

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

PROPOSED AMENDMENTS TO: )  
35 Ill. Adm. Code 302.102 and 302.208(g) ) R18-032  
WATER QUALITY STANDARDS )  
FOR CHLORIDES )

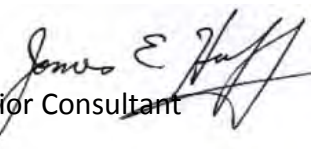
**NOTICE OF FILING**

TO: **Attached Service List**

PLEASE TAKE NOTICE that on May 29, 2018 I have filed with the Office of the Clerk of the Illinois Pollution Control Board Huff & Huff, Inc.'s Motion for Leave to File Instanter Additional Bioassay Report, a copy of which are herewith served upon you.

Respectfully submitted,

Huff & Huff, Inc.

By:   
Senior Consultant

Dated: May 29, 2018

James E. Huff, P.E.  
HUFF & HUFF, INC.  
915 Harger Road, Suite 330  
Oak Brook, IL 60523  
[James.huff@gza.com](mailto:James.huff@gza.com)  
630-684-4444

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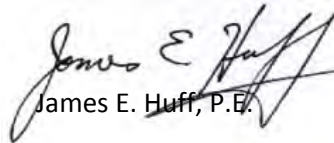
**MOTION FOR LEAVE TO FILE ADDITIONAL ATTACHMENT TO PETITION**

Now comes Huff & Huff, Inc. by its Senior Consultant, James E. Huff, P.E., to move the Illinois Pollution Control Board for Leave to File Instanter Additional Attachment to the Petition. In support of this motion, Huff & Huff states as follows:

- 1) This bioassay report was inadvertently omitted from the Petition.
- 2) This document completes the analysis for one species to provide the Board with the full extent of completed research.

Wherefore Huff & Huff respectfully requests the Illinois Pollution Control Board grant leave to file the attached Additional Comments instanter for the reasons set forth herein.

Respectfully submitted,  
Huff & Huff, Inc.

  
James E. Huff, P.E.

Dated: May 29, 2018

James E. Huff, P.E.  
HUFF & HUFF, INC.  
915 Harger Road, Suite 330  
Oak Brook, IL 60523  
[James.huff@gza.com](mailto:James.huff@gza.com)  
630-684-4444

**CERTIFICATE OF SERVICE**

I, James E. Huff, the undersigned, on oath state the following: That I have served the attached **MOTION FOR LEAVE TO FILE ATTACHMENT TO PETITION TO AMEND 35 ILL. ADM. CODE 302.102 and 302.208(g) WATER QUALITY STANDARDS FOR CHLORIDES**, via electronic mail upon:

Don Brown  
Clerk of the Board  
Illinois Pollution Control Board  
100 W. Randolph Street, Suite 11-500  
Chicago, Illinois 60601  
[Don.Brown@illinois.gov](mailto:Don.Brown@illinois.gov)

Division Chief of Environmental Enforcement  
Office of the Attorney General  
100 West Randolph Street, Suite 1200  
Chicago, Illinois 60601  
[enviro@atg.state.il.us](mailto:enviro@atg.state.il.us)

Sara Terranova  
Division of Legal Counsel  
Illinois Environmental Protection Agency  
1021 North Grand Avenue East  
P.O. Box 19276  
Springfield, Illinois 62794-9276  
[Sara.Terranova@illinois.gov](mailto:Sara.Terranova@illinois.gov)

Office of Legal Services  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, Illinois 62702-1271  
[Eric.Lohrenz@illinois.gov](mailto:Eric.Lohrenz@illinois.gov)  
[Virginia.Yang@illinois.gov](mailto:Virginia.Yang@illinois.gov)

That my email address is [James.Huff@gza.com](mailto:James.Huff@gza.com).

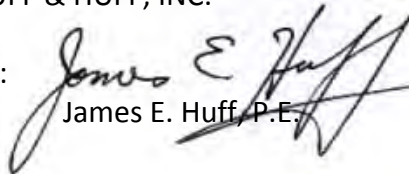
That the number of pages in the email transmission is 159 .

That the email transmission took place before 5:00 p.m. on the date of May 29, 2018.

Dated: May 29, 2018

HUFF & HUFF, INC.

By:

  
James E. Huff, P.E.



New England Bioassay

A Division of GZA



## AQUATIC TOXICITY TEST REPORT

### Acute & Chronic Toxicity Testing at 10°C and 25°C Using *Ceriodaphnia dubia*

Report date: November 13, 2017

Report Prepared by:

New England Bioassay

A Division of GZA GeoEnvironmental, Inc.

77 Batson Dr.

Manchester, CT 06042

Report Submitted to:

Huff & Huff, a Subsidiary of GZA

915 Harger Road, Suite 330

Oak Brook, IL 60523

GEOTECHNICAL  
ENVIRONMENTAL  
ECOLOGICAL  
WATER  
CONSTRUCTION  
MANAGEMENT

77 Batson Drive  
Manchester, CT 06042  
T: 860.643.9560  
F: 860.646.7169  
www.nebio.com

November 13, 2017

Huff & Huff, a Subsidiary of GZA  
915 Harger Road, Suite 330  
Oak Brook, IL 60523-1486

RE: Results of Acute & Chronic Tests  
Sample ID: Reagent Grade NaCl  
NEB Project Number: 81.0220523.00

Dear Mr. Huff:

This report provides you with the results of the experimental acute and chronic toxicity tests performed at New England Bioassay (NEB) laboratory for Huff and Huff. The toxicity tests were performed using the freshwater organism *Ceriodaphnia dubia* as the aquatic test species.

#### **Acute Toxicity Test**

The specific details of the *C. dubia* acute toxicity test system are based on EPA guidelines (EPA-821-R-02-012 Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 2002). For the acute toxicity test, young *C. dubia* ( $\leq$  24-h old at test initiation) were continuously exposed for 48 hours under static conditions to concentrations of reagent grade sodium chloride. One test was set at 10 degrees Celsius with testing concentrations of 2.0 g/L, 2.25 g/L, 2.5 g/L, 2.75 g/L, 3.0 g/L, 3.25 g/L, 3.5 g/L, 3.75 g/L, 4.0 g/L and 4.25 g/L NaCl mixed with laboratory-prepared moderately hard synthetic water. A second test was set at 25 degrees Celsius with testing concentrations of 0.25 g/L, 0.5 g/L, 0.75 g/L, 1.0 g/L, 1.25 g/L, 1.5 g/L, 1.75 g/L and 2.0 g/L. A synthetic laboratory water control was also set concurrently with the tests.

*C. dubia* were individually exposed in 30-mL plastic cups containing 25 mL of test solution or control water. Four replicate beakers were used for each test concentration and the dilution-water control (20 animals per concentration or control).

test temperature of 10° ± 1°C and 25° ± 1°C; photoperiod 16 h light and 8 h dark) in an environmentally controlled testing room.

Temperature, dissolved oxygen and pH were measured daily on one replicate at 0 and 24 hrs, and on each replicate at 48 hours. Observations on the number of live and dead animals were made daily. A summary of the acute testing protocols can be found in Attachment A. The results of the toxicity tests can be found in Table 1. Raw data sheets and statistical analysis are found in Attachment B.

**TABLE 1. RESULTS OF 48-HR CERIODAPHNIA DUBIA ACUTE TESTS USING REAGENT GRADE SODIUM CHLORIDE**

Test Date	Test Species	Test ID	Test Temperature	48hr LC50	48 hr NOAEL
11/8/17	<i>C.dubia</i>	17-1702	10°C	3.62 g/L	3.0 g/L
11/8/17	<i>C.dubia</i>	17-1703	25°C	1.92 g/L	1.25 g/L

**Chronic Toxicity Test**

The specific details of the *C.dubia* chronic toxicity test system are based on EPA guidelines (EPA-821-R-02-013 Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 2002). In these EPA methods, the standard toxicity test only runs for 7-days. However, in this experimental test, the test was extended to 35 days. For the chronic toxicity tests, young *C.dubia* (≤ 24-h old at test initiation) were continuously exposed for 35 days under static-renewal conditions to 11 concentrations of reagent grade sodium chloride [0.25 g/L, 0.5 g/L, 0.75 g/L, 1.0 g/L, 1.25 g/L, 1.5 g/L, 1.75 g/L, 2.0 g/L, 2.25 g/L, 2.5 g/L and 2.75 g/L NaCl] mixed with laboratory-prepared moderately hard synthetic water. A synthetic laboratory water control was also set concurrently with each test.

*C. dubia* were individually exposed in 30-mL plastic cups containing 15 mL of test solution or control water. Ten replicate beakers were used for each test concentration and the dilution-water control (10 animals per concentration or control). Daphnids used in testing were blocked by parentage for each replicate (i.e., young from a single female were used for all replicate #1, #2, etc).

Test beakers were maintained under the specified conditions (mean test temperature of either 25° ± 1°C or 10° ± 1°C; photoperiod 16 h light and 8 h dark for both tests) in commercial environmental test chambers. Surviving *Ceriodaphnia* were transferred daily with a large-bore pipette to newly prepared test solutions containing food.

Temperature, dissolved oxygen, pH, and specific conductivity were measured daily on composite samples of newly prepared solutions. Temperature, dissolved oxygen, and pH were measured on one replicate of the 24-h-old test solutions at each concentration. Observations on the number of live and dead (or immobilized) animals were made daily. Reproduction also was monitored daily by counting the number of live and dead young per female when the adults were transferred to new test solutions. Young were discarded after counting. A summary of the chronic testing protocols can be found in Attachment A. The results of the chronic toxicity tests at weekly intervals (days 7, 14, 21, 28 and 35) can be found in Tables 1 and 2. Raw data sheets and statistical analysis are found in Attachment B.

Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	90	26.1
0.25	100	21.4
0.5	80	17.1
0.75	90	18.6
1.0	100	18.3
1.25	90	13.7*
1.5	80	8.9*
1.75	70	2.2*
2	70	0.9*
2.25	40	0.5*
2.5	30	0*
2.75	0*	0*

\* statistically significant at 0.05

Table 3: 25 ° NaCl Ceriodaphnia dubia – Day 14

Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	60	64.8
0.25	50	57.1
0.5	40	44.4
0.75	60	52
1.0	50	57.2
1.25	40	28.1*
1.5	40	22.4*
1.75	20	10.1*
2	60	6.8*
2.25	10	5*
2.5	0*	0*
2.75	0*	0*

\* statistically significant at 0.05

Concentrations at which there was a significant survival effect were not included in the analysis of the reproduction NOEC per EPA protocols.

Table 4: 25 ° NaCl Ceriodaphnia dubia – Day 21

Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	10	83
0.25	20	71.4
0.5	20	57.7
0.75	10	65.8
1.0	30	57.2
1.25	0	32.3*
1.5	20	27*
1.75	10	12*
2	40	10*
2.25	0*	5*
2.5	0*	0*
2.75	0*	0*

\* statistically significant at 0.05

Concentrations at which there was a significant survival effect were not included in the analysis of the reproduction NOEC per EPA protocols.



<b>Table 5: 25 ° NaCl Ceriodaphnia dubia – Day 28</b>		
Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	0	83.7
0.25	0	72.1
0.5	0	60.0
0.75	0	66.6
1.0	0	57.9
1.25	0	32.3
1.5	0	27.7
1.75	0	12
2	0	10
2.25	0	5
2.5	0	0
2.75	0	0
No statistics run due to full mortality		

<b>Table 6: 25 ° NaCl Ceriodaphnia dubia – Day 35</b>		
Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	0	83.7
0.25	0	72.1
0.5	0	60.0
0.75	0	66.6
1.0	0	57.9
1.25	0	32.3
1.5	0	27.7
1.75	0	12
2	0	10
2.25	0	5
2.5	0	0
2.75	0	0
No statistics run due to full mortality		

<b>Table 7: 10 ° NaCl Ceriodaphnia dubia – Day 7</b>		
Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	100	0
0.25	100	0
0.5	90	0
0.75	100	0
1.0	100	0
1.25	100	0
1.5	100	0
1.75	90	0
2	100	0
2.25	60	0
2.5	0*	0
2.75	0*	0

\* statistically significant at 0.05

<b>Table 8: 10 ° NaCl Ceriodaphnia dubia – Day 14</b>		
Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	100	0
0.25	100	0
0.5	90	0
0.75	100	0
1.0	100	0
1.25	100	0
1.5	100	0
1.75	90	0
2	70	0
2.25	40*	0
2.5	0*	0
2.75	0*	0

\* statistically significant at 0.05

Table 9: 10<sup>-6</sup> NaCl Ceriodaphnia dubia – Day 21

Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	100	2.3
0.25	100	3.7
0.5	90	2.4
0.75	90	1.2
1.0	100	2.1
1.25	100	1.4
1.5	100	0.1*
1.75	90	0*
2	70	0.2*
2.25	20*	0*
2.5	0	0*
2.75	0	0*

\* statistically significant at 0.05

Concentrations at which there was a significant survival effect were not included in the analysis of the reproduction NOEC per EPA protocols.

Table 10: 10<sup>-6</sup> NaCl Ceriodaphnia dubia – Day 28

Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	100	4.1
0.25	100	6.4
0.5	80	3.9
0.75	70	2.4
1.0	100	2.6
1.25	80	1.7
1.5	100	0.4*
1.75	90	0*
2	70	0.2*
2.25	20*	0*
2.5	0	0*
2.75	0	0*

\* statistically significant at 0.05

Concentrations at which there was a significant survival effect were not included in the analysis of the reproduction NOEC per EPA protocols.

<b>Table 11: 10 °C NaCl Ceriodaphnia dubia – Day 35</b>		
Concentration (g/L)	Survival (%)	Reproduction (young/female)
0 (Control)	90	6.9
0.25	100	8.7
0.5	80	5.1
0.75	70	4.2
1.0	100	4.2
1.25	80	2.9
1.5	100	0.4*
1.75	90	0*
2	60	0.2*
2.25	20*	0*
2.5	0	0*
2.75	0	0*

\* statistically significant at 0.05

Concentrations at which there was a significant survival effect were not included in the analysis of the reproduction NOEC per EPA protocols.

**Table 12: 25 °C NaCl Ceriodaphnia dubia Chronic Test Results**

Test duration	Survival LC50	Survival NOEC	Reproduction NOEC
7 days	2.16	2.5	1.0
14 days	1.81	2.25	1.0
21 days	2.08	2.0	1.0
28 days	N/A	N/A	N/A
35 days	N/A	N/A	N/A

LC50 = concentration at which it is estimated that 50% of the organisms will die  
NOEC = no-observable effect concentration, the highest concentration at which there is no statistical reduction

**Table 13: 10 °C NaCl Ceriodaphnia dubia Chronic Test Results**

Test duration	Survival LC50	Survival NOEC	Reproduction NOEC
7 days	2.17	2.25	N/A (no reproduction)
14 days	2.12	2.0	N/A (no reproduction)
21 days	2.08	2.0	1.25
28 days	2.12	2.0	1.25
35 days	2.09	2.0	1.25

LC50 = concentration at which it is estimated that 50% of the organisms will die  
NOEC = no-observable effect concentration, the highest concentration at which there is no statistical reduction

**Quality Assurance**

Reference toxicant tests are conducted monthly for all routine in house organisms and test types to verify health of the organism. Results of the reference toxicant testing for the appropriate months during which this testing was performed can be found below in Table 14, and the reference toxicant summation charts can be found in Attachment C.

**Table 14: Reference Toxicant Data**

Test Species	Test Type	Test Date	Result	Within $\pm 2$ Std Dev range?
<i>C.dubia</i>	Chronic	9/5/17	IC25 = 1.06 g/L	Yes
<i>C.dubia</i>	Acute	11/1/17	LC50 = 1.23 g/L	Yes

**Conclusions (re: experimental chronic test)**

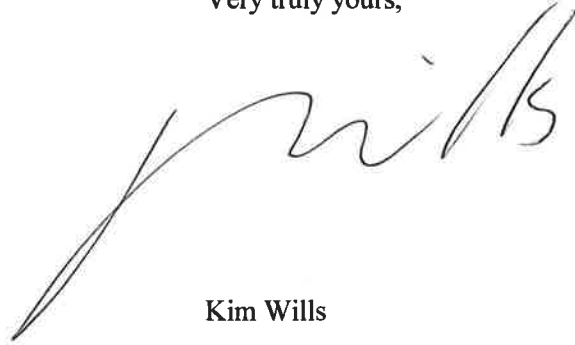
Both the 10 degree and 25 degree tests showed similar survival LC50 and survival NOEC results at days 7, 14 and 21. However the actual percent survival in each concentration by day 14 showed an increase in mortality in the 25 degree test compared with the 10 degree test. At day 14, survival in the 0-1.75 g/L concentrations in the 10 degree test was  $\geq 90\%$ , where in the 25 degree test survival in the 0-1.75 g/L concentrations was only between 40-60%. A downward trend of mortality increased quickly in the 25 degree test with the highest test concentration survival at day 21 being 40%, with 100% mortality in all test concentrations noted by day 28. While the 10 degree test did experience complete mortality in the higher test concentrations, overall survival was much higher than the 25 degree test. Whereas even the control and lowest test concentrations had 0% survival in the 25 degree test by day 35, survival in the 0 – 1.75 g/L test concentrations in the 10 degree test was still between 70 – 100% at day 35. This might suggest that the lower test temperature was responsible for increased survival.

