

January 7, 2019

Mr. Brandon Gee
Weck Laboratories, Inc.
14859 East Clark Avenue
City of Industry, CA 91745-1396

Dear Mr. Gee:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms EPA-821-R-02-013.* " Results were as follows:*

CLIENT:	Weck Laboratories, Inc.
SAMPLE I.D.:	8L06062-01/ME000000958
DATE RECEIVED:.	7 Dec -18
ABC LAB NO.:	WEC1218.049

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

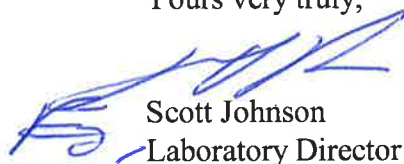
IWC = 100.00%

TST RESULT

SURVIVAL = PASS % EFFECT = -5.26 %

REPRODUCTION = PASS % EFFECT = -6.72 %

Yours very truly,


Scott Johnson
Laboratory Director

*Note: The chronic survival TST analysis is not available for ceriodaphnia dubia.

CETIS Summary Report

Report Date: 07 Jan-19 13:03 (p 1 of 1)
Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-8427-2031	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 07 Dec-18 15:21	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 14 Dec-18 15:55	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 04-8088-6032	Code: WEC1218.049c	Client: Weck Laboratories
Sample Date: 06 Dec-18 10:15	Material: Sample Water	Project: Flood Control District-ME05
Receipt Date: 07 Dec-18 08:15	Source: Bioassay Report	
Sample Age: 29h (3.3 °C)	Station: 8L06062-01/ME000000958	

Single Comparison Summary

Analysis ID	Endpoint	Comparison Method	P-Value	Comparison Result
17-6403-6740	7d Survival Rate	Fisher Exact Test	1.0000	100% passed 7d survival rate
19-4840-1560	Reproduction	TST-Welch's t Test	5.0E-06	100% passed reproduction

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
17-6403-6740	7d Survival Rate	Control Resp	0.95	0.8	>>	Yes	Passes Criteria
19-4840-1560	Reproduction	Control Resp	26.8	15	>>	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	20	0.9500	0.8453	1.0000	0.0000	1.0000	0.0500	0.2236	23.54%	0.00%
100		20	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-5.26%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	20	26.8	23.73	29.87	5	34	1.468	6.566	24.50%	0.00%
100		20	28.6	25.99	31.21	19	37	1.247	5.576	19.50%	-6.72%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	32	33	34	24	28	31	31	30	29	27
		19	25	30	5	22	30	31	25	29	21
100		24	32	35	37	19	22	24	36	28	19
		36	24	27	28	30	27	30	30	36	28

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
		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: 07 Jan-19 13:03 (p 1 of 2)

Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-4840-1560	Endpoint: Reproduction	CETIS Version: CETISv1.9.2
Analyzed: 07 Jan-19 12:52	Analysis: Parametric Bioequivalence-Two Sample	Official Results: Yes
Batch ID: 18-8427-2031	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 07 Dec-18 15:21	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 14 Dec-18 15:55	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 04-8088-6032	Code: WEC1218.049c	Client: Weck Laboratories
Sample Date: 06 Dec-18 10:15	Material: Sample Water	Project: Flood Control District-ME05
Receipt Date: 07 Dec-18 08:15	Source: Bioassay Report	
Sample Age: 29h (3.3 °C)	Station: 8L06062-01/ME000000958	

Data Transform	Alt Hyp	TST_b	Comparison Result
Untransformed	C*b < T	0.75	100% passed reproduction

TST-Welch's t Test

Control	vs	Control II	Test Stat	Critical	DF	P-Type	P-Value	Decision(α:20%)
Negative Control		100*	5.11	0.8514	37	CDF	5.0E-06	Non-Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	26.8	15	>>	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	32.4	32.4	1	0.8732	0.3560	Non-Significant Effect
Error	1410	37.1053	38			
Total	1442.4		39			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	0.0263	7.353	0.8720	Equal Variances
Variances	Mod Levene Equality of Variance Test	0.00502	7.353	0.9439	Equal Variances
Variances	Variance Ratio F Test	1.387	3.432	0.4830	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	0.6742	3.878	0.0785	Normal Distribution
Distribution	D'Agostino Kurtosis Test	2.581	2.576	0.0099	Non-Normal Distribution
Distribution	D'Agostino Skewness Test	3.074	2.576	0.0021	Non-Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	16.11	9.21	3.2E-04	Non-Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1073	0.1617	0.2783	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9141	0.9236	0.0050	Non-Normal Distribution

