14 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

Comments:

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18148	River	1.6	8.32	8.6	0.08
18149	Outfall	2.2	7.91	8.5	0.02

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 Crossett Paper Ops								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: 870-567-8370 FAX: 870-364-9076																			
County: Ashley City: Crossett State: AR																			
Sample Collected by (print): R. Phillips				NPDES Permit No.: AR0001210															
Sample Collected by (signature): <i>Rod Johnson</i>				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	Sample B# (lab only)
Outfall 1001	Comp	Plastic	Y	10-16-14 6:16am	10-17-14 6:15am	1													18154
River	Grab	Plastic	NA	10-13-14 9:15am		1												D. Tuckson Water	18155
* Matrix: SS - Soil GW - Groundwater <u>WW - Wastewater</u> AW - Ambient Water ML - Mixed Liquor SL - Sludge SD - Sediment OT - Other _____ Remarks: Measured TRC (if applicable): . <u>0.0</u> mg/L																			
Relinquished by: (Signature) <i>Rod Johnson</i>				Date: 10-17-14		Time: 4:00pm		Received by: (Signature)				Samples shipped via: <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other <input type="checkbox"/> Courier				<input type="checkbox"/> UPS Hand Delivered		Condition: (lab use only)	
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Receipt Temp: 1.2°C, 1.8°C		Containers/Volume Received: 10 L of each					
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) <i>Stacy A. Infor</i>				Date: 10/18/14		Time: 0831		pH upon arrival: 7.74, 7.97		DO upon arrival: 9.1, 9.8	

Sample Receipt Checklist:

Client: Georgia Pacific Crossett

Date/Time received 10/15/14 0831 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 *in River dechlor*

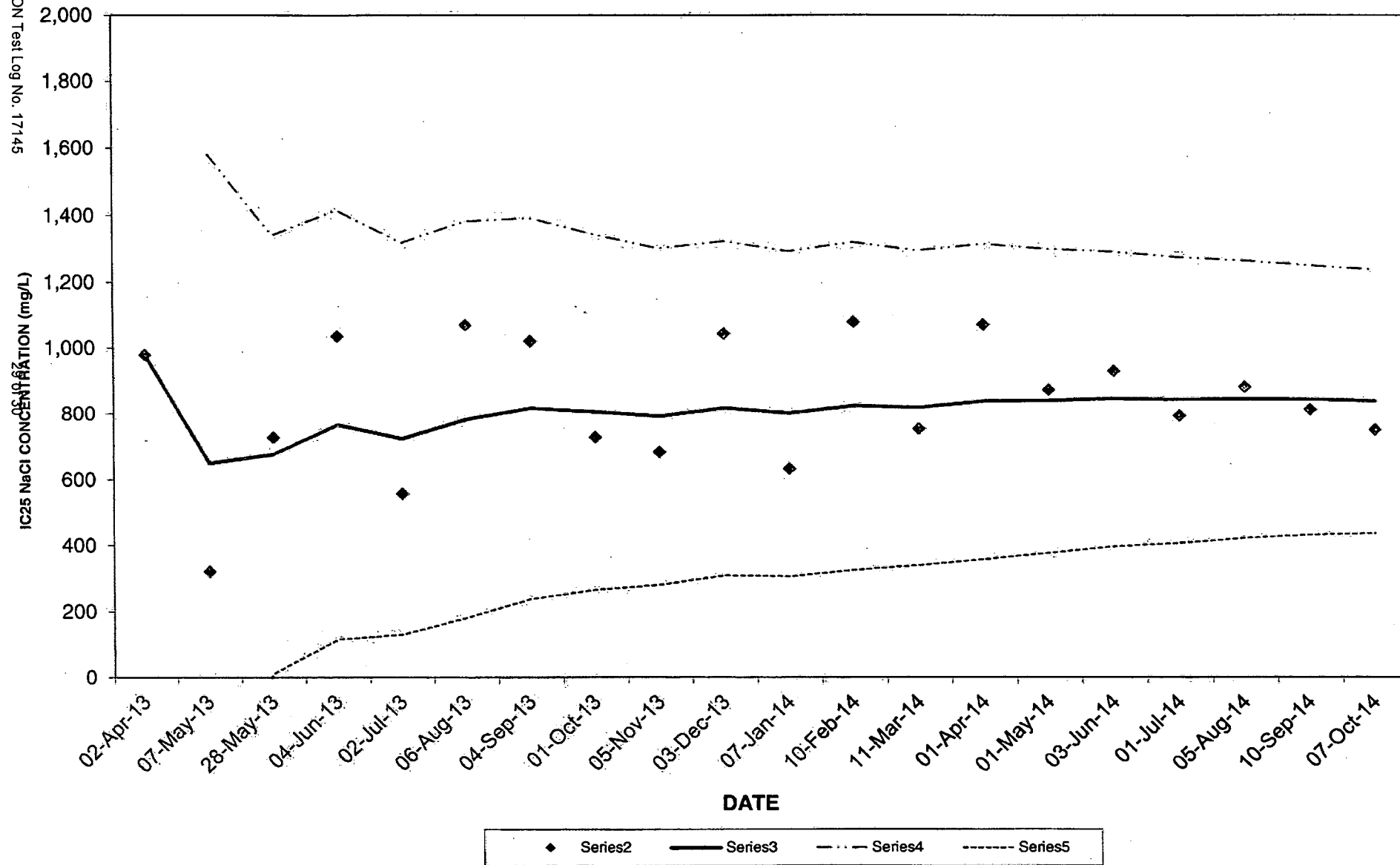
Comments:

Batch # Sample ID Temp (C°) pH DO TRC

Batch #	Sample ID	Temp (C°)	pH	DO	TRC
18154	Outfall	1.2	7.74	9.1	0.02
18155	River	1.8	7.97	9.5	0.07

CHRONIC REFERENCE TOXICANT (NaCl) 2013-2014
Ceriodaphnia dubia

ENVIRON Test Log No. 17145



Ceriodaphnia dubia CHRONIC REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2013-2014

ENVIRON Test Log No. 17145

30 of 30

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	16018	02-Apr-13	90	100	29.3	2,000	>2,000	500	1,000	16.8	979	979				
2	16087	07-May-13	100	80	34.4	1,000	2,000	<125	125	27.3	321	650	465	1,581	(281)	51
3	16124	28-May-13	100	90	28.9	2,000	>2,000	500	1,000	20.5	727	676	332	1,340	12	40
4	16137	04-Jun-13	90	90	30.0	1,000	2,000	500	1,000	16.2	1,034	765	325	1,415	115	37
5	16188	02-Jul-13	100	80	21.5	2,000	>2,000	500	1,000	35.7	556	723	297	1,316	130	37
6	16257	06-Aug-13	100	90	29.1	1,000	2,000	500	1,000	24.9	1,068	781	300	1,381	180	35
7	16308	04-Sep-13	100	90	27.1	2,000	>2,000	500	1,000	14.6	1,018	815	288	1,391	238	33
8	16347	01-Oct-13	100	90	28.0	2,000	>2,000	1,000	2,000	26.0	726	804	269	1,341	266	31
9	16426	05-Nov-13	100	80	31.0	2,000	>2,000	250	500	27.1	681	790	255	1,300	280	30
10	16497	03-Dec-13	100	90	29.0	2,000	>2,000	500	1,000	12.3	1,041	815	253	1,321	309	29
11	16552	07-Jan-14	100	90	29.4	1,000	2,000	500	1,000	20.2	630	798	246	1,291	306	29
12	16630	10-Feb-14	100	100	31.1	1,000	2,000	500	1,000	13.4	1,076	821	248	1,318	325	29
13	16682	11-Mar-14	100	90	23.0	1,000	2,000	500	1,000	24.3	750	816	238	1,293	339	28
14	16730	01-Apr-14	100	100	28.8	2,000	>2,000	500	1,000	12.3	1,067	834	239	1,311	356	28
15	16782	01-May-14	100	100	33.6	2,000	>2,000	500	1,000	13.5	868	836	230	1,297	376	27
16	16834	03-Jun-14	100	80	26.1	1,000	2,000	1,000	2,000	22.9	926	842	224	1,289	395	26
17	16909	01-Jul-14	100	100	31.3	1,000	2,000	500	1,000	21.7	789	839	217	1,272	405	25
18	16989	05-Aug-14	100	90	28.7	2,000	>2000	500	1,000	17.4	877	841	211	1,262	420	24
19	17077	10-Sep-14	100	90	28.4	1,000	2,000	500	1,000	17.3	808	839	205	1,249	430	24
20	17124	07-Oct-14	100	100	29.7	1,000	2,000	500	1,000	26.8	747	834	200	1,235	434	23

Avg	99	91	29	1526	947	513	1033	20	839	803	269	1332	256
-----	----	----	----	------	-----	-----	------	----	-----	-----	-----	------	-----

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.

From: (870) 587-8812
Becky Blankenship
Georgia-Pacific
100 Supply Road
Drop Point 33
Crossett, AR 71635

Origin ID: ELDA



Ship Date: 21NOV14
ActWgt: 1.0 LB
CAD: 102787395/NET3550

Delivery Address Bar Code



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

BILL SENDER

Ref #
Invoice #
PO #
Dept #

NORTH LITTLE ROCK, AR 72118

1 of 3

MON - 24 NOV 10:30A
PRIORITY OVERNIGHT

TRK# **7719 4568 3564**

0201

MASTER

72118

AR-US

LIT

X2 LITA



522G1616C8AC9

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