While the 10 degree test displayed a higher survival rate, it displayed a much lower reproduction rate than the 25 degree test. Reproduction began at day 3 in the 25 degree test, while reproduction did not begin until day 15 in the 10 degree test. The number of young per female produced was also much lower in the 10 degree test than the 25 degree test. At the end of 35 days, the young/female averages in the 25 degree test were 83.7, 72.1, 60.0, 66.6, 57.9, 32.3, 27.7, 12, 10, 5, 0, 0, respectively, in the 0, 0.25 g/L, 0.5 g/L, 0.75 g/L, 1.0 g/L, 1.25 g/L, 1.5 g/L, 1.75 g/L, 2.0 g/L, 2.25 g/L, 2.5 g/L and 2.75 g/L NaCl test concentrations. At the end of 35 days, the young/female averages in the 10 degree test were 6.9, 8.7, 5.1, 4.2, 4.2, 2.9, 0.4, 0, 0.2, 0, 0 and 0, respectively.

Technicians observed that the Ceriodaphnia in the 10 degree test often appeared smaller than they would normally appear in a standard 7-day, 25 degree chronic toxicity test. Also starting around day 12 it was often noted that the adults had a “fungus-like growth” on their bodies that was not noted on the organisms in the 25 degree test. It is not clear if this was actually fungus or another material. It is possible that since the adults in the 10 degree test remained small, and did not frequently reproduce, that they shed their carapace much less often which allowed material to build-up on the outside of it.

If you have any questions concerning this report, please contact the Lab Manager, Kim Wills at (860) 858-3153 or [kimberly.wills@gza.com](mailto:kimberly.wills@gza.com)

Very truly yours,

A handwritten signature in black ink, appearing to read 'Kim Wills', written in a cursive style.

**Kim Wills**

**Manager – Aquatic Toxicity Laboratory**

Attachment A

Chronic Toxicity Test Protocol Summary



**Test Reference Manual:** EPA 821-R-02-013, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms", Fourth Edition

**Test Method:** *Ceriodaphnia dubia* Survival and Reproduction Test – 1002.0

**Test Type:** Modified Chronic Static Renewal Freshwater Test

**Temperature :** 25 ± 1°C and 10 ± 1°C

**Light Quality:** Ambient Laboratory Illumination

**Photoperiod:** 16 hours light, 8 hours dark

**Test Chamber Size:** 30 mL

**Test Solution Volume:** Minimum 15 mL

**Renewal of Test Solutions:** Daily, using most recent sample

**Age of Test Organisms:** Less than 24 hours

**Number of Neonates  
Per Test Chamber:** 1

**Number of Replicate Test  
Chambers Per Treatment:** 10

**Number of Neonates Per  
Test Concentration:** 10

**Feeding Regime:** Fed 0.1 mL each of YCT and algal suspension per exposure chamber daily.

**Aeration:** None

**Dilution Water:** Moderately hard synthetic freshwater

**Test Duration:** Until 60% of control females have three broods - 7 days

**End Points:** Survival and reproduction.

**Test Acceptability:** Control Survival: ≥ 80% Yes  No   
Control Reproduction: Average ≥ 15/control female Yes  No

**Test Organism Source:** New England Bioassay in-house cultures

**Test Reference Manual:** EPA 821-R-02-012, "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater Organisms and Marine Organisms", Fifth Edition

**Test Method:** *Ceriodaphnia dubia* Acute Toxicity Test – Method 2002.0

**Test Type:** Acute Static Non-Renewal Freshwater Test

**Temperature :** 25 ± 1°C and 10 ± 1°C

**Light Quality:** Ambient Laboratory Illumination

**Photoperiod:** 16 hours light, 8 hours dark

**Test Chamber Size:** 30 mL

**Test Solution Volume:** Minimum 25 mL

**Age of Test Organisms:** 1-24 hours (neonates)

**Number of Daphnids Per Test Chamber:** 5

**Number of Replicate Test Chambers Per Treatment:** 4

**Total Number of Daphnids Per Test Concentration:** 20

**Feeding Regime:** Fed YCT and *Selanastrum* while holding prior to initiating test as per manual.

**Aeration:** None

**Dilution Water:** Moderately hard synthetic freshwater

**Test Duration:** 48 hours

**Effect measured:** Mortality – no movement of body/appendages on gentle prodding.

**Test Acceptability:** ≥ 90% survival of test organisms in control solution Yes X No \_

**Test Organism Source:** New England Bioassay in-house cultures

**NEW ENGLAND BIOASSAY ACUTE TOXICITY DATA FORM COVER SHEET**

CLIENT: Huff and Huff  
 ADDRESS: 915 Harger Road, Suite 330  
Oak Brook, IL 60523-1486  
 SAMPLE TYPE: 10 °C Sodium Chloride

C.dubia TEST ID: 17-1702

**TEST SOLUTION PREPERATION**

Test Sol'n Vol: 200 ml  
 Control: 0 ml  
 2.0 g/L 4 ml  
 2.25 g/L 4.5 ml  
 2.5 g/L 5 ml  
 2.75 g/L 5.5 ml  
 3.0g/L 6 ml  
 3.25 g/L 6.5 ml  
 3.5 g/L 7 ml  
 3.75 g/L 7.5 ml  
 4.0 g/L 8 ml  
 4.25 g/L 8.5 ml

NaCl Lot Number: NaCl17(11-8)  
 NaCl Stock Concentration: 100g/L  
 Stock Solution Volume: 1000 ml  
 NaCl Calculated: 100 g  
 NaCl Weighed: 100.004 g

**DILUTION WATER: MODERATELY HARD RECONSTITUTED FRESHWATER**

MHRFC Lot # C37-MH033  
 Hardness 84 mg/L as CaCO<sub>3</sub>  
 Alkalinity 60 mg/L as CaCO<sub>3</sub>

**Invertebrate**

Type of Test Definitive  
 Test Species Ceriodaphnia dubia  
 NEB Lot# Cd17(11-3)  
 Age <24 hours

START DATE: 11/8/17 AT 1330  
 END DATE: 11/10/17 AT 1328

TEST SOLUTION VOLUME 30 ml  
 # ORGANISMS PER TEST CHAMBER 5  
 # ORGANISMS PER CONCENTRATION 20  
 # ORGANISMS PER CONTROL 20

TEST SETUP TECHNICIAN: KO

**RESULTS OF *Ceriodaphnia dubia* 48 hr LC50 Test**

Method	LC50 (g/L)	95% Confidence Limits (g/L)
Binomial	3.62	3.56 - 3.83
Probit		
Trimmed Spearman Karber		
NOAEL	3.0	

NOAEL: No Observed Acute Effect Level

Comments:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REVIEWED BY: [Signature] DATE: 11/13/17

**NEW ENGLAND BIOASSAY**

**Toxicity Test Data Sheet**

NEB Test #: 17-1702

Organism Age: <24 hours

Facility Name: New England Bioassay

Test Duration: 48 (hours)

Test Organism: Ceriodaphnia dubia

Beginning Date: 11/8/17 Time: 1330

Sample ID: 10 °C Sodium Chloride

Dilution Water Source: Moderately Hard Lab Water

Dilution Hardness: 84 ppm as CaCO<sub>3</sub>

NaCl Conc. g/L	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH		
	KO	TBP	CB	KO	TBP	CB	KO	TBP	CB	KO	TBP	CB
Initials	0	24	48	0	24	48	0	24	48	0	24	48
Control A	5	5	5	9.0	10.8	10.7	11.0	11.0	11.0	8.1	7.9	7.8
B	5	5	5			10.6			11.0			7.9
C	5	5	5			10.8			11.0			7.9
D	5	5	5			10.8			11.0			8.0
2.0 g/L A	5	5	5	9.1	10.9	10.9	11.0	11.0	11.0	8.0	8.0	7.9
B	5	5	5			10.9			11.0			7.9
C	5	5	5			10.9			11.0			7.9
D	5	5	5			10.9			11.0			7.9
2.25 g/L A	5	5	4	9.1	10.9	11.0	11.0	11.0	11.0	8.0	8.0	7.9
B	5	5	5			10.9			11.0			7.9
C	5	5	5			10.9			11.0			7.9
D	5	5	5			10.9			11.0			7.9
2.5 g/L A	5	5	5	9.2	10.9	10.9	11.0	11.0	11.0	8.0	8.0	7.9
B	5	5	5			10.9			11.0			7.9
C	5	5	5			10.9			11.0			7.9
D	5	5	5			10.8			11.0			7.9
2.75 g/L A	5	5	5	9.1	11.8	10.9	11.0	11.0	11.0	8.0	8.0	7.9
B	5	5	4			10.9			11.0			7.9
C	5	5	4			10.7			11.0			7.9
D	5	5	4			10.8			11.0			8.0
3.0 g/L A	5	5	5	9.1	10.9	10.7	11.0	11.0	11.0	8.0	8.0	7.9
B	5	5	3			10.7			11.0			7.9
C	5	5	4			10.7			11.0			7.9
D	5	4	4			10.7			11.0			7.9

LC50	Confidence Interval	A-NOEC	Computational Method
3.62	3.56 - 3.83	3.0	Binomial

**NEW ENGLAND BIOASSAY**

**Toxicity Test Data Sheet**

NEB Test #: 17-1702

Organism Age: <24 hours

Facility Name: New England Bioassay

Test Duration: 48 (hours)

Test Organism: Ceriodaphnia dubia

Beginning Date: 11/8/17 Time: 1330

Sample ID: 10 °C Sodium Chloride

Dilution Water Source: Moderately Hard Lab Water

Dilution Hardness: 84 ppm as CaCO<sub>3</sub>

NaCl Conc. g/L	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH			
	Initials	KO	TBP	CB	KO	TBP	CB	KO	TBP	CB	KO	TBP	CB
		0	24	48	0	24	48	0	24	48	0	24	48
3.25 g/L A		5	3	3	9.7	11.1	10.6	11.0	11.0	11.0	8.0	7.8	7.7
B		5	3	3			10.5			11.0			7.8
C		5	3	3			10.6			11.0			7.8
D		5	4	4			10.8			11.0			7.8
3.5 g/L A		5	3	3	9.7	11.1	10.9	11.0	11.0	11.0	8.0	7.8	7.8
B		5	4	4			10.9			11.0			7.8
C		5	5	5			10.9			11.0			7.8
D		5	4	3			10.9			11.0			7.9
3.75 g/L A		5	1	1	9.7	11.2	10.8	11.0	11.0	11.0	8.0	7.8	7.9
B		5	3	3			10.9			11.0			7.9
C		5	1	1			10.9			11.0			7.9
D		5	1	1			10.9			11.0			7.9
4.0 g/L A		5	0	0	9.6	11.1	10.9	11.0	11.0	11.0	8.0	7.8	7.9
B		5	1	1			10.9			11.0			7.9
C		5	1	1			10.9			11.0			7.9
D		5	1	1			11.0			11.0			7.9
4.25 g/L A		5	1	0	9.5	11.1	11.0	11.0	11.0	11.0	8.0	7.8	7.9
B		5	0	0			10.9			11.0			7.9
C		5	0	0			10.9			11.0			7.9
D		5	2	0			11.0			11.0			7.9

LC50	Confidence Interval	A-NOEC	Computational Method
3.62	3.56 - 3.83	3.0	Binomial













**NEW ENGLAND BIOASSAY ACUTE TOXICITY DATA FORM COVER SHEET**

CLIENT: Huff and Huff  
 ADDRESS: 915 Harger Road, Suite 330  
Oak Brook, IL 60523-1486  
 SAMPLE TYPE: 25 °C Sodium Chloride

C.dubia TEST ID: 17-1703

**TEST SOLUTION PREPERATION**

Test Sol'n Vol: 200 ml  
 Control: 0 ml  
 0.25 g/L: 0.5 ml  
 0.5 g/L: 1 ml  
 0.75 g/L: 1.5 ml  
 1.0 g/L: 2 ml  
 1.25 g/L: 2.5 ml  
 1.5 g/L: 3 ml  
 1.75 g/L: 3.5 ml  
 2.0 g/L: 4 ml

NaCl Lot Number: NaCl17(11-8)  
 NaCl Stock Concentration: 100g/L  
 Stock Solution Volume: 1000 ml  
 NaCl Calculated: 100 g  
 NaCl Weighed: 100.004 g

**DILUTION WATER: MODERATELY HARD RECONSTITUTED FRESHWATER**

MHRCF Lot # C37-MH033  
 Hardness 84 mg/L as CaCO<sub>3</sub>  
 Alkalinity 60 mg/L as CaCO<sub>3</sub>

**Invertebrate**

Type of Test Definitive  
 Test Species Ceriodaphnia dubia  
 NEB Lot# Cd17(11-8)  
 Age <24 hours

START DATE: 11/8/17 AT 1308  
 END DATE: 11/10/17 AT 1301  
 TEST SETUP TECHNICIAN: KO

TEST SOLUTION VOLUME 30 ml  
 # ORGANISMS PER TEST CHAMBER 5  
 # ORGANISMS PER CONCENTRATION 20  
 # ORGANISMS PER CONTROL 20

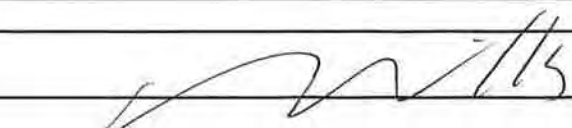
**RESULTS OF *Ceriodaphnia dubia* 48 hr LC50 Test**

Method	LC50 (g/L)	95% Confidence Limits (g/L)
Binomial		
Probit	1.92	1.67 - 3.05
Trimmed Spearman Karber		
NOAEL	1.25	

NOAEL: No Observed Acute Effect Level

Comments:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REVIEWED BY:  DATE: 11/13/17

**NEW ENGLAND BIOASSAY**

**Toxicity Test Data Sheet**

NEB Test #: 17-1703

Organism Age: <24 hours

Facility Name: New England Bioassay

Test Duration: 48 (hours)

Test Organism: Ceriodaphnia dubia

Beginning Date: 11/8/17 Time: 1308

Sample ID: 25 °C Sodium Chloride

Dilution Water Source: Moderately Hard Lab Water

Dilution Hardness: 84 ppm as CaCO<sub>3</sub>

NaCl Conc. g/L	Number of Surviving Organisms			Dissolved Oxygen (mg/L)			Temperature (°C)			pH		
	KO	PD	CB	KO	PD	CB	KO	PD	CB	KO	PD	CB
Initials	0	24	48	0	24	48	0	24	48	0	24	48
Control A	5	5	5	8.6	8.2	8.2	24.2	25.4	24.8	8.1	7.7	8.0
B	5	5	4			8.2			24.8			8.0
C	5	5	5			8.2			24.8			8.0
D	5	5	5			8.2			24.9			8.1
0.25 g/L A	5	5	5	8.4	8.3	8.2	24.2	25.5	25.1	8.0	7.8	7.3
B	5	5	4			8.2			25.2			7.4
C	5	5	5			8.2			25.2			7.4
D	5	5	4			8.2			25.1			7.4
0.5 g/L A	5	5	4	8.3	8.2	8.2	24.2	25.9	25.3	8.0	7.9	7.4
B	5	5	4			8.2			25.3			7.4
C	5	4	4			8.2			25.3			7.4
D	5	4	4			8.2			25.2			7.4
0.75 g/L A	5	5	5	8.3	8.2	8.2	24.4	26.0	25.3	8.0	7.9	7.4
B	5	5	5			8.1			25.3			7.4
C	5	5	4			8.1			25.3			7.4
D	5	5	5			8.1			25.2			7.5
1.0 g/L A	5	4	3	8.2	8.2	8.2	24.2	25.6	25.2	8.0	7.9	7.5
B	5	4	4			8.2			25.1			7.5
C	5	3	3			8.2			25.1			7.5
D	5	5	5			8.2			25.1			7.5
1.25 g/L A	5	4	3	8.3	8.3	8.2	24.2	25.3	25.5	8.0	7.8	7.5
B	5	5	4			8.2			25.4			7.5
C	5	5	5			8.2			25.3			7.5
D	5	5	5			8.2			25.2			7.5

LC50	Confidence Interval	A-NOEC	Computational Method
1.92	1.67 - 3.05	1.25	Probit



**Ceriodaphnia 48-h Acute Survival Test** New England Bioassay

<b>Analysis ID:</b> 03-1668-1515	<b>Endpoint:</b> 48h Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 10 Nov-17 15:35	<b>Analysis:</b> Linear Regression (GLM)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 06-3617-6968	<b>Test Type:</b> Survival (48h)	<b>Analyst:</b>
<b>Start Date:</b> 08 Nov-17 13:08	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 10 Nov-17 13:01	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 48h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 12-7305-7775	<b>Code:</b> 4BE151EF	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Nov-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Nov-17	<b>Source:</b> Huff & Huff	
<b>Sample Age:</b> 13h	<b>Station:</b>	