Reproduction Summary

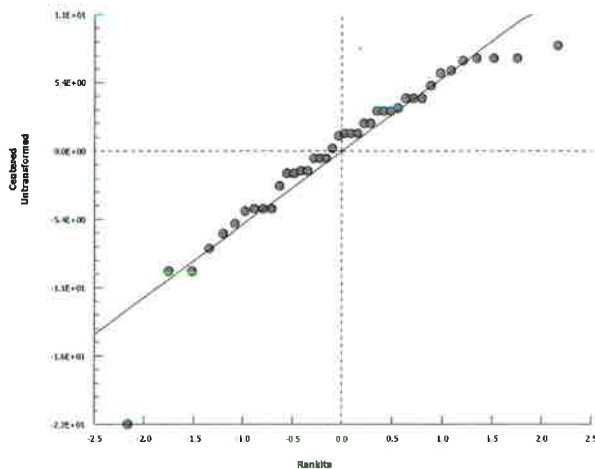
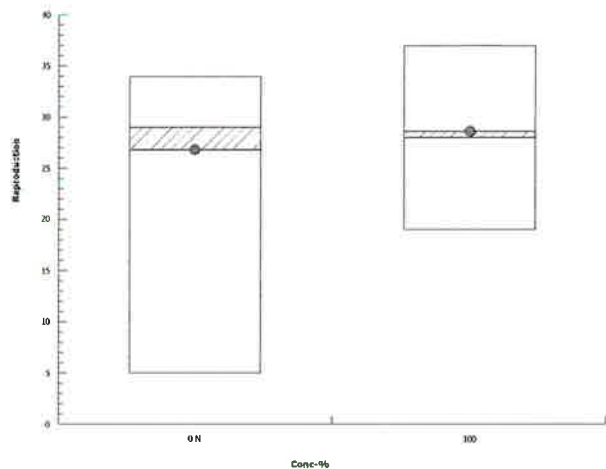
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	20	26.8	23.73	29.87	29	5	34	1.468	24.50%	0.00%
100		20	28.6	25.99	31.21	28	19	37	1.247	19.50%	-6.72%


Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	32	33	34	24	28	31	31	30	29	27
		19	25	30	5	22	30	31	25	29	21
100		24	32	35	37	19	22	24	36	28	19
		36	24	27	28	30	27	30	30	36	28

Ceriodaphnia 7-d Survival and Reproduction Test		Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID:	19-4840-1560	Endpoint:	Reproduction
Analized:	07 Jan-19 12:52	Analysis:	Parametric Bioequivalence-Two Sample
		CETIS Version:	CETISv1.9.2
		Official Results:	Yes

Graphics



Analyst:  QA: 

CETIS Analytical Report

Report Date: 07 Jan-19 13:03 (p 1 of 2)
Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID:	17-6403-6740	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.2
Analyzed:	07 Jan-19 12:52	Analysis:	Single 2x2 Contingency Table	Official Results:	Yes
Batch ID:	18-8427-2031	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	07 Dec-18 15:21	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	14 Dec-18 15:55	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 1h	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	04-8088-6032	Code:	WEC1218.049c	Client:	Weck Laboratories
Sample Date:	06 Dec-18 10:15	Material:	Sample Water	Project:	Flood Control District-ME05
Receipt Date:	07 Dec-18 08:15	Source:	Bioassay Report		
Sample Age:	29h (3.3 °C)	Station:	8L06062-01/ME000000958		

Data Transform	Alt Hyp	Comparison Result
Untransformed	C > T	100% passed 7d survival rate

Fisher Exact Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.95	0.8	>>	Yes	Passes Criteria

Data Summary

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	19	1	20	0.95	0.05	0.0%
100		20	0	20	1	0	-5.26%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
		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: 07 Jan-19 13:03 (p 2 of 2)

Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test

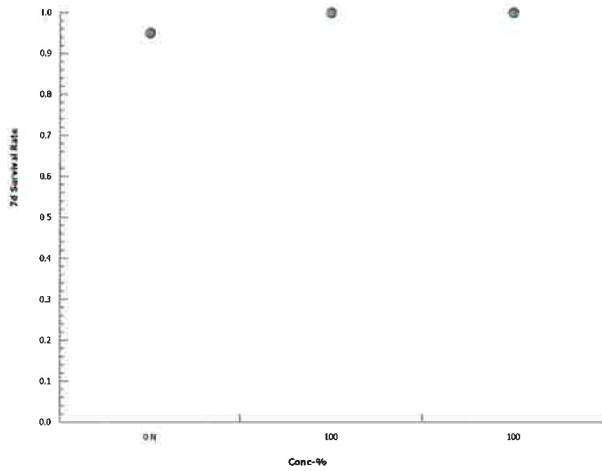
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-6403-6740
Analyzed: 07 Jan-19 12:52