**Linear Regression Options**

Model Name	Link Function	Threshold Option	Thresh	Optimized	Pooled	Het Corr	Weighted
Log-Normal (Probit)	$\eta = \text{inv } \Phi[\pi]$	Control Threshold	0.05	Yes	No	No	Yes

**Regression Summary**

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision( $\alpha$ :5%)
18	-38.92	84.59	88.59	0.2826	0.1518	0.8035	1.601	2.459	0.1852	Non-Significant Lack of Fit

**Point Estimates**

Level	gm/L	95% LCL	95% UCL
LC50	1.917	1.666	3.045

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.95	0.9	>>	Yes	Passes Criteria

**Regression Parameters**

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision( $\alpha$ :5%)
Threshold	0.1135	0.03553	0.04391	0.1832	3.196	0.0031	Significant Parameter
Slope	6.587	2.644	1.406	11.77	2.492	0.0179	Significant Parameter
Intercept	-1.862	0.6307	-3.098	-0.6256	-2.952	0.0058	Significant Parameter

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision( $\alpha$ :5%)
Model	103.7	51.87	2	72.55	<1.0E-37	Significant
Lack of Fit	6.192	1.032	6	1.601	0.1852	Non-Significant
Pure Error	17.4	0.6444	27			
Residual	23.59	0.7149	33			

**Residual Analysis**

Attribute	Method	Test Stat	Critical	P-Value	Decision( $\alpha$ :5%)
Goodness-of-Fit	Pearson Chi-Sq GOF Test	23.59	47.4	0.8863	Non-Significant Heterogeneity
	Likelihood Ratio GOF Test	30.57	47.4	0.5885	Non-Significant Heterogeneity
Variances	Mod Levene Equality of Variance	1.66	2.305	0.1545	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9181	0.9398	0.0110	Non-Normal Distribution
	Anderson-Darling A2 Normality Te	1.137	2.492	0.0057	Non-Normal Distribution



Ceriodaphnia 48-h Acute Survival Test

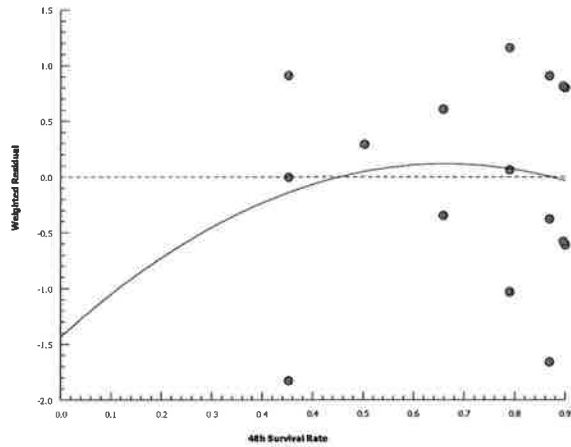
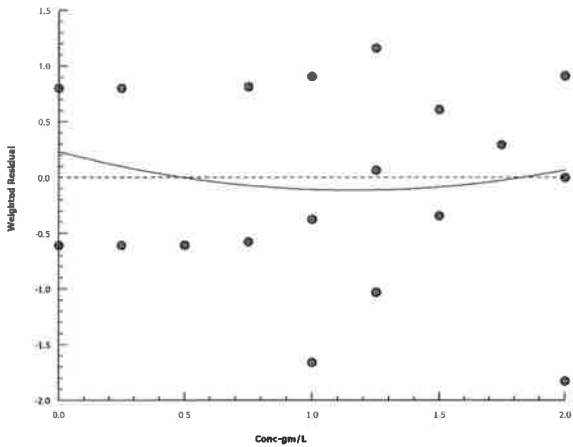
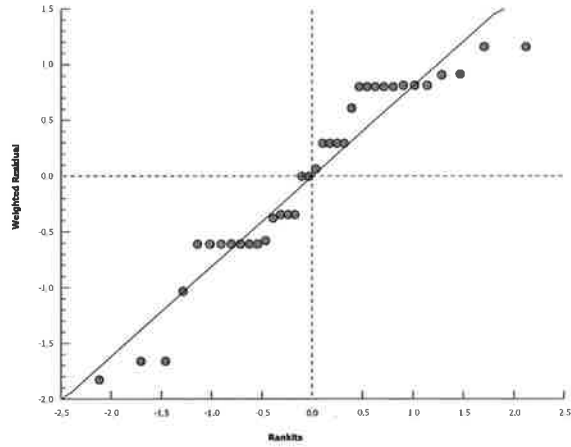
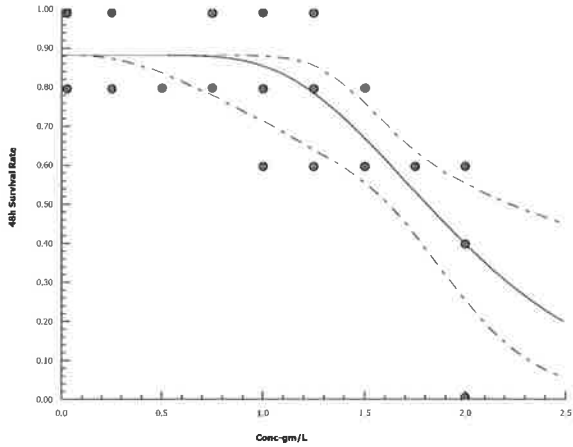
New England Bioassay

Analysis ID: 03-1668-1515 Endpoint: 48h Survival Rate  
Analyzed: 10 Nov-17 15:35 Analysis: Linear Regression (GLM)

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics

Log-Normal:  $\text{inv } \Phi[\pi] = \alpha + \beta \cdot \log[x]$





**Ceriodaphnia 48-h Acute Survival Test** New England Bioassay

<b>Analysis ID:</b> 08-6970-4039	<b>Endpoint:</b> 48h Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 10 Nov-17 15:35	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 06-3617-6968	<b>Test Type:</b> Survival (48h)	<b>Analyst:</b>
<b>Start Date:</b> 08 Nov-17 13:08	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 10 Nov-17 13:01	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 48h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 12-7305-7775	<b>Code:</b> 4BE151EF	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Nov-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Nov-17	<b>Source:</b> Huff & Huff	
<b>Sample Age:</b> 13h	<b>Station:</b>	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Angular (Corrected)	C > T	1.25	1.5	1.369		25.55%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-gm/L	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	0.5217	2.511	0.287	6	CDF	0.7205	Non-Significant Effect
		0.5	1.565	2.511	0.287	6	CDF	0.2605	Non-Significant Effect
		0.75	0	2.511	0.287	6	CDF	0.8889	Non-Significant Effect
		1	2.012	2.511	0.287	6	CDF	0.1291	Non-Significant Effect
		1.25	1.006	2.511	0.287	6	CDF	0.5014	Non-Significant Effect
		1.5*	3.018	2.511	0.287	6	CDF	0.0166	Significant Effect
		1.75*	3.502	2.511	0.287	6	CDF	0.0052	Significant Effect
		2*	5.831	2.511	0.287	6	CDF	1.3E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.95	0.9	>>	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	1.52651	0.190814	8	7.326	3.7E-05	Significant Effect
Error	0.703273	0.0260472	27			
Total	2.22978		35			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Levene Equality of Variance Test	3.392	3.256	0.0080	Unequal Variances
Variances	Mod Levene Equality of Variance Test	1.545	3.256	0.1886	Equal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9602	0.9166	0.2185	Normal Distribution

**48h Survival Rate Summary**

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	0.00%
0.25		4	0.9000	0.7163	1.0000	0.9000	0.8000	1.0000	0.0577	12.83%	5.26%
0.5		4	0.8000	0.7997	0.8003	0.8000	0.8000	0.8000	0.0000	0.00%	15.79%
0.75		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	0.00%
1		4	0.7500	0.4453	1.0000	0.7000	0.6000	1.0000	0.0957	25.53%	21.05%
1.25		4	0.8500	0.5453	1.0000	0.9000	0.6000	1.0000	0.0957	22.53%	10.53%
1.5		4	0.6500	0.4909	0.8091	0.6000	0.6000	0.8000	0.0500	15.38%	31.58%
1.75		4	0.6000	0.5998	0.6002	0.6000	0.6000	0.6000	0.0000	0.00%	36.84%
2		4	0.3500	0.0000	0.7504	0.4000	0.0000	0.6000	0.1258	71.90%	63.16%



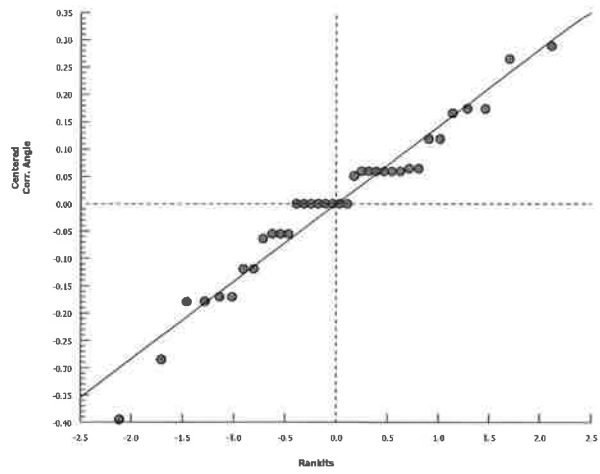
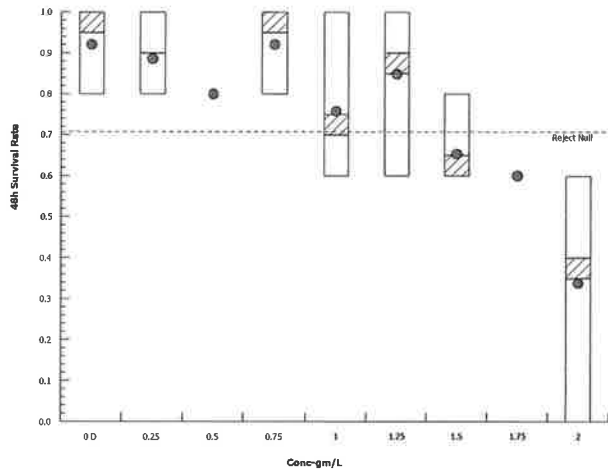
Ceriodaphnia 48-h Acute Survival Test

New England Bioassay

Analysis ID: 08-6970-4039      Endpoint: 48h Survival Rate  
Analyzed: 10 Nov-17 15:35      Analysis: Parametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics



NEW ENGLAND BIOASSAY TOXICITY DATA FORM

**CHRONIC COVER SHEET**

CLIENT: GZA / Huff & Huff  
 ADDRESS: 915 Harger Road Suite 330  
Oak Brook, IL 60523  
 SAMPLE TYPE: NaCl 25°C  
 DILUTION WATER: Moderately Hard Synthetic

*C.dubia* TEST ID # 17-1481  
 COC # N/A  
 PROJECT # 81.0220523.00

INVERTEBRATES

TEST SET UP (TECH INIT) TBP  
 TEST SPECIES *Ceriodaphnia dubia*  
 NEB LOT# Cd17(RMH 171)  
 AGE < 24 hours  
 TEST SOLUTION VOLUME (mls) 15  
 NO. ORGANISMS PER TEST CHAMBER 1  
 NO. ORGANISMS PER CONCENTRATION 10

Laboratory Control Water (MHRCF)

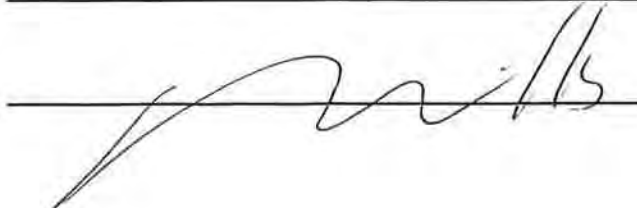
Batch Number	Hardness mg/L CaCO <sub>3</sub>	Alkalinity mg/L CaCO <sub>3</sub>
C37-MH020	84	60

	DATE	TIME
TEST START:	9/8/17	1146
TEST END:	10/13/17	1056

Comments:

\_\_\_\_\_  
 \_\_\_\_\_

REVIEWED BY:



DATE:

11/13/17

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST, BROOD DATA SHEET  
 Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	NEB TEST NUMBER:	17-1481
TEST ORGANISM:	<i>Ceriodaphnia dubia</i>	AGE:	<24 hours
START DATE:	9/8/17	TIME:	1146
END DATE:	10/13/17	TIME:	1056

Concentration	Culture Lot# Cd17(RMH 171)											Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
	Cup #	A1	A4	A5	A6	A7	A8	A9	A11	A12	B3				
	Day Number	Replicate													
	A	B	C	D	E	F	G	H	I	J					
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	TBP	
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	TBP	
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	TBP	
	3	4	4	6	5	3	4	5	4	4	4	43	10	KO	KO
	4	5	3	✓	✓	✓	✓	9	✓	7	✓	24	10	CB	CB
	5	✓	✓	9	6	5	5	✓	5	✓	5	35	10	CB	CB
	6	6	6	14	7	8	6	10	10	5	2/x	74	9	KO	KO
	7	10	10	13	2	8	8	13	12	9	X	85	9	CW	CW
	8	✓	✓	✓	6	✓	✓	14	✓	✓	X	20	9	CW	CW
	9	10	7	14	8	8	8	✓	7	8	X	70	9	KO	KO
	10	10	9	13	9	10	9	14	10	10	X	94	9	CB	CB
	11	5	10	9	1/x	11	2/x	14	13	10	X	75	7	KO	KO
	12	✓	✓	1	X	✓	X	12	10	8/x	X	31	6	KO	KO
	13	1	11	14	X	13	X	✓	✓	X	X	39	6	PD	PD
	14	✓	11	16	X	15	X	2	14	X	X	58	6	PD	PD
	15	1	13	16	X	13	X	10	13	X	X	66	6	PD	PD
	16	2	✓/x	✓	X	✓	X	✓	10	X	X	12	5	TBP	TBP
	17	✓	X	12	X	9	X	10	✓	X	X	31	5	KO	KO
	18	4	X	7/x	X	10	X	✓/x	12	X	X	33	3	KO	KO
	19	5	X	X	X	✓	X	X	13	X	X	18	3	CB	CB
	20	2	X	X	X	8/x	X	X	12	X	X	22	2	PD	PD
	21	✓/x	X	X	X	X	X	X	✓	X	X	0	1	KO	KO
	22	X	X	X	X	X	X	X	7/x	X	X	7	0	CB	CB
	23	X	X	X	X	X	X	X	X	X	X	0	0	CB	CB
	24	X	X	X	X	X	X	X	X	X	X	0	0	TBP	TBP
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	65	84	144	44	121	42	113	152	61	11	837	0		MG

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
0.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	3	5	✓	✓	✓	3	3	3	4	4	25	10		
	4	✓	4	8	5	4	✓	7	4	7	✓	39	10		
	5	5	✓	8	5	4	5	✓	✓	✓	5	32	10		
	6	8	6	13	4	8	5	9	6	7	2	68	10		
	7	✓	10	✓	✓	✓	2	12	10	10	6	50	10		
	8	10	✓	14	6	9	8/x	✓	✓	✓/x	✓	47	8		
	9	7	7	14	x/5	5	X	11	7	X	8	64	7		
	10	10	11	18	X	7	X	10	11	X	2	69	7		
	11	✓	9	✓/x	X	✓	X	10	9	X	8	36	6		
	12	8	✓	X	X	10	X	✓	9	X	✓	27	6		
	13	7	13	X	X	11	X	18	3	X	9/x	61	5		
	14	✓	13	X	X	12	X	18	10	X	X	53	5		
	15	12	✓	X	X	✓	X	13	9	X	X	34	5		
	16	9/x	4	X	X	10	X	✓	6	X	X	29	4		
	17	X	4	X	X	10	X	3	✓	X	X	17	4		
	18	X	5	X	X	10	X	4	5	X	X	24	4		
	19	X	✓	X	X	✓	X	✓/x	7	X	X	7	3		
	20	X	3	X	X	13	X	X	5	X	X	21	3		
	21	X	✓/x	X	X	11	X	X	✓	X	X	11	2		
	22	X	X	X	X	✓	X	X	✓/x	X	X	0	1		
	23	X	X	X	X	7	X	X	X	X	X	7	1		
	24	X	X	X	X	✓/x	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	79	94	75	25	131	23	118	104	28	44	721			

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
		0	✓	✓	✓	✓	✓	✓	✓	✓	✓				
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
3	3	2	4	2	✓	X	3	2	4	3		23	9		
4	5	✓	✓	✓	3	X	4	✓	4	✓		16	9		
5	✓	4	10	3	5	X	✓	8	✓	6		36	9		
6	7	4	12	8	4	X	6/x	7	4	4		56	8		
7	8	✓	10	✓	✓	X	X	7	8	7		40	8		
8	✓	5	✓	10	9	X	X	✓	12	✓		36	8		
9	6	5	8	9	5	X	X	5	✓	6		44	8		
10	7	5	10	10	8	X	X	5	8	10		63	8		
11	9	✓	7	✓	✓/x	X	X	✓/x	10/x	7		33	5		
12	✓	7	✓	10	X	X	X	X	X	✓		17	5		
13	10	7	15	12/x	X	X	X	X	X	7		51	4		
14	10	✓	11	X	X	X	X	X	X	8		29	4		
15	10	4	13	X	X	X	X	X	X	10		37	4		
16	✓	3/x	✓	X	X	X	X	X	X	✓		3	3		
17	8	X	12	X	X	X	X	X	X	11		31	3		
18	8	X	10	X	X	X	X	X	X	10		28	3		
19	✓	X	✓/x	X	X	X	X	X	X	1		1	2		
20	12	X	X	X	X	X	X	X	X	9		21	2		
21	7	X	X	X	X	X	X	X	X	5		12	2		
22	✓	X	X	X	X	X	X	X	X	8		8	2		
23	7	X	X	X	X	X	X	X	X	✓		7	2		
24	3	X	X	X	X	X	X	X	X	5/x		8	1		
25	✓/x	X	X	X	X	X	X	X	X	X		0	0		
26	X	X	X	X	X	X	X	X	X	X		0	0		
27	X	X	X	X	X	X	X	X	X	X		0	0		
28	X	X	X	X	X	X	X	X	X	X		0	0		
29	X	X	X	X	X	X	X	X	X	X		0	0		
30	X	X	X	X	X	X	X	X	X	X		0	0		
31	X	X	X	X	X	X	X	X	X	X		0	0		
32	X	X	X	X	X	X	X	X	X	X		0	0		
33	X	X	X	X	X	X	X	X	X	X		0	0		
34	X	X	X	X	X	X	X	X	X	X		0	0		
35	X	X	X	X	X	X	X	X	X	X		0	0		
totals		120	46	122	64	34	0	13	34	50	117	600	0		



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
0.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓/X	✓	✓	✓	✓	✓	0	9		
	3	✓	3	5	4	X	2	2	3	3	3	25	9		
	4	✓	✓	✓	✓	X	✓	8	✓	✓	5	13	9		
	5	4	5	9	4	X	6	✓	6	6	✓	40	9		
	6	5	4	4	5	X	5	10	4	6	4	47	9		
	7	5	7	10	✓	X	✓	13	8	8	10	61	9		
	8	✓	✓	✓	6	X	6	✓	✓	✓	✓	12	9		
	9	1/x	4	11	6	X	5	9	4	4	5	49	8		
	10	X	9	7	9	X	5	9	5	8	11	63	8		
	11	X	11	7	10	X	✓	9	5	8	10	60	8		
	12	X	✓	1	✓	X	4	✓	3	7	✓/x	15	7		
	13	X	13	14	11	X	11	9	2	✓	X	60	7		
	14	X	15	10	11	X	10	6/x	10	13	X	75	6		
	15	X	✓/x	8	✓	X	✓	X	9	9	X	26	5		
	16	X	X	✓	10	X	7	X	7/x	10	X	34	4		
	17	X	X	✓	7	X	7	X	X	✓	X	14	4		
	18	X	X	✓/x	5	X	✓	X	X	11	X	16	3		
	19	X	X	X	✓	X	10	X	X	13	X	23	3		
	20	X	X	X	6	X	9	X	X	7	X	22	3		
	21	X	X	X	X	X	3	X	X	✓/x	X	3	1		
	22	X	X	X	X	X	✓	X	X	X	X	0	1		
	23	X	X	X	X	X	4	X	X	X	X	4	1		
	24	X	X	X	X	X	4/x	X	X	X	X	4	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	15	71	86	94	0	98	75	66	113	48	666	0		



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.0 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	2	4	5	2	3	3	4	4	3	3	33	10		
	4	5	4	✓	✓	✓	✓	8	✓	✓	3	20	10		
	5	✓	✓	9	5	4	4	✓	6	4	✓	32	10		
	6	6	3	5	4	4	3	9	4	4	3	45	10		
	7	5	7	4	8	✓	4	5	7	6	7	53	10		
	8	✓	✓	6	✓	4	✓	✓	✓/x	✓	3	13	9		
	9	5	7	7	6	5	5	7	X	4	3/x	49	8		
	10	7	6	4	8	5	4	2	X	8	X	44	8		
	11	11	6	9	4	3/x	5	4	X	8	X	50	7		
	12	10	2	✓	✓	X	4/x	✓	X	4	X	20	6		
	13	✓	✓	13	7	X	X	8/x	X	1	X	29	5		
	14	13	11	11	4	X	X	X	X	10	X	49	5		
	15	14	11	13	3	X	X	X	X	12	X	53	5		
	16	7	5	✓	✓/x	X	X	X	X	5	X	17	4		
	17	✓	✓	8	X	X	X	X	X	✓	X	8	4		
	18	9	4	6	X	X	X	X	X	5	X	24	4		
	19	6	3	✓/x	X	X	X	X	X	✓	X	9	3		
	20	10	✓	X	X	X	X	X	X	4	X	14	3		
	21	✓	6	X	X	X	X	X	X	4	X	10	3		
	22	✓/x	7	X	X	X	X	X	X	✓/x	X	7	1		
	23	X	✓	X	X	X	X	X	X	X	X	0	1		
	24	X	✓/x	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	110	86	100	51	28	32	47	21	82	22	579	0		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	3	✓	1	2	3	3	2	✓	1	✓	15	10		
	4	✓	5	✓	✓	✓	✓	6	3	4	3	21	10		
	5	4	3	6	6	5	4	✓	4	✓	✓	32	10		
	6	3	✓	4	3	5	1	4	4	1	3	28	10		
	7	6	3	8	1	6	✓/x	8	2	2	5	41	9		
	8	✓	5	✓	3	✓	X	✓	✓/x	5	✓	13	8		
	9	4	6	9	4/x	4	X	✓	X	✓	3/x	30	6		
	10	7	1	5	X	7	X	3	X	2	X	25	6		
	11	3/x	6	7	X	6/x	X	4	X	2	X	28	4		
	12	X	4	✓	X	X	X	4	X	2	X	10	4		
	13	X	9	8	X	X	X	✓	X	✓	X	17	4		
	14	X	✓	6	X	X	X	7	X	8	X	21	4		
	15	X	8	9	X	X	X	6	X	7	X	30	4		
	16	X	5	✓	X	X	X	✓	X	4	X	9	4		
	17	X	✓/x	2	X	X	X	✓/x	X	✓/x	X	2	1		
	18	X	X	1	X	X	X	X	X	X	X	1	1		
	19	X	X	✓	X	X	X	X	X	X	X	0	1		
	20	X	X	✓/x	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	30	55	66	19	36	8	44	13	38	14	323	0		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 23°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.5 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	1	2	✓	2	✓	✓	✓	✓	✓	5	10		
	4	✓	1/x	7	2	✓	✓	5	2	✓	2	19	9		
	5	1	X	✓	4	3	4	✓	3	3	✓	18	9		
	6	3	X	✓/x	2	5	2	1	2	4	3	22	8		
	7	4	X	X	✓	6	✓	5	✓	6	4	25	8		
	8	✓	X	X	✓/x	✓	3	5	3	✓	✓	11	7		
	9	3	X	X	X	3	1	3	2	3	3/x	18	6		
	10	5	X	X	X	5	5	6	5	3	X	29	6		
	11	3	X	X	X	5	✓	6	4	4	X	22	6		
	12	✓	X	X	X	✓/x	✓	✓	✓	5/x	X	5	4		
	13	5	X	X	X	X	9	9	6	X	X	29	4		
	14	7	X	X	X	X	5	5	4	X	X	21	4		
	15	5	X	X	X	X	2/x	6	6	X	X	19	3		
	16	✓	X	X	X	X	X	✓	✓	X	X	0	3		
	17	4	X	X	X	X	X	5	6/x	X	X	15	2		
	18	✓	X	X	X	X	X	5	X	X	X	5	2		
	19	✓	X	X	X	X	X	2	X	X	X	2	2		
	20	✓	X	X	X	X	X	✓	X	X	X	0	2		
	21	✓	X	X	X	X	X	5	X	X	X	5	2		
	22	✓	X	X	X	X	X	3	X	X	X	3	2		
	23	✓	X	X	X	X	X	✓	X	X	X	0	2		
	24	✓	X	X	X	X	X	1	X	X	X	1	2		
	25	✓	X	X	X	X	X	3	X	X	X	3	2		
	26	✓/x	X	X	X	X	X	✓/x	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	40	2	9	8	29	31	75	43	28	12	277			

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:

NaCl 25°C

NEB PROJECT NUMBER:

81.0220523.00

ORGANISM: *Ceriodaphnia dubia*

START DATE:

9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	√/x	✓	✓	✓	✓	0	9		
	3	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	0	9		
	4	✓	✓	2	✓	✓	X	√/x	✓	✓	✓	2	8		
	5	✓	✓	3	1	1	X	X	✓	√/x	✓	5	7		
	6	✓	✓	✓	✓	✓	X	X	1	X	1	2	7		
	7	✓	✓	6	6	1	X	X	✓	X	✓	13	7		
	8	1	1	✓	4	3	X	X	√/x	X	2	11	6		
	9	3	3	1	2	3	X	X	X	X	2	14	6		
	10	✓	1	6	✓	3	X	X	X	X	3	13	6		
	11	3	✓	✓	✓	2	X	X	X	X	2	7	6		
	12	√/x	√/x	✓	6	✓	X	X	X	X	✓	6	4		
	13	X	X	√/x	4	3	X	X	X	X	6	13	3		
	14	X	X	X	√/x	8	X	X	X	X	7	15	2		
	15	X	X	X	X	5	X	X	X	X	√/x	5	1		
	16	X	X	X	X	✓	X	X	X	X	X	0	1		
	17	X	X	X	X	✓	X	X	X	X	X	0	1		
	18	X	X	X	X	7	X	X	X	X	X	7	1		
	19	X	X	X	X	✓	X	X	X	X	X	0	1		
	20	X	X	X	X	4	X	X	X	X	X	4	1		
	21	X	X	X	X	3	X	X	X	X	X	3	1		
	22	X	X	X	X	✓	X	X	X	X	X	0	1		
	23	X	X	X	X	✓	X	X	X	X	X	0	1		
	24	X	X	X	X	√/x	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	7	5	18	23	43	0	0	1	0	23	120	0		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.0 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓/x	✓	✓	✓	✓	✓	✓	0	9		
	3	✓	✓	✓/x	X	✓	✓	✓	✓	✓	✓	0	8		
	4	✓	✓	X	X	✓	✓	✓	✓	✓	✓	0	8		
	5	✓	✓	X	X	✓	✓	✓	✓	✓	✓	0	8		
	6	1	✓	X	X	✓/x	✓	✓	✓	2	✓	3	7		
	7	✓	1	X	X	X	2	✓	3	✓	✓	6	7		
	8	✓	2	X	X	X	1	✓	✓	✓	✓	3	7		
	9	1	✓/x	X	X	X	2	✓	2	1	✓	6	6		
	10	✓	X	X	X	X	✓	✓	✓	3	2	5	6		
	11	2	X	X	X	X	✓	3	3	3	1	12	6		
	12	3	X	X	X	X	3	2	2	✓	✓	10	6		
	13	1	X	X	X	X	✓	✓	1	6	✓	8	6		
	14	✓	X	X	X	X	3	2	4	2	4	15	6		
	15	✓	X	X	X	X	✓	✓/x	✓	5	2	7	5		
	16	✓	X	X	X	X	✓	X	✓	✓	✓	0	5		
	17	✓/x	X	X	X	X	✓	X	✓	4	✓	4	4		
	18	X	X	X	X	X	✓	X	2	✓	✓	2	4		
	19	X	X	X	X	X	1	X	✓	3	3	7	4		
	20	X	X	X	X	X	2	X	✓	5	5	12	4		
	21	X	X	X	X	X	✓	X	✓	✓	✓	0	4		
	22	X	X	X	X	X	✓	X	✓	✓	✓	0	4		
	23	X	X	X	X	X	✓	X	✓	✓	✓	0	4		
	24	X	X	X	X	X	✓	X	✓	✓/x	✓	0	3		
	25	X	X	X	X	X	✓	X	✓	X	✓	0	3		
	26	X	X	X	X	X	✓/x	X	✓/x	X	✓/x	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	8	3	0	0	0	14	7	17	34	17	100	0		



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 23°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓/x	✓	✓	✓/x	✓/x	✓	✓	✓/x	✓/x	0	5		
	3	✓	X	✓	✓	X	X	✓	✓	X	X	0	5		
	4	✓	X	✓	✓	X	X	✓	✓	X	X	0	5		
	5	✓	X	✓	✓	X	X	✓/x	✓	X	X	0	4		
	6	✓	X	✓	2	X	X	X	✓	X	X	2	4		
	7	1	X	✓	2	X	X	X	✓	X	X	3	4		
	8	✓	X	✓	✓	X	X	X	✓	X	X	0	4		
	9	✓	X	✓	✓	X	X	X	✓	X	X	0	4		
	10	✓	X	✓	✓	X	X	X	✓	X	X	0	4		
	11	✓/x	X	✓	✓/x	X	X	X	✓	X	X	0	2		
	12	X	X	✓	X	X	X	X	✓/x	X	X	0	1		
	13	X	X	✓	X	X	X	X	X	X	X	0	1		
	14	X	X	✓	X	X	X	X	X	X	X	0	1		
	15	X	X	✓	X	X	X	X	X	X	X	0	1		
	16	X	X	✓	X	X	X	X	X	X	X	0	1		
	17	X	X	✓	X	X	X	X	X	X	X	0	1		
	18	X	X	✓	X	X	X	X	X	X	X	0	1		
	19	X	X	✓	X	X	X	X	X	X	X	0	1		
	20	X	X	✓/x	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	1	0	0	4	0	0	0	0	0	0	5	0		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 25°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.5 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓/x	✓/x	✓/x	✓/x	✓	✓	✓	✓		6		
	2	✓	✓	X	X	X	X	✓	✓	✓	✓	0	6		
	3	✓	✓	X	X	X	X	✓/x	✓/x	✓	✓	0	4		
	4	✓	✓	X	X	X	X	X	X	✓	✓/x	0	3		
	5	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	6	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	7	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	8	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	9	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	10	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	11	✓	✓	X	X	X	X	X	X	✓	X	0	3		
	12	✓	✓	X	X	X	X	X	X	✓/x	X	0	2		
	13	✓	✓	X	X	X	X	X	X	X	X	0	2		
	14	✓/x	✓/x	X	X	X	X	X	X	X	X	0	0		
	15	X	X	X	X	X	X	X	X	X	X	0	0		
	16	X	X	X	X	X	X	X	X	X	X	0	0		
	17	X	X	X	X	X	X	X	X	X	X	0	0		
	18	X	X	X	X	X	X	X	X	X	X	0	0		
	19	X	X	X	X	X	X	X	X	X	X	0	0		
	20	X	X	X	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	0	0	0	0	0	0	0	0	0	0	0	0		

NEW ENGLAND BIOASSAY CHRONIC TOXICITY TEST BROOD DATA SHEET

SAMPLE ID:		NaCl 25°C													
NEB PROJECT NUMBER:		81.0220523.00					ORGANISM: <i>Ceriodaphnia dubia</i>					START DATE:		9/8/17	
Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x	✓/x		0		
	2	X	X	X	X	X	X	X	X	X	X	0	0		
	3	X	X	X	X	X	X	X	X	X	X	0	0		
	4	X	X	X	X	X	X	X	X	X	X	0	0		
	5	X	X	X	X	X	X	X	X	X	X	0	0		
	6	X	X	X	X	X	X	X	X	X	X	0	0		
	7	X	X	X	X	X	X	X	X	X	X	0	0		
	8	X	X	X	X	X	X	X	X	X	X	0	0		
	9	X	X	X	X	X	X	X	X	X	X	0	0		
	10	X	X	X	X	X	X	X	X	X	X	0	0		
	11	X	X	X	X	X	X	X	X	X	X	0	0		
	12	X	X	X	X	X	X	X	X	X	X	0	0		
	13	X	X	X	X	X	X	X	X	X	X	0	0		
	14	X	X	X	X	X	X	X	X	X	X	0	0		
	15	X	X	X	X	X	X	X	X	X	X	0	0		
	16	X	X	X	X	X	X	X	X	X	X	0	0		
	17	X	X	X	X	X	X	X	X	X	X	0	0		
	18	X	X	X	X	X	X	X	X	X	X	0	0		
	19	X	X	X	X	X	X	X	X	X	X	0	0		
	20	X	X	X	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	0	0	0	0	0	0	0	0	0	0	0	0		



SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are judged to be smaller in size than adults of the same age observed in standard testing.