Endpoint: 7d Survival Rate
Analysis: Single 2x2 Contingency Table

CETIS Version: CETISv1.9.2
Official Results: Yes

Graphics



CETIS Measurement Report

Report Date: 07 Jan-19 13:03 (p 1 of 2)
Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-8427-2031
Start Date: 07 Dec-18 15:21
Ending Date: 14 Dec-18 15:55
Duration: 7d 1h
Test Type: Reproduction-Survival (7d)
Protocol: EPA/821/R-02-013 (2002)
Species: Ceriodaphnia dubia
Source: Aquatic Biosystems, CO

Analyst:
Diluent: Laboratory Water
Brine: Not Applicable
Age:

Sample ID: 04-8088-6032
Sample Date: 06 Dec-18 10:15
Receipt Date: 07 Dec-18 08:15
Sample Age: 29h (3.3 °C)
Code: WEC1218.049c
Material: Sample Water
Source: Bioassay Report
Station: 8L06062-01/ME000000958

Client: Weck Laboratories
Project: Flood Control District-ME05

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	64	64	64	64	64	0	0	0.0%	0
100		8	31	31	31	31	31	0	0	0.0%	0
Overall		16	47.5	38.42	56.58	31	64	4.26	17.04	35.88%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	340.8	335.4	346.1	332	348	2.242	6.341	1.86%	0
100		8	159	155.7	162.3	155	165	1.376	3.891	2.45%	0
Overall		16	249.9	199.8	300	155	348	23.5	93.99	37.62%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.988	7.801	8.174	7.6	8.3	0.07892	0.2232	2.79%	0
100		8	8.263	7.818	8.707	7.7	9.1	0.188	0.5317	6.44%	0
Overall		16	8.125	7.902	8.348	7.6	9.1	0.1047	0.4187	5.15%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	96	96	96	96	96	0	0	0.0%	0
100		8	43	43	43	43	43	0	0	0.0%	0
Overall		16	69.5	54.92	84.08	43	96	6.842	27.37	39.38%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.8	7.691	7.909	7.6	7.9	0.04629	0.1309	1.68%	0
100		8	7.438	7.312	7.563	7.2	7.7	0.05324	0.1506	2.03%	0
Overall		16	7.619	7.495	7.742	7.2	7.9	0.05789	0.2316	3.04%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.0%	0
100		8	24	24	24	24	24	0	0	0.0%	0
Overall		16	24	24	24	24	24	0	0	0.00%	0 (0%)

CETIS Measurement Report

Report Date: 07 Jan-19 13:03 (p 2 of 2)

Test Code: WEC1218.049cer | 18-3325-2503

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Alkalinity (CaCO₃)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	64	64	64	64	64	64	64	64
100		31	31	31	31	31	31	31	31

Conductivity-µmhos

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	332	333	335	345	345	343	345	348
100		156	160	164	156	156	155	160	165

Dissolved Oxygen-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.6	7.9	7.8	8.2	8	8.3	8.1	8
100		9.1	7.8	7.7	8.1	8.1	8.8	8.7	7.8

Hardness (CaCO₃)-mg/L

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	96	96	96	96	96	96	96	96
100		43	43	43	43	43	43	43	43

pH-Units

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	7.6	7.8	7.8	7.9	7.9	7.6	7.9	7.9
100		7.4	7.5	7.5	7.3	7.4	7.2	7.5	7.7

Temperature-°C

Conc-%	Code	1	2	3	4	5	6	7	8
0	N	24	24	24	24	24	24	24	24
100		24	24	24	24	24	24	24	24



WECK LABORATORIES, INC.