**CONCENTRATION: CONTROL**

DAY	OBSERVATION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
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32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.25 g/L

DAY	OBSERVATION
1	
2	
3	Rep F organism marked as dead on day 1 however organism was in cup with neonates.
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
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22	
23	
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26	
27	
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29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.5 g/L

DAY	OBSERVATION
1	
2	
3	Rep F organism/cup missing.
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
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22	
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24	
25	
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27	
28	
29	
30	
31	
32	
33	
34	
35	

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.75 g/L

DAY	OBSERVATION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	Organism missing from rep D, no cup.
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.0 g/L

DAY	OBSERVATION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
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32	
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34	
35	

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.25 g/L

DAY	OBSERVATION
1	
2	
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NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.5 g/L

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Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.75 g/L

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Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.0 g/L

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Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.25 g/L

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Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C Organisms are considered to be healthy and swimming normally unless otherwise  
 TEST DATE: 41524 noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.5 g/L

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NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 25°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: 41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.75 g/L

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## NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM			
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17 TIME: 1146	
ANALYST	TBP	TBP	TBP	CB	KO	ZM	KO	Remarks
NEB Lab Synthetic Control	1	2	3	4	5	6	7	Remarks
Temp °C Initial	24.6	24.2	24.1	24.9	25.1	25.4	24.5	
D.O. mg/L Initial	8.3	8.5	8.4	8.3	8.3	8.3	8.3	
pH s.u. Initial	7.9	7.9	8.0	7.7	7.7	7.9	7.4	
Conductivity µS Initial	337	324	324	321	330	342	328	
Temp °C Final	24.0	24.0	24.2	25.7	24.9	25.0	25.1	
D.O. mg/L Final	7.6	9.0	8.9	8.6	8.2	8.2	8.4	
pH s.u. Final	8.3	8.4	7.9	8.3	8.0	8.2	8.2	
Conductivity µS Final	376	391	371	373	387	372	360	
0.25 g/L	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	24.2	24.1	25.1	25.2	25.1	24.6	
D.O. mg/L Initial	8.3	8.4	8.4	8.3	8.3	8.3	8.2	
pH s.u. Initial	7.8	7.9	8.0	7.8	7.8	7.9	7.5	
Conductivity µS Initial	761	797	793	898	849	815	839	
Temp °C Final	24.0	24.0	24.3	25.8	24.8	24.9	25.2	
D.O. mg/L Final	8.3	9.0	8.9	8.7	8.3	8.2	8.7	
pH s.u. Final	8.4	8.5	8.1	8.3	8.1	8.2	8.2	
Conductivity µS Final	793	830	827	964	897	858	877	
0.5 g/L	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	24.2	24.2	25.2	25.2	25.4	24.6	
D.O. mg/L Initial	8.3	8.4	8.4	8.3	8.3	8.2	8.2	
pH s.u. Initial	7.8	8.0	8.0	7.9	7.8	8.0	7.5	
Conductivity µS Initial	1,301	1,291	1,305	1,366	1,391	1,333	1,249	
Temp °C Final	24.6	24.0	24.4	25.8	24.7	24.8	25.3	
D.O. mg/L Final	8.3	9.1	9.0	8.7	8.5	8.2	8.8	
pH s.u. Final	8.5	8.5	8.2	8.3	8.2	8.2	8.3	
Conductivity µS Final	1,332	1,306	1,331	1,428	1,428	1,373	1,284	
0.75 g/L	1	2	3	4	5	6	7	Remarks
Temp °C Initial	25.0	24.1	24.1	25.2	25.2	25.5	24.6	
D.O. mg/L Initial	8.3	8.4	8.4	8.3	8.3	8.2	8.2	
pH s.u. Initial	7.8	8.0	8.0	7.9	7.9	8.0	7.6	
Conductivity µS Initial	1,748	1,773	1,800	1,817	1,841	1,881	1,857	
Temp °C Final	24.7	24.0	24.3	25.9	24.6	24.8	25.2	
D.O. mg/L Final	8.2	9.1	9.0	8.8	8.6	8.3	8.9	
pH s.u. Final	8.5	8.6	8.3	8.3	8.2	8.2	8.3	
Conductivity µS Final	1,771	1,800	1,830	1,898	1,907	1,920	1,944	

## NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME:	1146
1.0 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.1	24.2	25.1	25.2	25.5	24.7	
D.O. mg/L	Initial	8.3	8.4	8.4	8.3	8.2	8.2	8.2	
pH s.u.	Initial	7.9	8.0	8.0	7.9	7.9	8.0	7.7	
Conductivity µS	Initial	2,260	2,211	2,253	2,252	2,262	2,272	2,278	
Temp °C	Final	24.7	24.1	24.3	25.4	24.7	24.7	25.2	
D.O. mg/L	Final	8.2	9.1	9.1	8.7	8.6	8.3	8.9	
pH s.u.	Final	8.5	8.5	8.3	8.3	8.2	8.2	8.2	
Conductivity µS	Final	2,287	2,232	2,272	2,279	2,278	2,303	2,472	
1.25 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.2	24.2	25.1	25.2	25.5	24.7	
D.O. mg/L	Initial	8.3	8.4	8.4	8.3	8.3	8.2	8.2	
pH s.u.	Initial	7.9	8.0	8.1	7.9	7.9	8.0	7.7	
Conductivity µS	Initial	2,766	2,761	2,270	2,828	2,737	2,790	2,815	
Temp °C	Final	24.7	24.2	24.3	25.5	24.6	24.7	25.2	
D.O. mg/L	Final	8.1	8.9	8.9	8.9	8.5	8.3	8.8	
pH s.u.	Final	8.4	8.5	8.2	8.3	8.2	8.2	8.2	
Conductivity µS	Final	2,902	2,783	2,848	2,861	2,791	2,814	3,129	
1.5 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.2	24.0	25.0	25.0	25.0	24.7	
D.O. mg/L	Initial	8.3	8.5	8.2	8.3	8.4	8.3	8.3	
pH s.u.	Initial	7.9	8.0	8.1	7.9	7.8	8.0	7.7	
Conductivity µS	Initial	3,205	3,240	3,227	3,274	3,179	3,136	3,261	
Temp °C	Final	24.0	24.8	24.3	25.6	24.6	25.0	25.3	
D.O. mg/L	Final	8.1	8.7	8.9	8.9	8.4	8.4	8.7	
pH s.u.	Final	8.4	3.4	8.2	8.4	8.2	8.1	8.2	
Conductivity µS	Final	3,480	3,224	3,258	3,310	3,220	3,219	3,492	
1.75 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.4	24.5	24.9	25.0	25.5	25.4	
D.O. mg/L	Initial	8.3	8.4	8.4	8.4	8.3	8.2	8.2	
pH s.u.	Initial	7.9	7.9	8.1	7.7	7.8	7.9	7.7	
Conductivity µS	Initial	3,527	3,520	3,634	3,608	3,742	3,702	3,711	
Temp °C	Final	24.0	24.7	24.6	26.0	25.3	25.2	25.6	
D.O. mg/L	Final	8.1	8.7	9.0	8.8	8.5	8.4	8.6	
pH s.u.	Final	8.4	8.3	8.3	8.3	8.2	8.2	8.2	
Conductivity µS	Final	3,670	3,587	3,754	3,730	3,790	3,699	3,713	

## NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM				
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17 TIME: 1146		
2.0 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.5	24.5	25.1	25.1	25.5	25.3	
D.O. mg/L	Initial	8.3	8.3	8.4	8.3	8.3	8.2	8.1	
pH s.u.	Initial	7.8	8.0	8.0	7.9	7.9	7.9	7.7	
Conductivity µS	Initial	4,121	4,140	4,078	4,128	4,179	4,045	4,186	
Temp °C	Final	24.0	24.5	24.5	25.4	25.4	25.3	25.6	
D.O. mg/L	Final	8.1	8.8	9.0	8.8	8.6	8.4	8.9	
pH s.u.	Final	8.4	8.3	8.3	8.3	8.2	8.2	8.2	
Conductivity µS	Final	4,260	4,142	4,133	4,200	4,160	4,052	4,424	
2.25 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.0	24.5	24.5	25.1	25.0	25.6	25.4	
D.O. mg/L	Initial	8.3	8.4	8.6	8.3	8.3	8.2	8.1	
pH s.u.	Initial	7.8	8.0	8.0	7.9	7.8	7.9	7.8	
Conductivity µS	Initial	4,641	4,480	4,595	4,577	4,572	4,531	4,603	
Temp °C	Final	24.0	24.9	24.4	26.0	25.2	25.3	25.6	
D.O. mg/L	Final	8.1	9.2	8.9	8.9	8.4	8.3	8.6	
pH s.u.	Final	8.4	8.6	8.3	8.3	8.2	8.2	8.3	
Conductivity µS	Final	4,600	4,556	4,650	4,710	4,590	4,656	4,606	
2.5 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.1	24.6	24.5	25.1	25.0	25.5	25.3	
D.O. mg/L	Initial	8.3	8.3	8.5	8.3	8.3	8.2	8.2	
pH s.u.	Initial	7.9	8.0	8.0	7.9	7.8	7.9	7.8	
Conductivity µS	Initial	5,085	5,060	4,969	5,071	5,044	5,061	5,167	
Temp °C	Final	24.0	24.8	24.5	25.5	25.3	25.3	25.6	
D.O. mg/L	Final	8.0	8.9	8.9	8.8	8.6	8.3	8.9	
pH s.u.	Final	8.4	8.4	8.3	8.3	8.3	8.2	8.3	
Conductivity µS	Final	5,096	4,958	5,073	5,030	5,050	5,042	5,766	
2.75 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	25.1	24.5						
D.O. mg/L	Initial	8.3	8.4						
pH s.u.	Initial	7.9	8.0						
Conductivity µS	Initial	5,565	5,540						
Temp °C	Final	24.0							
D.O. mg/L	Final	8.0							
pH s.u.	Final	8.3							
Conductivity µS	Final	5,610							



NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM			
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE: 9/8/17 TIME: 1146			
ANALYST	CW	CW	KO	PD	KW	TBP	CW	Remarks
NEB Lab Synthetic Control	8	9	10	11	12	13	14	Remarks
Temp °C Initial	24.9	25.4	24.9	24.5	25.4	24.5	24.9	
D.O. mg/L Initial	8.2	8.2	8.4	8.4	8.3	8.3	8.3	
pH s.u. Initial	7.6	7.6	8.0	7.7	7.7	8.2	7.6	
Conductivity µS Initial	326	328	318	331	320	335	322	
Temp °C Final	24.9	25.7	24.8	25.4	24.6	24.8	24.7	
D.O. mg/L Final	8.5	8.3	8.5	8.1	8.3	8.4	8.4	
pH s.u. Final	8.3	8.3	8.3	7.5	8.4	8.2	7.9	
Conductivity µS Final	367	366	347	346	361	354	372	
0.25 g/L	8	9	10	11	12	13	14	Remarks
Temp °C Initial	24.9	25.4	24.9	24.8	25.5	24.7	25.0	
D.O. mg/L Initial	8.2	8.2	8.3	8.3	8.3	8.2	8.2	
pH s.u. Initial	7.7	7.6	8.0	7.9	7.7	8.1	7.5	
Conductivity µS Initial	841	858	825	917	819	917	849	
Temp °C Final	24.9	25.7	24.8	25.3	25.0	24.8	24.7	
D.O. mg/L Final	8.5	8.4	8.5	8.2	8.4	8.4	8.4	
pH s.u. Final	8.3	8.3	8.3	7.6	8.4	8.2	7.9	
Conductivity µS Final	903	934	861	931	833	945	877	
0.5 g/L	8	9	10	11	12	13	14	Remarks
Temp °C Initial	24.9	25.5	24.9	24.8	25.4	24.8	25.0	
D.O. mg/L Initial	8.2	8.2	8.3	8.3	8.3	8.2	8.2	
pH s.u. Initial	7.7	7.6	8.0	7.9	7.8	8.1	7.6	
Conductivity µS Initial	1,350	1,309	1,313	1,353	1,297	1,319	1,262	
Temp °C Final	24.9	25.7	24.8	25.4	25.5	25.0	24.7	
D.O. mg/L Final	8.7	8.4	8.5	8.3	8.3	8.4	8.4	
pH s.u. Final	8.3	8.3	8.3	7.8	8.3	8.2	8.0	
Conductivity µS Final	1,421	1,328	1,337	1,344	1,302	1,387	1,346	
0.75 g/L	8	9	10	11	12	13	14	Remarks
Temp °C Initial	24.8	25.5	24.9	24.8	25.4	24.9	25.1	
D.O. mg/L Initial	8.2	8.2	8.3	8.3	8.2	8.2	8.2	
pH s.u. Initial	7.8	7.6	8.0	8.0	7.8	8.1	7.7	
Conductivity µS Initial	1,802	1,818	1,811	1,875	1,776	1,819	1,788	
Temp °C Final	24.8	25.6	24.8	25.3	25.5	25.0	24.8	
D.O. mg/L Final	8.6	8.6	8.5	8.4	8.2	8.4	8.5	
pH s.u. Final	8.3	8.3	8.3	7.9	8.3	8.2	8.1	
Conductivity µS Final	1,983	1,954	1,914	1,843	1,774	1,840	1,833	



NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM				
DILUTION WATER SOURCE:		Moderately Hard Synthetic			Ceriodaphnia dubia				
		START DATE:			9/8/17		TIME: 1146		
1.0 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	24.8	24.6	24.9	24.7	25.4	24.9	25.1	
D.O. mg/L	Initial	8.2	8.1	8.3	8.3	8.3	8.2	8.2	
pH s.u.	Initial	7.8	7.7	8.0	8.0	7.8	8.1	7.7	
Conductivity µS	Initial	2,281	2,286	2,284	2,315	2,237	2,260	2,265	
Temp °C	Final	24.7	25.7	25.0	25.4	25.6	25.1	24.8	
D.O. mg/L	Final	8.6	8.6	8.6	8.6	8.2	8.4	8.4	
pH s.u.	Final	8.3	8.3	8.3	7.9	8.3	8.2	8.1	
Conductivity µS	Final	2,275	2,259	2,261	2,320	2,233	2,269	2,285	
1.25 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	24.9	25.5	24.9	24.8	25.5	24.9	25.2	
D.O. mg/L	Initial	8.2	8.2	8.3	8.3	8.2	8.2	8.2	
pH s.u.	Initial	7.8	7.7	8.0	8.0	7.8	8.1	7.8	
Conductivity µS	Initial	2,764	2,764	2,774	2,781	2,713	2,670	2,683	
Temp °C	Final	24.9	25.7	25.0	25.6	25.6	25.1	24.9	
D.O. mg/L	Final	8.7	8.6	8.7	8.3	8.4	8.5	8.5	
pH s.u.	Final	8.4	8.4	8.3	7.9	8.3	8.2	8.2	
Conductivity µS	Final	2,752	2,749	2,775	2,701	2,671	2,702	2,721	
1.5 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	25.5	25.4	25.1	24.8	25.5	25.1	25.0	
D.O. mg/L	Initial	8.2	8.2	8.2	8.3	8.1	8.3	8.3	
pH s.u.	Initial	7.7	7.7	7.9	7.9	7.9	8.1	7.8	
Conductivity µS	Initial	3,230	3,253	3,175	3,277	3,158	3,254	3,170	
Temp °C	Final	24.8	25.8	25.1	25.5	25.2	25.1	24.7	
D.O. mg/L	Final	8.7	8.6	8.7	8.4	8.4	8.5	8.5	
pH s.u.	Final	8.4	8.4	8.3	8.0	8.4	8.2	8.2	
Conductivity µS	Final	3,250	3,176	3,200	3,240	3,107	3,237	3,160	
1.75 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	25.5	25.2	25.2	25.0	25.0	25.3	25.4	
D.O. mg/L	Initial	8.2	8.2	8.3	8.3	8.2	8.2	8.2	
pH s.u.	Initial	7.8	7.8	7.9	7.9	7.9	8.1	7.8	
Conductivity µS	Initial	3,667	3,623	3,555	3,672	3,744	3,700	3,622	
Temp °C	Final	25.0	25.3	25.2	25.6	25.1	25.3	24.9	
D.O. mg/L	Final	8.6	8.7	8.7	8.5	8.4	8.6	8.6	
pH s.u.	Final	8.4	8.3	8.3	8.0	8.3	8.2	8.2	
Conductivity µS	Final	3,797	3,740	3,750	3,653	3,758	3,780	3,770	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM				
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17 TIME: 1146		
2.0 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	25.5	25.1	25.2	25.0	24.6	25.3	25.5	
D.O. mg/L	Initial	8.2	8.2	8.2	8.3	8.4	8.1	8.2	
pH s.u.	Initial	7.8	7.8	7.9	7.9	7.8	8.1	7.8	
Conductivity µS	Initial	4,100	4,114	4,087	4,115	4,177	4,150	4,037	
Temp °C	Final	24.9	25.1	25.5	25.2	25.0	25.3	24.7	
D.O. mg/L	Final	8.7	8.7	8.7	8.6	8.4	8.6	8.4	
pH s.u.	Final	8.4	8.4	8.3	7.9	8.3	8.2	8.2	
Conductivity µS	Final	4,132	3,996	4,120	4,024	4,066	3,929	4,060	
2.25 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	25.5	25.1	25.2	24.9	24.9	25.3	25.5	
D.O. mg/L	Initial	8.1	8.2	8.3	8.3	8.2	8.1	8.2	
pH s.u.	Initial	7.8	7.8	7.9	7.8	7.8	8.1	7.8	
Conductivity µS	Initial	4,560	4,581	4,518	4,634	4,598	4,553	4,461	
Temp °C	Final	24.8	25.2	25.3	25.4	25.0	25.4	24.8	
D.O. mg/L	Final	8.7	8.7	8.5	8.5	8.4	8.4	8.4	
pH s.u.	Final	8.3	8.3	8.3	7.9	8.3	8.2	8.2	
Conductivity µS	Final	4,895	4,997	4,930	4,603	4,518	4,737	4,870	
2.5 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial	25.5	25.0	25.3	24.9	24.9	25.3	25.4	
D.O. mg/L	Initial	8.1	8.2	8.2	8.3	8.2	8.2	8.2	
pH s.u.	Initial	7.8	7.9	7.9	7.9	7.8	8.0	7.9	
Conductivity µS	Initial	4,999	5,173	5,057	5,077	5,183	4,977	4,917	
Temp °C	Final	24.8	25.2	25.6	25.4	24.8	25.4	24.6	
D.O. mg/L	Final	8.7	8.7	8.7	8.5	8.3	8.6	8.7	
pH s.u.	Final	8.4	8.3	8.3	7.9	8.3	8.3	8.2	
Conductivity µS	Final	4,929	5,051	5,060	4,886	5,033	5,009	4,820	
2.75 g/L		8	9	10	11	12	13	14	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity µS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity µS	Final								