Subcontract Order

Subcontracted Laboratory:

Aquatic Bioassay & Consulting Labs, Inc.
29 North Olive Street
Ventura, CA 93001
Phone: (805) 643-5621
Fax: (805) 643-2930

Turn Around Time: Normal unless noted in comments

Project Manager: Brandon Gee

Project Name: Flood Control District - ME05

Project Number: Flood Control District - ME05

Sampler Employed by: _____

Work Order: 8L06062

Analysis	Expires	Comments
Sample ID: 8L06062-01/ME000000958 Alias: S14		Sampled: 12/06/2018 10:15
Sample comment: Bioassay EPA 821-R-02-013 Chronic (Freshwater)	12/07/2018 22:15	Matrix: Water Sampled By: J. Luis Escajeda Ceriodaphnia Dubia, 36 HR, require 0% and 100% dilution, :
Containers Supplied: Other (A) Other (B)		TST

Temp. deg. C = 3.9°C

Chlorine (mg/L) = 0.1

NH3 (mg/L) = 0.1

Remarks / Special Comments:**Sample Condition**

Temperature: _____

Preserved: Yes / No

Seal Intact: Yes / No

Container Attacked: Yes / No

Preserved at Lab: Yes / No

Relinquished By

Date / Time Received By

Date / Time

Relinquished By

Date / Time Received By

Date / Time

Page 1 of 1

CHRONIC CERIODAPHNIA SURVIVAL AND REPRODUCTION BIOASSAY

DATE: 4 December - 2018

STANDARD TOXICANT: Copper Chloride

ENDPOINT: SURVIVAL

NOEC = 5.00 ug/l

EC25 = 6.39 ug/l

EC50 = 7.78 ug/l

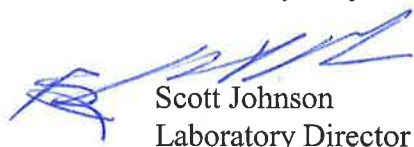
ENDPOINT: REPRODUCTION

NOEC = 5.00 ug/l

IC25 = 5.59 ug/l

IC50 = 7.10 ug/l

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Jan-19 14:58 (p 1 of 2)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 07-1135-4291	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 04 Dec-18 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Dec-18 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 14-6514-6340	Code: CER120418	Client: ABC Labs
Sample Date: 04 Dec-18 12:45	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD	✓
11-4655-0134	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	5	10	7.071		n/a	✓
15-1615-4497	Reproduction	Steel Many-One Rank Sum Test	5	10	7.071		27.6%	✓

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	Level	µg/L	95% LCL	95% UCL	TU	✓
09-4376-7009	7d Survival Rate	Linear Interpolation (ICPIN)	EC5	5.278	5.25	5.357		
			EC10	5.556	5.5	5.714		
			EC15	5.833	5.75	6.071		
			EC20	6.111	6	6.429		
			EC25	6.389	6.25	6.786		
			EC40	7.222	7	7.857		
			EC50	7.778	7.5	8.571		
09-7368-9291	Reproduction	Linear Interpolation (ICPIN)	IC5	0.9814	0.4483	5.256		✓
			IC10	1.963	0.8965	5.513		✓
			IC15	2.944	1.345	5.769		✓
			IC20	5.286	1.793	6.025		✓
			IC25	5.589	2.241	6.282		✓
			IC40	6.497	5.506	7.052		✓
			IC50	7.103	6.28	7.583		✓

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
09-4376-7009	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
11-4655-0134	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
09-7368-9291	Reproduction	Control Resp	22.9	15	>>	Yes	Passes Criteria
15-1615-4497	Reproduction	Control Resp	22.9	15	>>	Yes	Passes Criteria
15-1615-4497	Reproduction	PMSD	0.2757	0.13	0.47	Yes	Passes Criteria

7d Survival Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
3		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
10		10	0.1000	0.0000	0.3262	0.0000	1.0000	0.1000	0.3162	316.23%	90.00%
30		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%
50		10	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		100.00%

Reproduction Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22.9	18.02	27.78	8	35	2.157	6.822	29.79%	0.00%
3		10	16.6	11.16	22.04	5	30	2.405	7.604	45.81%	27.51%
5		10	22.2	16.28	28.12	13	39	2.615	8.27	37.25%	3.06%
10		10	0.5	-0.6311	1.631	0	5	0.5	1.581	316.23%	97.82%
30		10	0	0	0	0	0	0	0		100.00%
50		10	0	0	0	0	0	0	0		100.00%

CETIS Summary Report

Report Date: 02 Jan-19 14:58 (p 2 of 2)

Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Reproduction Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	35	27	27	21	8	21	23	20	23
3		10	14	5	12	25	11	20	18	21	30
5		13	21	19	33	24	23	13	39	20	17
10		0	0	0	0	0	0	0	0	5	0
30		0	0	0	0	0	0	0	0	0	0
50		0	0	0	0	0	0	0	0	0	0