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM			
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17 TIME: 1146	
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17 TIME: 1146	
ANALYST	PD	PD	TBP	CB	TBP	PD	PD	
NEB Lab Synthetic Control	15	16	17	18	19	20	21	Remarks
Temp °C Initial	24.6	24.7	26.0	25.4	25.7	24.8	25.4	
D.O. mg/L Initial	8.2	8.2	8.1	8.2	8.1	8.1	8.1	
pH s.u. Initial	7.9	8.0	8.2	7.8	7.4	8.1	7.9	
Conductivity µS Initial	340	337	396	324	324	325	318	
Temp °C Final	24.0	25.5	26.0	25.9	25.1	25.3	24.9	
D.O. mg/L Final	8.6	8.5	8.2	8.2	8.2	8.4	8.8	
pH s.u. Final	8.2	8.2	7.6	7.9	8.2	8.5	8.3	
Conductivity µS Final	345	343	351	343	336	337	338	
0.25 g/L	15	16	17	18	19	20	21	Remarks
Temp °C Initial	24.6	24.7	25.8	25.5	25.7	24.8	25.4	
D.O. mg/L Initial	8.2	8.2	8.1	8.2	8.1	8.1	8.1	
pH s.u. Initial	7.9	8.0	8.1	7.8	7.6	8.0	7.9	
Conductivity µS Initial	861	815	849	852	830	851	811	
Temp °C Final	24.1	25.5	26.0	25.9	25.1	25.2	25.0	
D.O. mg/L Final	8.5	8.5	8.2	8.3	8.3	8.4	8.8	
pH s.u. Final	8.2	8.2	7.7	8.0	8.2	8.5	8.3	
Conductivity µS Final	876	831	885	854	837	851	828	
0.5 g/L	15	16	17	18	19	20	21	Remarks
Temp °C Initial	24.6	24.6	25.7	25.4	25.7	24.8	25.4	
D.O. mg/L Initial	8.2	8.3	8.1	8.2	8.1	8.1	8.1	
pH s.u. Initial	8.0	8.0	8.1	7.8	7.6	8.0	7.9	
Conductivity µS Initial	1,310	1,294	1,258	1,402	1,334	1,312	1,290	
Temp °C Final	24.1	25.5	26.0	26.0	25.1	25.2	25.3	
D.O. mg/L Final	8.5	8.6	8.3	8.4	8.3	8.4	8.8	
pH s.u. Final	8.3	8.3	7.8	8.1	8.1	8.4	8.4	
Conductivity µS Final	1,388	1,309	1,305	1,394	1,342	1,287	1,294	
0.75 g/L	15	16	17	18	19	20	21	Remarks
Temp °C Initial	24.6	24.6	25.7	25.5	25.7	24.9	25.4	
D.O. mg/L Initial	8.2	8.3	8.1	8.2	8.1	8.1	8.1	
pH s.u. Initial	8.0	8.0	8.0	7.9	7.7	8.0	7.9	
Conductivity µS Initial	1,764	1,782	1,795	1,822	1,794	1,806	1,757	
Temp °C Final	24.2	25.6	26.0	25.8	25.2	25.2	25.1	
D.O. mg/L Final	8.5	8.5	8.4	8.5	8.3	8.4	8.9	
pH s.u. Final	8.3	8.3	7.9	8.1	8.1	8.4	8.4	
Conductivity µS Final	1,781	1,769	1,879	1,860	1,801	1,799	1,776	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

Electronic Filing Received Clerk's Office 5/29/2018

SAMPLE ID:		NaCl 25°C							TEST ORGANISM	
NEB PROJECT NUMBER:		81.0220523.00							<i>Ceriodaphnia dubia</i>	
DILUTION WATER SOURCE:		Moderately Hard Synthetic				START DATE:		9/8/17	TIME: 1146	
1.0 g/L		15	16	17	18	19	20	21	Remarks	
Temp °C	Initial	24.6	24.7	25.6	25.4	25.7	24.9	25.4		
D.O. mg/L	Initial	8.2	8.2	8.1	8.2	8.1	8.1	8.1		
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.7	8.0	8.0		
Conductivity μS	Initial	2,305	2,254	2,274	2,301	2,281	2,285	2,199		
Temp °C	Final	24.4	25.5	26.0	25.9	25.3	25.4	25.1		
D.O. mg/L	Final	8.5	8.4	8.4	8.4	8.3	8.4	8.9		
pH s.u.	Final	8.3	8.2	8.0	8.2	8.1	8.4	8.4		
Conductivity μS	Final	2,247	2,208	2,311	2,253	2,258	2,257	2,185		
1.25 g/L		15	16	17	18	19	20	21	Remarks	
Temp °C	Initial	24.6	24.7	25.6	25.5	25.7	25.0			
D.O. mg/L	Initial	8.2	8.3	8.1	8.2	8.1	8.1			
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.8	8.0			
Conductivity μS	Initial	2,789	2,737	2,710	2,738	2,758	2,759			
Temp °C	Final	24.4	25.4	25.9	25.3	25.3	24.8			
D.O. mg/L	Final	8.5	8.4	8.4	8.6	8.3	8.4			
pH s.u.	Final	8.3	8.2	8.0	8.3	8.1	8.4			
Conductivity μS	Final	2,735	2,671	2,746	2,654	2,737	2,695			
1.5 g/L		15	16	17	18	19	20	21	Remarks	
Temp °C	Initial	24.9	24.7	25.2	25.4	25.4	24.9	25.2		
D.O. mg/L	Initial	8.2	8.3	8.2	8.2	8.2	8.1	8.2		
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.8	7.9	7.8		
Conductivity μS	Initial	3,120	3,176	3,217	3,214	3,200	3,225	3,135		
Temp °C	Final	24.6	25.6	25.8	25.3	25.4	24.9	25.1		
D.O. mg/L	Final	8.5	8.4	8.5	8.7	8.3	8.4	8.8		
pH s.u.	Final	8.3	8.2	8.1	8.3	8.1	8.3	8.3		
Conductivity μS	Final	3,100	3,128	3,217	3,152	3,149	3,151	3,112		
1.75 g/L		15	16	17	18	19	20	21	Remarks	
Temp °C	Initial	24.9	24.7	25.1	25.5	25.4	24.9	25.2		
D.O. mg/L	Initial	8.1	8.3	8.2	8.2	8.1	8.1	8.1		
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.8	7.9	7.9		
Conductivity μS	Initial	3,720	3,690	3,723	3,667	3,740	3,612	3,560		
Temp °C	Final	24.8	25.6	26.0	25.6	25.3	25.1	25.1		
D.O. mg/L	Final	8.5	8.5	8.5	8.7	8.3	8.4	8.7		
pH s.u.	Final	8.3	8.3	8.1	8.3	8.1	8.3	8.4		
Conductivity μS	Final	3,740	3,575	3,738	3,660	3,681	3,577	3,558		

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146	
2.0 g/L		15	16	17	18	19	20	21	Remarks
Temp °C	Initial	24.9	24.7	25.2	25.4	25.4	24.9	25.1	
D.O. mg/L	Initial	8.1	8.3	8.2	8.2	8.1	8.1	8.1	
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.8	7.9	7.9	
Conductivity µS	Initial	4,220	4,091	4,156	4,175	4,130	4,129	4,012	
Temp °C	Final	24.8	25.6	26.0	25.8	25.7	25.1	25.1	
D.O. mg/L	Final	8.5	8.5	8.4	8.6	8.3	8.4	8.8	
pH s.u.	Final	8.3	8.2	8.0	8.3	8.1	8.3	8.3	
Conductivity µS	Final	4,170	4,040	4,143	4,142	4,112	4,054	4,039	
2.25 g/L		15	16	17	18	19	20	21	Remarks
Temp °C	Initial	24.9	24.8	25.1	25.4	25.4	24.9		
D.O. mg/L	Initial	8.1	8.3	8.2	8.2	8.1	8.1		
pH s.u.	Initial	8.0	8.0	8.0	7.9	7.7	7.9		
Conductivity µS	Initial	4,630	4,507	4,550	4,603	4,440	4,592		
Temp °C	Final	24.7	25.6	26.0	25.6	25.5	25.1		
D.O. mg/L	Final	8.5	8.6	8.4	8.7	8.3	8.3		
pH s.u.	Final	8.3	8.3	8.0	8.3	8.1	8.2		
Conductivity µS	Final	4,780	4,521	4,788	4,605	4,514	4,615		
2.5 g/L		15	16	17	18	19	20	21	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity µS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity µS	Final								
2.75 g/L		15	16	17	18	19	20	21	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity µS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity µS	Final								



SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>	
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146
ANALYST	CB	KO	KO	TBP				
NEB Lab Synthetic Control	22	23	24	25	26	27	28	Remarks
Temp °C Initial	24.7	24.3						
D.O. mg/L Initial	8.2	8.3						
pH s.u. Initial	7.6	7.9						
Conductivity µS Initial	319	339						
Temp °C Final	24.2							
D.O. mg/L Final	8.5							
pH s.u. Final	8.0							
Conductivity µS Final	344							
0.25 g/L	22	23	24	25	26	27	28	Remarks
Temp °C Initial	24.8	24.2	24.0	24.0				
D.O. mg/L Initial	8.2	8.4	8.7	8.5				
pH s.u. Initial	7.6	7.9	8.2	8.0				
Conductivity µS Initial	816	852	886	842				
Temp °C Final	24.1	24.4	24.5					
D.O. mg/L Final	8.6	8.5	8.7					
pH s.u. Final	8.1	8.4	8.2					
Conductivity µS Final	833	866	895					
0.5 g/L	22	23	24	25	26	27	28	Remarks
Temp °C Initial	24.8	24.0	24.0	24.0				
D.O. mg/L Initial	8.2	8.4	8.5	8.5				
pH s.u. Initial	7.7	8.0	8.2	8.0				
Conductivity µS Initial	1,306	1,324	1,356	1,296				
Temp °C Final	24.0	24.2	24.5	24.0				
D.O. mg/L Final	8.6	8.6	8.7	8.8				
pH s.u. Final	8.2	8.4	8.2	7.5				
Conductivity µS Final	1,309	1,331	1,370	1,290				
0.75 g/L	22	23	24	25	26	27	28	Remarks
Temp °C Initial	24.8	24.0	24.0	24.0				
D.O. mg/L Initial	8.2	8.4	8.5	8.4				
pH s.u. Initial	7.7	8.0	8.2	8.0				
Conductivity µS Initial	1,784	1,881	1,834	1,757				
Temp °C Final	24.0	24.1	24.6					
D.O. mg/L Final	8.6	8.6	8.7					
pH s.u. Final	8.2	8.3	8.2					
Conductivity µS Final	1,796	1,866	1,823					

**NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL PARAMETERS**

Electronic Filing Received Clerk's Office 5/29/2018

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146	
	1.0 g/L	22	23	24	25	26	27	28	Remarks
Temp °C	Initial	24.8	24.8.4	24.1	24.0				
D.O. mg/L	Initial	8.2	8.4	8.5	8.5				
pH s.u.	Initial	7.8	8.0	8.2	8.0				
Conductivity µS	Initial	2,331	2,358	2,267	2,274				
Temp °C	Final	24.0	24.3	24.8					
D.O. mg/L	Final	8.7	8.6	8.7					
pH s.u.	Final	8.3	8.3	8.2					
Conductivity µS	Final	2,329	2,332	2,318					
	1.25 g/L	22	23	24	25	26	27	28	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity µS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity µS	Final								
	1.5 g/L	22	23	24	25	26	27	28	Remarks
Temp °C	Initial	24.8	24.0	24.1	24.1				
D.O. mg/L	Initial	8.2	8.4	8.5	8.4				
pH s.u.	Initial	7.8	8.0	8.2	8.0				
Conductivity µS	Initial	3,196	3,233	3,182	3,170				
Temp °C	Final	24.0	24.3	24.7	24.0				
D.O. mg/L	Final	8.7	8.7	8.7	8.8				
pH s.u.	Final	8.3	8.3	8.2	7.5				
Conductivity µS	Final	3,196	3,200	3,183	3,190				
	1.75 g/L	22	23	24	25	26	27	28	Remarks
Temp °C	Initial	24.8	24.0	24.1	24.0				
D.O. mg/L	Initial	8.2	8.4	8.5	8.5				
pH s.u.	Initial	7.8	8.0	8.1	7.9				
Conductivity µS	Initial	3,676	3,813	3,655	3,736				
Temp °C	Final	24.0	24.3	24.7					
D.O. mg/L	Final	8.8	8.6	8.6					
pH s.u.	Final	8.3	8.3	8.0					
Conductivity µS	Final	3,692	3,743	3,701					

SAMPLE ID:		NaCl 25°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146	
2.0 g/L		22	23	24	25	26	27	28	Remarks
Temp °C	Initial	24.8	24.0	24.2	24.0				
D.O. mg/L	Initial	8.2	8.4	8.5	8.5				
pH s.u.	Initial	7.8	8.0	8.1	7.9				
Conductivity μS	Initial	4,031	4,225	4,140	4,061				
Temp °C	Final	24.0	24.4	24.7	24.0				
D.O. mg/L	Final	8.7	8.6	8.6	8.8				
pH s.u.	Final	8.3	8.3	8.1	7.7				
Conductivity μS	Final	4,005	4,151	4,121	3,966				
2.25 g/L		22	23	24	25	26	27	28	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity μS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity μS	Final								
2.5 g/L		22	23	24	25	26	27	28	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity μS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity μS	Final								
2.75 g/L		22	23	24	25	26	27	28	Remarks
Temp °C	Initial								
D.O. mg/L	Initial								
pH s.u.	Initial								
Conductivity μS	Initial								
Temp °C	Final								
D.O. mg/L	Final								
pH s.u.	Final								
Conductivity μS	Final								



SAMPLE ID:	NaCl 25°C							
NEB PROJECT NUMBER:	81.0220523.00				TEST ORGANISM			
DILUTION WATER SOURCE:	Moderately Hard Synthetic				START DATE: 9/8/17 TIME: 1146			
	<i>Ceriodaphnia dubia</i>							
ANALYST								
NEB Lab Synthetic Control	29	30	31	32	33	34	35	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								
0.25 g/L	29	30	31	32	33	34	35	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								
0.5 g/L	29	30	31	32	33	34	35	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								
0.75 g/L	29	30	31	32	33	34	35	Remarks
Temp °C Initial								
D.O. mg/L Initial								
pH s.u. Initial								
Conductivity µS Initial								
Temp °C Final								
D.O. mg/L Final								
pH s.u. Final								
Conductivity µS Final								

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>	
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146
1.0 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
1.25 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
1.5 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
1.75 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								

SAMPLE ID:		NaCl 25°C						
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>	
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1146
2.0 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
2.25 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
2.5 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								
2.75 g/L	29	30	31	32	33	34	35	Remarks
Temp °C	Initial							
D.O. mg/L	Initial							
pH s.u.	Initial							
Conductivity µS Initial								
Temp °C	Final							
D.O. mg/L	Final							
pH s.u.	Final							
Conductivity µS Final								

Table of Random Permutations of 16

C.dubia Test ID#

17-1481

Electronic Filing Received, Clerk's Office 5/29/2018

7	12	15	15	1	2	14	15	7	13	11	10	8	9	14
13	3	8	16	7	10	11	10	13	5	11	7	13	16	7
3	1	4	5	14	13	3	14	9	13	13	2	9	15	6
11	8	16	14	15	6	2	6	2	16	8	5	12	3	9
14	9	1	6	3	9	14	13	8	6	5	8	14	7	3
2	16	10	13	5	5	13	2	11	7	3	12	5	14	12
4	6	13	7	2	15	1	9	1	4	7	10	6	9	11
6	14	6	10	4	14	4	15	3	3	4	16	2	6	5
10	15	2	1	13	12	16	3	4	8	10	1	15	5	14
12	10	7	12	9	11	9	8	12	14	15	4	11	8	16
15	7	5	2	10	7	8	12	6	15	6	13	16	12	15
16	2	11	8	8	8	15	5	16	1	1	9	8	1	8
9	13	14	3	6	4	10	11	5	12	9	3	10	4	4
8	11	9	4	11	3	12	7	7	10	12	14	3	10	1
1	5	12	11	16	16	5	4	14	9	16	11	1	2	10
5	4	3	9	12	1	6	1	15	11	2	6	4	11	2

CONC

11	8	16	5	5	13	1	13	2	16	14	12	9	8	7
2	2	8	8	14	16	4	3	8	11	10	14	15	1	2
6	13	2	13	6	5	9	15	11	10	12	6	16	15	16
14	12	4	16	16	11	14	10	5	12	3	3	12	14	15
8	6	3	9	4	10	6	4	16	2	2	9	8	16	4
9	15	12	10	3	2	12	6	1	15	4	13	7	7	9
3	10	11	12	13	12	5	11	7	8	9	5	14	11	10
16	1	13	14	8	14	15	5	3	7	11	15	6	12	5
1	14	14	2	9	15	16	14	6	14	7	8	3	13	11
4	4	6	4	12	3	11	8	15	9	8	1	13	6	3
15	5	1	11	10	6	3	7	10	5	5	11	10	10	12
5	3	5	6	7	7	13	2	14	3	16	4	5	5	13
12	7	15	15	15	9	8	12	12	13	15	10	1	4	6
10	11	10	3	2	4	2	1	4	6	6	7	11	9	14
7	9	7	7	11	1	7	16	13	1	13	2	4	2	1
13	16	9	1	1	8	10	9	9	4	1	16	2	3	8

1	6	7	4	8	6	5	2	8	15	4	6	6	1	4
9	15	11	3	11	15	9	10	1	3	8	2	15	7	9
10	16	4	5	12	9	16	11	7	1	7	16	11	8	3
4	14	1	9	5	5	4	13	6	8	15	5	12	5	7
7	3	13	14	15	2	1	14	16	5	14	9	2	16	1
16	11	2	1	14	16	6	9	3	4	16	14	3	15	11
3	10	16	16	13	7	13	1	11	14	9	10	16	2	10
11	13	9	13	4	13	8	3	5	13	10	12	5	12	5
15	2	3	12	9	12	2	4	13	10	3	13	14	4	2
14	1	14	6	10	1	3	12	4	2	2	4	13	3	16
13	12	5	11	3	11	15	8	2	7	11	7	8	14	6
12	5	10	7	2	14	7	15	14	16	13	1	9	10	12
8	9	8	10	6	4	11	7	10	11	6	8	4	9	8
2	7	6	2	1	8	10	6	15	12	1	11	7	11	13
6	4	15	8	16	10	14	16	9	6	12	3	10	6	14
5	8	12	15	7	3	12	5	12	9	5	15	1	13	15

REP

13	4	10	4	16	13	16	13	5	3	6	14	1	16	8
5	14	4	6	8	2	15	1	13	14	16	4	15	4	3
2	2	2	15	14	16	9	12	16	6	10	15	14	9	10
7	12	15	8	12	3	5	14	7	12	5	13	16	1	7
6	9	7	14	9	14	10	11	15	11	12	1	12	12	14
14	5	16	7	10	8	11	8	14	13	7	11	6	3	11
15	11	8	9	7	12	8	7	1	15	9	3	3	7	13
11	6	6	1	4	1	3	16	12	5	4	9	13	13	6
4	10	3	16	2	11	7	9	6	9	1	8	4	11	5
1	8	1	13	1	15	4	4	11	4	2	16	5	8	1
9	7	14	2	6	4	14	10	9	8	15	10	7	10	9
12	1	9	10	15	5	2	15	10	2	14	2	8	2	4
3	3	12	11	5	9	6	6	3	10	13	12	9	6	2
10	15	11	5	13	7	12	5	2	7	11	5	10	15	12
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16

Brood mother source: R2MTH165 A-1 Source's brood size: 21 (Qty.)

Huff and Huff 25° 9-8-17

Tech	AH	AH	AT		SP	CP	Act	AT		AT	A+1					
Date	8-30	8-31	9-1		9-3	9-4	9-5	9-6		9-7	9-8					
Day acc.	0	1	2	3	4	5	6	7		8	9	10	11	12	13	14
Cup #																
1	N	N	2		5	10	Y	Y	1	N	Y <sup>T1</sup> <sub>17</sub>					
2	N	N	2		6	9	Y	N	2	Y	X					
3	N	N	2		4	10	Y	Y	3	N	Y					
4	N	N	2		5	10	Y	Y	4	N	Y <sup>T2</sup> <sub>14</sub>					
5	N	N	2		5	10	Y	N	5	Y	Y <sup>T3</sup> <sub>17</sub>					
6	N	N	2		5	9	Y	N	6	Y	Y <sup>T4</sup> <sub>16</sub>					
7	N	N	2		4	10	Y	N	7	Y	Y <sup>T5</sup> <sub>17</sub>					
8	N	N	2		6	10	Y	N	8	N	Y <sup>T6</sup> <sub>15</sub>					
9	N	N	2		5	10	Y	Y	9	N	Y <sup>T7</sup> <sub>14</sub>					
10	N	N	2		4	9	Y	N	10	Y	Y					
11	N	N	2		4	8	Y	N	11	Y	Y <sup>T8</sup> <sub>19</sub>					
12	N	N	2		5	10	Y	Y	12	N	Y <sup>T9</sup> <sub>15</sub>					
13	N	N	2		5	10	Y	N	13	Y	Y					

Y = neonates present, and criterion has been met: ≥ 20 neonates produced in total by 3rd brood.

N = no neonates

2B = two broods present. 2Y = two broods and criterion met: ≥ 20 neos. by 3rd brood.

X = brood mother dead ae = aborted eggs

✓ or P = neonates present after renewal on previous day (see time in log).

A→ = acceptable for acute testing only

T# = neonates used in test, replicate number of test noted (and brood counted).

acc. = if acclimated, H<sub>2</sub>O type used w/ renewal this day.

Test organism collection:

Tray diagram used?

Project #	Symbols (✓/P)	(Y/N)	Time period, neonates released	Collection date / time
	T	Y	9-7-17/1715 → 9-8-17/0530	9-8-17/1000
	T			
	T			
	T			
	T			
	T			



Electronic Filing: Received, Clerk's Office 5/29/2018

Brood mother source: RINH 165 A-4 Source's brood size: 20 (Qty.)

Huff and Huff 25° 9.8.17

Tech	AH	AH	AT		SIP	SIP	AH	A		A	AH						
Date	8-30	8-31	9-1		9-3	9-4	9-5	9-6			9-7	9-8					
Day acc.	0	1	2	3	4	5	6	7			8	9	10	11	12	13	14
Cup #																	
1	N	N	N		4	10	Y	Y	1	N	Y						
2	N	N	N		5	9	Y	Y	2	N	Y						
3	N	N	N		5	9	Y	Y	3	N	Y <sup>T10</sup> <sub>16</sub>						
4	N	N	N		5	9	Y	Y	4	N	Y						
5	N	N	N		4	10	Y	Y	5	N	Y						
6	N	N	N		4	10	Y	N	6	Y	Y						
7	N	N	N		5	9	Y	Y	7	N	Y						
8	N	N	N		6	8	Y	N	8	Y	Y						
9	N	N	N		4	10	Y	N	9	N	Y						
10	N	N	N		5	9	Y	N	10	Y	Y						
11	N	N	N		5	10	Y	N	11	Y	Y						
12	N	N	N		5	11	Y	Y	12	N	Y						
13	N	N	N		4	10	Y	Y	13	Y	Y						

Y = neonates present, and criterion has been met: ≥ 20 neonates produced in total by 3rd brood. N = no neonates  
 2B = two broods present. 2Y = two broods and criterion met: ≥ 20 neos. by 3rd brood. X = brood mother dead ae = aborted eggs  
 ✓ or P = neonates present after renewal on previous day (see time in log). A→ = acceptable for acute testing only  
 T# = neonates used in test, replicate number of test noted (and brood counted). acc. = if acclimated, H<sub>2</sub>O type used w/ renewal this day.

Test organism collection:

Tray diagram used?

Project #	Symbols (✓/P)	(Y/N)	Time period, neonates released	Collection date / time
	T	Y	9.7.17/1715 → 9.8.17/0530	9.8.17/1000
	T			
	T			
	T			
	T			
	T			

**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 20-1896-4172	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 13 Nov-17 8:40	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 11:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 10:56	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 15-3062-4589	<b>Code:</b> 5B3B7A4D	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 12h	<b>Station:</b>	

*25° 7 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	1	1.25	1.118		25.59%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-gm/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	90.5	73	3	18	Asymp	0.4742	Non-Significant Effect
		0.5	76.5	73	3	18	Asymp	0.0909	Non-Significant Effect
		0.75	81	73	1	18	Asymp	0.1761	Non-Significant Effect
		1	73.5	73	2	18	Asymp	0.0545	Non-Significant Effect
		1.25*	62.5	73	2	18	Asymp	0.0051	Significant Effect
		1.5*	57.5	73	1	18	Asymp	0.0014	Significant Effect
		1.75*	55.5	73	1	18	Asymp	7.7E-04	Significant Effect
		2*	55	73	0	18	Asymp	6.6E-04	Significant Effect
		2.25*	55	73	0	18	Asymp	6.6E-04	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	26.1	15	>>	Yes	Passes Criteria
PMSD	0.2559	0.13	0.47	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	7545.01	838.334	9	22.67	<1.0E-37	Significant Effect
Error	3328.7	36.9856	90			
Total	10873.7		99			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	61.1	21.67	<1.0E-37	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9454	0.9654	4.2E-04	Non-Normal Distribution

**Reproduction Summary**

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	26.1	19.85	32.35	24.5	11	42	2.763	33.47%	0.00%
0.25		10	21.4	16.74	26.06	20	14	31	2.061	30.46%	18.01%
0.5		10	17.1	10.11	24.09	16.5	0	36	3.089	57.13%	34.48%
0.75		10	18.6	12.02	25.18	20	0	33	2.911	49.48%	28.74%
1		10	18.3	15.21	21.39	18	11	26	1.367	23.62%	29.89%
1.25		10	13.7	10.46	16.94	12.5	8	20	1.43	33.01%	47.51%
1.5		10	8.9	6.151	11.65	8.5	2	16	1.215	43.18%	65.90%
1.75		10	2.2	-0.4936	4.894	0.5	0	11	1.191	171.15%	91.57%
2		10	0.9	0.1127	1.687	0.5	0	3	0.348	122.28%	96.55%
2.25		10	0.5	-0.408	1.408	0	0	4	0.4014	253.86%	98.08%
2.5		10	0	0	0	0	0	0	0		100.00%

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 20-1896-4172  
 Analyzed: 13 Nov-17 8:40

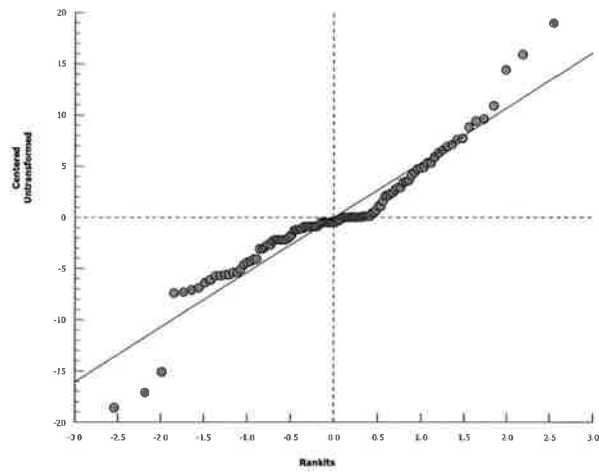
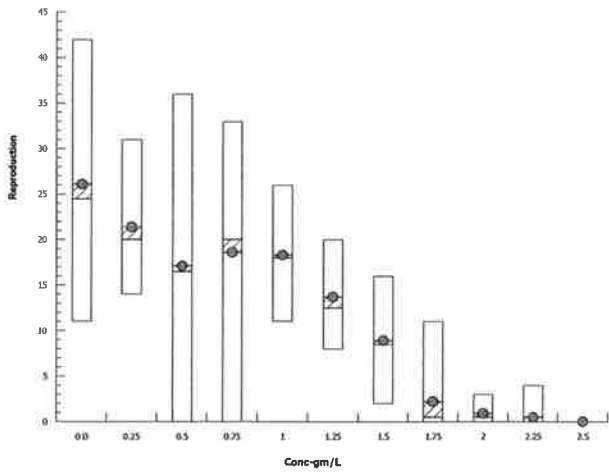
Endpoint: Reproduction  
 Analysis: Nonparametric-Control vs Treatments

CETIS Version: CETISv1.9.2  
 Official Results: Yes

Reproduction Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	25	23	42	20	24	23	37	31	25	11
0.25		16	25	29	14	16	15	31	23	28	17
0.5		23	10	36	13	12	0	13	24	20	20
0.75		14	19	28	13	0	13	33	21	23	22
1		18	18	23	19	11	14	26	21	17	16
1.25		16	11	19	12	19	8	20	13	8	11
1.5		8	2	9	8	16	6	11	7	13	9
1.75		0	0	11	7	2	0	0	1	0	1
2		1	1	0	0	0	2	0	3	2	0
2.25		1	0	0	4	0	0	0	0	0	0
2.5		0	0	0	0	0	0	0	0	0	0

Graphics









**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

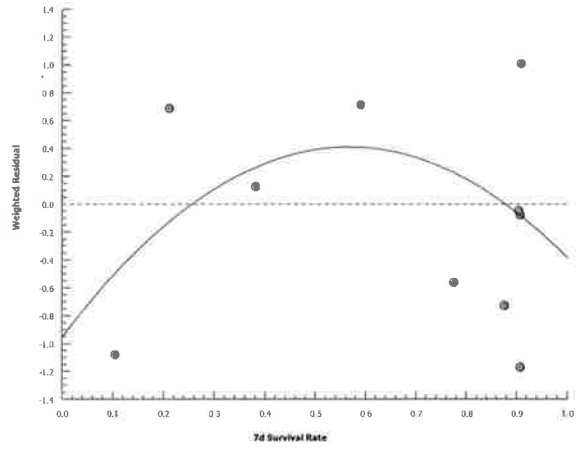
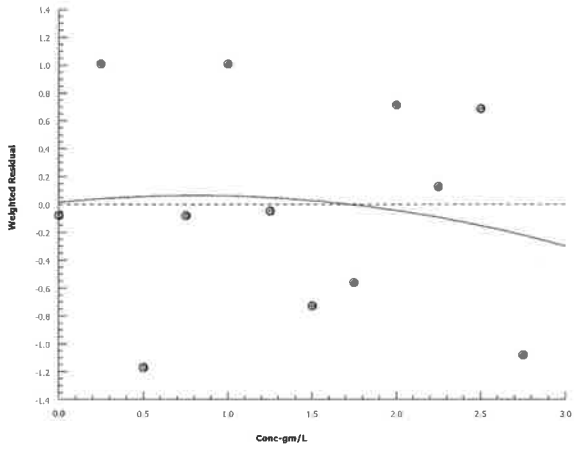
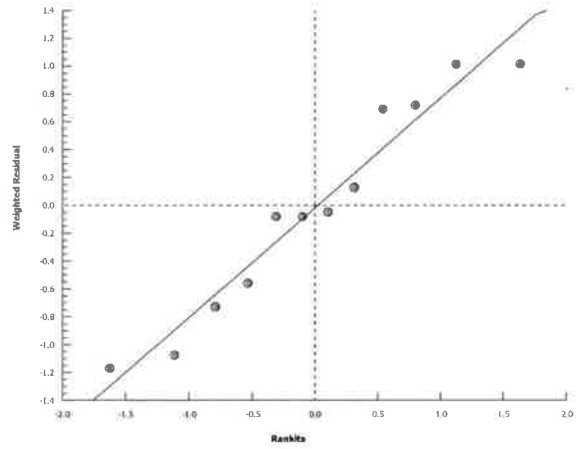
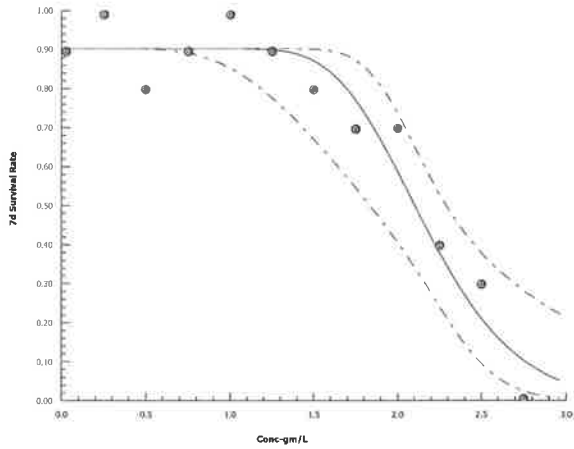
Analysis ID: 00-4407-4718  
 Analyzed: 03 Nov-17 14:55