7d Survival Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 1 of 2)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID:	15-1615-4497	Endpoint:	Reproduction	CETIS Version:	CETISv1.9.2
Analyzed:	02 Jan-19 14:57	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes
Batch ID:	07-1135-4291	Test Type:	Reproduction-Survival (7d)	Analyst:	
Start Date:	04 Dec-18 12:45	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water
Ending Date:	11 Dec-18 13:20	Species:	Ceriodaphnia dubia	Brine:	Not Applicable
Duration:	7d 1h	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	14-6514-6340	Code:	CER120418	Client:	ABC Labs
Sample Date:	04 Dec-18 12:45	Material:	Copper chloride	Project:	REF TOX
Receipt Date:		Source:	Reference Toxicant		
Sample Age:	n/a	Station:	REF TOX		

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	5	10	7.071		27.57%

Steel Many-One Rank Sum Test

Control	vs	Conc-µg/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		3	80.5	77	2	18	Asymp	0.0788	Non-Significant Effect
		5	94	77	4	18	Asymp	0.3930	Non-Significant Effect
		10*	55	77	0	18	Asymp	2.3E-04	Significant Effect

Test Acceptability Criteria

		TAC Limits					
Attribute	Test Stat	Lower	Upper	Overlap	Decision		
Control Resp	22.9	15	>>	Yes	Passes Criteria		
PMSD	0.2757	0.13	0.47	Yes	Passes Criteria		

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3258.5	1086.17	3	24.79	<1.0E-37	Significant Effect
Error	1577.4	43.8167	36			
Total	4835.9		39			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	17.9	11.34	4.6E-04	Unequal Variances
Variances	Levene Equality of Variance Test	3.444	4.377	0.0267	Equal Variances
Variances	Mod Levene Equality of Variance Test	3.452	4.377	0.0265	Equal Variances
Distribution	Anderson-Darling A2 Normality Test	1.15	3.878	0.0053	Non-Normal Distribution
Distribution	D'Agostino Kurtosis Test	1.463	2.576	0.1435	Normal Distribution
Distribution	D'Agostino Skewness Test	1.132	2.576	0.2577	Normal Distribution
Distribution	D'Agostino-Pearson K2 Omnibus Test	3.421	9.21	0.1808	Normal Distribution
Distribution	Kolmogorov-Smirnov D Test	0.1437	0.1617	0.0366	Normal Distribution
Distribution	Shapiro-Wilk W Normality Test	0.9469	0.9236	0.0594	Normal Distribution

Reproduction Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	22.9	18.02	27.78	23	8	35	2.157	29.79%	0.00%
3		10	16.6	11.16	22.04	16	5	30	2.405	45.81%	27.51%
5		10	22.2	16.28	28.12	20.5	13	39	2.615	37.25%	3.06%
10		10	0.5	-0.6311	1.631	0	0	5	0.5	316.23%	97.82%
30		10	0	0	0	0	0	0	0		100.00%
50		10	0	0	0	0	0	0	0		100.00%

CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 2 of 2)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

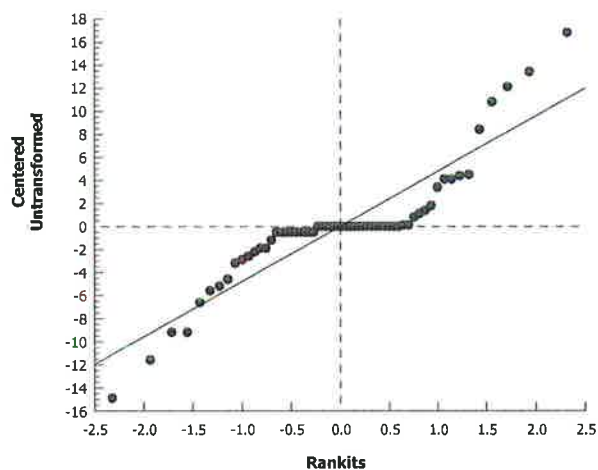
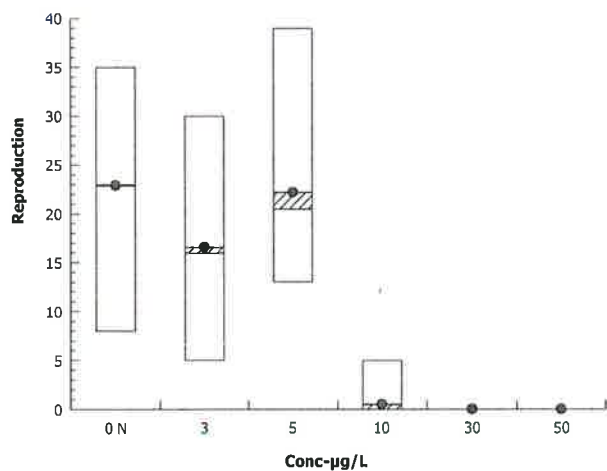
Analysis ID:	15-1615-4497	Endpoint:	Reproduction
Analyzed:	02 Jan-19 14:57	Analysis:	Nonparametric-Control vs Treatments

CETIS Version: CETISv1.9.2
Official Results: Yes

Reproduction Detail

[illegible]

Graphics



CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 1 of 4)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-4376-7009	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2
Analyzed: 02 Jan-19 14:57	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 07-1135-4291	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 04 Dec-18 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Dec-18 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 14-6514-6340	Code: CER120418	Client: ABC Labs
Sample Date: 04 Dec-18 12:45	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	1	0.8	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
EC5	5.278	5.25	5.357
EC10	5.556	5.5	5.714
EC15	5.833	5.75	6.071
EC20	6.111	6	6.429
EC25	6.389	6.25	6.786
EC40	7.222	7	7.857
EC50	7.778	7.5	8.571

7d Survival Rate Summary

		Calculated Variate(A/B)									
Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	N	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
3		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
10		10	0.1000	0.0000	1.0000	0.1000	0.3162	316.20%	90.0%	1	10
30		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
50		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

7d Survival Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7d Survival Rate Binomials

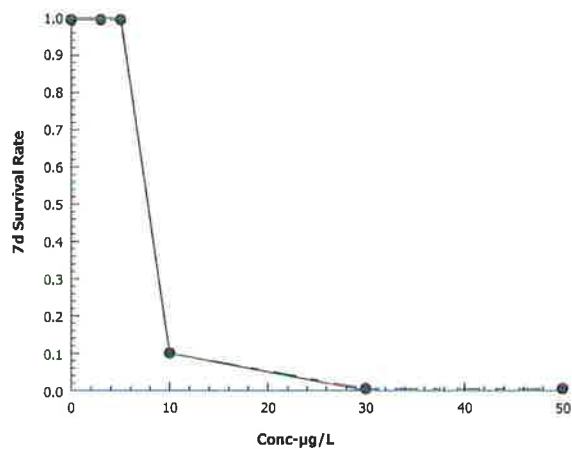
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 2 of 4)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test		Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID:	09-4376-7009	Endpoint:	7d Survival Rate
Analyzed:	02 Jan-19 14:57	Analysis:	Linear Interpolation (ICPIN)
		CETIS Version:	CETISv1.9.2
		Official Results:	Yes

Graphics



CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 3 of 4)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-7368-9291	Endpoint: Reproduction	CETIS Version: CETISv1.9.2
Analyzed: 02 Jan-19 14:57	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes
Batch ID: 07-1135-4291	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 04 Dec-18 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Dec-18 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 14-6514-6340	Code: CER120418	Client: ABC Labs
Sample Date: 04 Dec-18 12:45	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	0	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	22.9	15	>>	Yes	Passes Criteria

Point Estimates

Level	µg/L	95% LCL	95% UCL
IC5	0.9814	0.4483	5.256
IC10	1.963	0.8965	5.513
IC15	2.944	1.345	5.769
IC20	5.286	1.793	6.025
IC25	5.589	2.241	6.282
IC40	6.497	5.506	7.052
IC50	7.103	6.28	7.583

Reproduction Summary

Calculated Variate

Conc-µg/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22.9	8	35	2.157	6.822	29.79%	0.0%
3		10	16.6	5	30	2.405	7.604	45.81%	27.51%
5		10	22.2	13	39	2.615	8.27	37.25%	3.06%
10		10	0.5	0	5	0.5	1.581	316.20%	97.82%
30		10	0	0	0	0	0		100.0%
50		10	0	0	0	0	0		100.0%

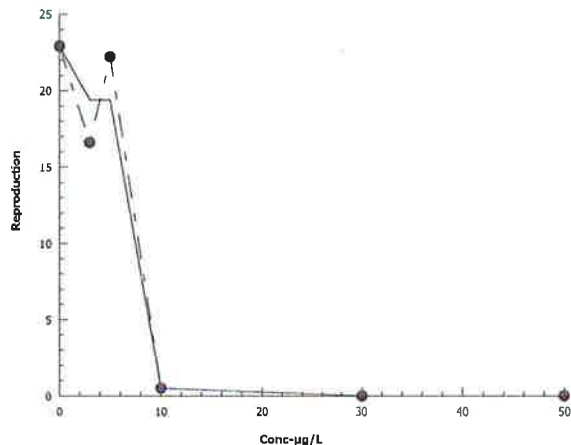
Reproduction Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	35	27	27	21	8	21	23	20	23
3		10	14	5	12	25	11	20	18	21	30
5		13	21	19	33	24	23	13	39	20	17
10		0	0	0	0	0	0	0	0	5	0
30		0	0	0	0	0	0	0	0	0	0
50		0	0	0	0	0	0	0	0	0	0

Ceriodaphnia 7-d Survival and Reproduction Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	09-7368-9291	Endpoint:	Reproduction	CETIS Version:	CETISv1.9.2
Analyzed:	02 Jan-19 14:57	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes

Graphics



CETIS Analytical Report

Report Date: 02 Jan-19 14:58 (p 1 of 2)
 Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-4655-0134	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2
Analyzed: 02 Jan-19 14:57	Analysis: STP 2xK Contingency Tables	Official Results: Yes
Batch ID: 07-1135-4291	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 04 Dec-18 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Dec-18 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:
Sample ID: 14-6514-6340	Code: CER120418	Client: ABC Labs
Sample Date: 04 Dec-18 12:45	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	5	10	7.071	

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		3	1.0000	Exact	1.0000	Non-Significant Effect
		5	1.0000	Exact	1.0000	Non-Significant Effect
		10*	0.0001	Exact	1.8E-04	Significant Effect
		30*	0.0000	Exact	2.7E-05	Significant Effect
		50*	0.0000	Exact	2.7E-05	Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	>>	Yes	Passes Criteria

Data Summary

Conc-μg/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1	0	0.0%
3		10	0	10	1	0	0.0%
5		10	0	10	1	0	0.0%
10		1	9	10	0.1	0.9	90.0%
30		0	10	10	0	1	100.0%
50		0	10	10	0	1	100.0%

7d Survival Rate Detail

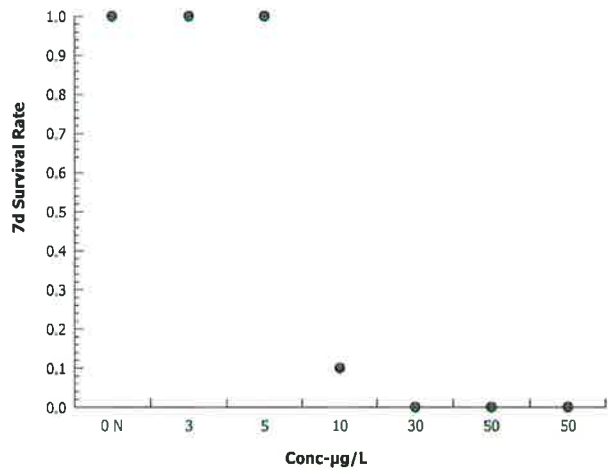
Conc-μg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
30		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7d Survival Rate Binomials

Conc-μg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
3		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
10		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
30		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
50		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.	
Analysis ID:	11-4655-0134	Endpoint:	7d Survival Rate	CETIS Version: CETISv1.9.2
Analyzed:	02 Jan-19 14:57	Analysis:	STP 2xK Contingency Tables	Official Results: Yes

Graphics



CETIS Measurement Report

Report Date: 02 Jan-19 14:58 (p 1 of 2)
Test Code: CER120418 | 19-8744-1874

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 07-1135-4291	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 04 Dec-18 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 11 Dec-18 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 1h	Source: Aquatic Biosystems, CO	Age:

Sample ID: 14-6514-6340	Code: CER120418	Client: ABC Labs
Sample Date: 04 Dec-18 12:45	Material: Copper chloride	Project: REF TOX
Receipt Date:	Source: Reference Toxicant	
Sample Age: n/a	Station: REF TOX	

Alkalinity (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	64	64	64	64	64	0	0	0.0%	0
50		5	62	62	62	62	62	0	0	0.0%	0
Overall		13	63.23	62.62	63.84	62	64	0.2809	1.013	1.60%	0 (0%)

Conductivity-µmhos

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	339	330.7	347.3	329	360	3.525	9.971	2.94%	0
3		8	335.5	328.6	342.4	329	353	2.928	8.281	2.47%	0
5		8	331.2	327.6	334.9	328	341	1.532	4.334	1.31%	0
10		8	328.6	325.1	332.1	320	335	1.487	4.207	1.28%	0
30		4	332.2	322.9	341.6	329	341	2.926	5.852	1.76%	0
50		5	329.6	323	336.2	326	339	2.379	5.32	1.61%	0
Overall		41	333	330.6	335.3	320	360	1.164	7.455	2.24%	0 (0%)

Dissolved Oxygen-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.838	7.654	8.021	7.6	8.2	0.07778	0.22	2.81%	0
3		8	8.2	7.793	8.607	7.5	8.7	0.1722	0.487	5.94%	0
5		8	8.163	7.805	8.52	7.7	8.7	0.1511	0.4274	5.24%	0
10		8	8.163	7.573	8.752	6.9	8.9	0.2492	0.705	8.64%	0
30		5	8.14	7.137	9.143	6.9	8.9	0.3614	0.8081	9.93%	0
50		5	8.16	7.141	9.179	6.8	8.8	0.3669	0.8204	10.05%	0
Overall		42	8.105	7.931	8.279	6.8	8.9	0.08615	0.5583	6.89%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	96	96	96	96	96	0	0	0.0%	0
50		5	94	94	94	94	94	0	0	0.0%	0
Overall		13	95.23	94.62	95.84	94	96	0.2809	1.013	1.06%	0 (0%)

pH-Units

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.813	7.675	7.95	7.6	8.1	0.05806	0.1642	2.1%	0
3		8	7.675	7.528	7.822	7.4	8	0.06196	0.1753	2.28%	0
5		8	7.675	7.551	7.799	7.4	7.9	0.05261	0.1488	1.94%	0
10		8	7.662	7.545	7.78	7.4	7.9	0.04978	0.1408	1.84%	0
30		5	7.66	7.518	7.802	7.5	7.8	0.05099	0.114	1.49%	0
50		5	7.68	7.576	7.784	7.6	7.8	0.03742	0.08367	1.09%	0
Overall		42	7.698	7.651	7.744	7.4	8.1	0.02299	0.149	1.94%	0 (0%)

CETIS Measurement Report

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Ceriodaphnia 7-d Survival and Reproduction Test							Aquatic Bioassay & Consulting Labs, Inc.					
Temperature-°C												
Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count	
0	N	8	24	24	24	24	24	0	0	0.0%	0	
3		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0	
5		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0	
10		8	24.01	23.98	24.04	24	24.1	0.01249	0.03531	0.15%	0	
30		5	24.02	23.96	24.08	24	24.1	0.01997	0.04466	0.19%	0	
50		5	24.02	23.96	24.08	24	24.1	0.01997	0.04466	0.19%	0	
Overall		42	24.01	24	24.02	24	24.1	0.005058	0.03278	0.14%	0 (0%)	
Alkalinity (CaCO3)-mg/L												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	64	64	64	64	64	64	64	64			
50		62	62	62	62	62						
Conductivity-µmhos												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	336	342	329	332	333	335	345	360			
3		333	333	353	329	330	331	332	343			
5		329	330	341	328	329	329	330	334			
10		327	329	335	329	329	329	320	331			
30		329	329	341	330							
50		326	328	339	327	328						
Dissolved Oxygen-mg/L												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	7.8	8.1	7.6	7.6	7.9	7.8	8.2	7.7			
3		8.7	8	7.5	8.4	7.9	7.7	8.7	8.7			
5		8.7	7.9	7.8	8.7	7.9	7.7	8.6	8			
10		8.7	7.9	6.9	8.6	7.9	7.6	8.8	8.9			
30		8.9	7.9	8.2	8.8	6.9						
50		8.8	8	8.5	8.7	6.8						
Hardness (CaCO3)-mg/L												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	96	96	96	96	96	96	96	96			
50		94	94	94	94	94						
pH-Units												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	7.8	7.9	7.6	7.6	7.8	7.8	7.9	8.1			
3		7.6	7.7	7.4	7.6	7.7	7.8	7.6	8			
5		7.6	7.7	7.4	7.6	7.7	7.8	7.7	7.9			
10		7.6	7.7	7.4	7.6	7.7	7.7	7.7	7.9			
30		7.7	7.7	7.5	7.6	7.8						
50		7.7	7.7	7.6	7.6	7.8						
Temperature-°C												
Conc-µg/L	Code	1	2	3	4	5	6	7	8			
0	N	24	24	24	24	24	24	24	24			
3		24	24	24.1	24	24	24	24	24			
5		24	24	24.1	24	24	24	24	24			
10		24	24	24.1	24	24	24	24	24			
30		24	24	24.1	24	24						
50		24	24	24.1	24	24						