Endpoint: 7d Survival Rate  
 Analysis: Linear Regression (GLM)

CETIS Version: CETISv1.9.2  
 Official Results: Yes

**Graphics**

Log-Normal:  $\text{inv } \Phi[\pi] = \alpha + \beta \cdot \log[x]$

















**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 07-8726-5740	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 03 Nov-17 13:51	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 11:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 10:56	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 15-3062-4589	<b>Code:</b> 5B3B7A4D	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 12h	<b>Station:</b>	

*25° 14 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2.25	> 2.25	n/a	

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	0.5000	Exact	1.0000	Non-Significant Effect
		0.5	0.3281	Exact	1.0000	Non-Significant Effect
		0.75	0.6750	Exact	1.0000	Non-Significant Effect
		1	0.5000	Exact	1.0000	Non-Significant Effect
		1.25	0.3281	Exact	1.0000	Non-Significant Effect
		1.5	0.3281	Exact	1.0000	Non-Significant Effect
		1.75	0.0849	Exact	0.6792	Non-Significant Effect
		2	0.6750	Exact	1.0000	Non-Significant Effect
		2.25	0.0286	Exact	0.2577	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.6	0.8	>>	Yes	Below Criteria

**Data Summary**

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	6	4	10	0.6	0.4	0.0%
0.25		5	5	10	0.5	0.5	16.67%
0.5		4	6	10	0.4	0.6	33.33%
0.75		6	4	10	0.6	0.4	0.0%
1		5	5	10	0.5	0.5	16.67%
1.25		4	6	10	0.4	0.6	33.33%
1.5		4	6	10	0.4	0.6	33.33%
1.75		2	8	10	0.2	0.8	66.67%
2		6	4	10	0.6	0.4	0.0%
2.25		1	9	10	0.1	0.9	83.33%

**7d Survival Rate Detail**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000	0.0000
0.25		1.0000	1.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000	0.0000
0.5		1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
0.75		0.0000	1.0000	1.0000	1.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000
1		1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
1.25		0.0000	1.0000	1.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	0.0000
1.5		1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	0.0000	0.0000
1.75		0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000
2		1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000





**Ceriodaphnia 7-d Survival and Reproduction Test**

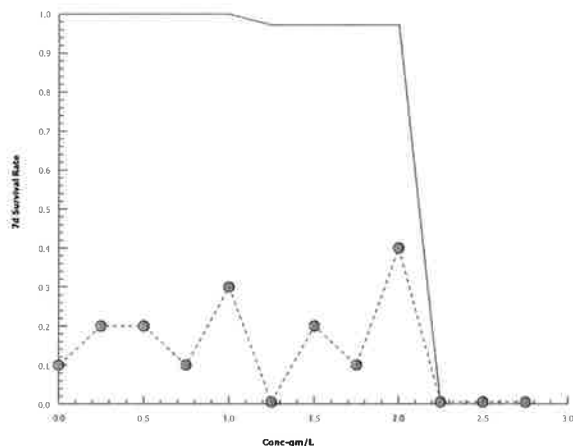
**New England Bioassay**

Analysis ID: 03-2881-5575      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 03 Nov-17 14:05      Analysis: Untrimmed Spearman-Kärber      Official Results: Yes

**7d Survival Rate Binomials**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1
0.25		0/1	0/1	0/1	0/1	1/1	0/1	0/1	1/1	0/1	0/1
0.5		1/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1
0.75		0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1
1		1/1	1/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
1.25		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
1.5		1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1
1.75		0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1
2		0/1	0/1	0/1	0/1	0/1	1/1	0/1	1/1	1/1	1/1
2.25		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

**Graphics**



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 20-2658-3643	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 03 Nov-17 14:05	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 11:46	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 10:56	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 15-3062-4589	<b>Code:</b> 5B3B7A4D	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 12h	<b>Station:</b>	

*250 21 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2	> 2	n/a	

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	0.8947	Exact	1.0000	Non-Significant Effect
		0.5	0.8947	Exact	1.0000	Non-Significant Effect
		0.75	0.7632	Exact	1.0000	Non-Significant Effect
		1	0.9567	Exact	1.0000	Non-Significant Effect
		1.25	0.5000	Exact	1.0000	Non-Significant Effect
		1.5	0.8947	Exact	1.0000	Non-Significant Effect
		1.75	0.7632	Exact	1.0000	Non-Significant Effect
		2	0.9837	Exact	0.9837	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.1	0.8	>>	Yes	Below Criteria

**Data Summary**

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	1	9	10	0.1	0.9	0.0%
0.25		2	8	10	0.2	0.8	-100.0%
0.5		2	8	10	0.2	0.8	-100.0%
0.75		1	9	10	0.1	0.9	0.0%
1		3	7	10	0.3	0.7	-200.0%
1.25		0	10	10	0	1	100.0%
1.5		2	8	10	0.2	0.8	-100.0%
1.75		1	9	10	0.1	0.9	0.0%
2		4	6	10	0.4	0.6	-300.0%

**7d Survival Rate Detail**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000
0.25		0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	1.0000	0.0000	0.0000
0.5		1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
0.75		0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000
1		1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
1.25		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1.5		1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000
1.75		0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2		0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	1.0000

**Ceriodaphnia 7-d Survival and Reproduction Test**

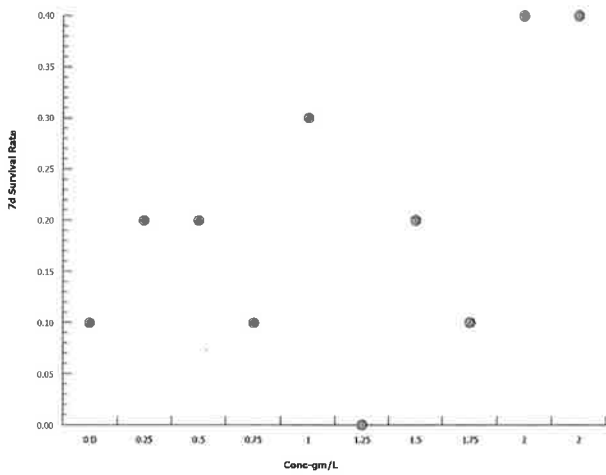
**New England Bioassay**

Analysis ID: 20-2658-3643      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 03 Nov-17 14:05      Analysis: STP 2xK Contingency Tables      Official Results: Yes

**7d Survival Rate Binomials**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1
0.25		0/1	0/1	0/1	0/1	1/1	0/1	0/1	1/1	0/1	0/1
0.5		1/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1
0.75		0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1
1		1/1	1/1	0/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
1.25		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
1.5		1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1
1.75		0/1	0/1	0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1
2		0/1	0/1	0/1	0/1	0/1	1/1	0/1	1/1	1/1	1/1

**Graphics**









NEW ENGLAND BIOASSAY TOXICITY DATA FORM

**CHRONIC COVER SHEET**

CLIENT: GZA / Huff & Huff  
 ADDRESS: 915 Harger Road Suite 330  
Oak Brook, IL 60523  
 SAMPLE TYPE: NaCl 10°C  
 DILUTION WATER: Moderately Hard Synthetic

*C.dubia* TEST ID # 17-1480  
 COC # N/A  
 PROJECT # 81.0220523.00

INVERTEBRATES

TEST SET UP (TECH INIT) TBP  
 TEST SPECIES *Ceriodaphnia dubia*  
 NEB LOT# Cd17(RMH 170)  
 AGE < 24 hours  
 TEST SOLUTION VOLUME (mls) 15  
 NO. ORGANISMS PER TEST CHAMBER 1  
 NO. ORGANISMS PER CONCENTRATION 10

Laboratory Control Water (MHRCF)

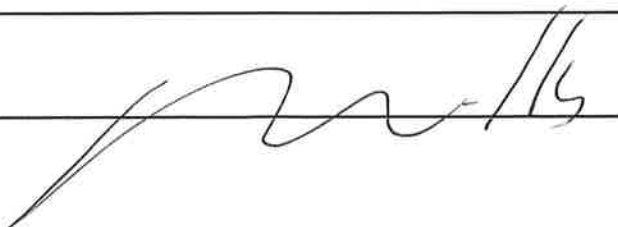
Batch Number	Hardness mg/L CaCO <sub>3</sub>	Alkalinity mg/L CaCO <sub>3</sub>
C37-MH020	84	60

	DATE	TIME
TEST START:	9/8/17	1245
TEST END:	10/13/17	1120

Comments:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REVIEWD BY:



DATE:

11/13/17

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST, BROOD DATA SHEET  
 Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C		
NEB PROJECT NUMBER:	81.0220523.00	NEB TEST NUMBER:	17-1480
TEST ORGANISM:	<i>Ceriodaphnia dubia</i>	AGE:	<24 hours
START DATE:	9/8/17	TIME:	1245
END DATE:	10/13/17	TIME:	1120
		COC #	N/A
		Lot #	Cd17(RMH 170)

Concentration	Culture Lot# Cd17(RMH 170)										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts	
	Cup #	B2	B3	B4	B5	B6	B7	B10	B11	B12					B13
	Day Number	Replicate													
	A	B	C	D	E	F	G	H	I	J					
	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	TBP	
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10	TBP	
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	TBP	
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	PD	PD
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	CW
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CB	CB
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	PD	PD
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	KO	KO
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	CW
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CW	CW
	15	2	1	2	3	3	✓	✓	✓	✓	✓	11	10	PD	PD
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	PD	PD
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	TBP	TBP
	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CB	CB
	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CB	CB
	20	✓	4	✓	✓	✓	✓	3	✓	✓	✓	7	10	CB	CB
	21	✓	✓	✓	✓	✓	✓	✓	✓	5	✓	5	10	KO	KO
	22	✓	✓	✓	3	4	✓	✓	✓	✓	✓	7	10	KO	KO
	23	✓	✓	3	✓	✓	✓	✓	✓	✓	1	4	10	KO	KO
	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	PD	PD
	25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CB	CB
	26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10	CB	CB
	27	✓	✓	✓	✓	✓	✓	5	✓	✓	✓	5	10	CW	CW
	28	✓	✓	✓	✓	✓	2	✓	✓	✓	✓	2	10	TBP	TBP
	29	2	✓	✓	✓	✓	✓	✓	✓	6	✓	8	10	CW	CW
	30	✓	✓	6	7	✓	✓	✓	✓	✓	4	17	10	CW	CW
	31	✓	✓	✓	✓	✓	✓	3	✓	✓	✓	3	10	KO	KO
	32	✓	✓	✓	✓	✓	✓	✓	✓	✓	AE/x	0	9	KO	KO
	33	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9	CB	CB
	34	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9	KO	KO
	35	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9	PD	PD
	totals	4	5	11	13	7	2	8	3	11	5	69	9		MG

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10 <sup>0</sup> C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
0.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	15	✓	✓	4	✓	✓	✓	✓	✓	✓	3	7	10		
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	19	✓	✓	✓	✓	✓	3	✓	✓	✓	✓	3	10		
	20	✓	4	✓	✓	✓	7	✓	✓	✓	✓	11	10		
	21	✓	✓	✓	4	6	✓	✓	✓	6	✓	16	10		
	22	✓	✓	5	✓	✓	✓	✓	✓	✓	5	10	10		
	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	27	✓	3	✓	✓	✓	10	✓	✓	✓	✓	13	10		
	28	✓	✓	✓	✓	✓	✓	✓	✓	4	✓	4	10		
	29	✓	✓	8	5	✓	✓	✓	✓	✓	5	18	10		
	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	32	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	33	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	34	✓	2	✓	✓	✓	1	✓	✓	✓	✓	3	10		
	35	✓	✓	✓	✓	2	✓	✓	✓	✓	✓	2	10		
	totals	0	9	17	9	8	21	0	0	10	13	87	10		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
0.5 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓/x	0	9		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	15	2	2	1	✓	✓	✓	1	✓	✓	X	6	9		
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	18	✓	✓	✓	✓	✓	✓	✓	✓	7	X	7	9		
	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	20	✓	✓	✓	6	2	✓	✓	3	✓	X	11	9		
	21	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	22	1	✓	4	✓	✓	✓	1	✓	✓	X	6	9		
	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	0	9		
	25	✓	✓	✓	✓/x	✓	✓	✓	✓	✓	X	0	8		
	26	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	27	✓	✓	✓	X	2	✓	✓	✓	✓	X	2	8		
	28	✓	✓	✓	X	2	5	✓	✓	✓	X	7	8		
	29	2	✓	6	X	✓	✓	✓	✓	✓	X	8	8		
	30	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	31	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	32	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	33	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	34	✓	✓	✓	X	✓	✓	✓	✓	✓	X	0	8		
	35	✓	✓	✓	X	2	2	✓	✓	✓	X	4	8		
	totals	5	2	11	6	8	7	2	3	7	0	51	8		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:

NaCl 10°C

NEB PROJECT NUMBER:

81.0220523.00

ORGANISM: *Ceriodaphnia dubia*

START DATE:

9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
0.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	15	1	✓	3	2	1	✓	✓	✓	✓	✓	7	10		
	16	✓	✓	✓	4	✓	✓	✓	✓	✓	✓	4	10		
	17	✓	✓/x	✓	✓	✓	✓	✓	✓	✓	✓	0	9		
	18	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	0	9		
	19	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	0	9		
	20	✓	X	✓	✓	✓	✓	✓	1	✓	✓	1	9		
	21	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	0	9		
	22	✓	X	✓	✓	4	✓	✓	✓	1	✓	5	9		
	23	✓	X	✓	2	✓	✓	✓/x	✓	✓	✓	2	8		
	24	✓	X	✓	✓	✓	✓	X	✓	✓	✓	0	8		
	25	✓	X	✓	✓	✓	✓	X	✓	✓	✓	0	8		
	26	✓/x	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	27	X	X	✓	5	✓	✓	X	✓	✓	✓	5	7		
	28	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	29	X	X	✓	✓	1	3	X	✓	2	✓	6	7		
	30	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	31	X	X	4	✓	4	✓	X	✓	✓	4	12	7		
	32	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	33	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	34	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	35	X	X	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	totals	1	0	7	13	10	3	0	1	3	4	42	7		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10 <sup>pp</sup> C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts	
		A	B	C	D	E	F	G	H	I	J					
1.0 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10			
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10			
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10			
	15	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	5	7	10		
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	21	✓	✓	4	5	✓	✓	✓	✓	✓	5	✓	14	10		
	22	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3	3	10		
	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	27	✓	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	2	10		
	28	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	29	✓	✓	5	4	✓	✓	✓	✓	✓	3	2	14	10		
	30	✓	✓	✓	✓	✓	✓	✓	✓	2	✓	✓	2	10		
	31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	32	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	33	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	34	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	35	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	totals	2	2	9	9	0	0	0	2	8	10	42	10			



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	15	✓	✓	1	2	2	✓	✓	✓	✓	2	7	10		
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	20	✓	✓	✓	✓	✓	5	✓	✓	✓	✓	5	10		
	21	✓	✓	✓	✓	✓	✓	✓	2	✓	✓	2	10		
	22	✓	✓	✓	1	✓	✓	✓	✓	2	✓	3	10		
	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	24	✓	✓	✓	✓	✓	✓/X	✓	✓	✓	✓	0	9		
	25	✓/X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	26	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	27	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	28	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	29	X	✓	✓	✓	✓	X	✓	✓	5	✓	5	8		
	30	X	✓	2	2	✓	X	✓	✓	✓	3	7	8		
	31	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	32	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	33	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	34	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	35	X	✓	✓	✓	✓	X	✓	✓	✓	✓	0	8		
	totals	0	0	3	5	2	5	0	2	7	5	29	8		



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.5 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	15	✓	✓	✓	✓	1	✓	✓	✓	✓	✓	1	10		
	16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	18	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	21	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	22	✓	✓	✓	✓	✓	✓	✓	✓	3	✓	3	10		
	23	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	26	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	27	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	28	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	29	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	31	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	32	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	33	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	34	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	35	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	totals	0	0	0	0	1	0	0	0	3	0	4	10		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing. Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10 <sup>0</sup> C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
1.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		9		
	2	✓	✓	✓	✓	✓	✓	✓	✓	√/x	✓	✓	0	9	
	3	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	4	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	5	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	6	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	7	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	8	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	9	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	10	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	11	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	12	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	13	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	14	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	15	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	16	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	17	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	18	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	19	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	20	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	21	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	22	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	23	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	24	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	25	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	26	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	27	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	28	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	29	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	30	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	31	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	32	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	33	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	34	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	35	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	0	9	
	totals	0	0	0	0	0	0	0	0	0	0	0	9		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:

NaCl 10°C

NEB PROJECT NUMBER:

81.0220523.00

ORGANISM: *Ceriodaphnia dubia*

START DATE:

9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.0 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	9	✓	✓	✓	✓	✓	✓	✓	✓	√/x	✓	0	9		
	10	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	0	9		
	11	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	0	9		
	12	✓	✓	✓	✓	✓	✓	✓	✓	X	✓	0	9		
	13	✓	✓	✓	✓	✓	√/x	✓	✓	X	✓	0	8		
	14	✓	√/x	✓	✓	✓	X	✓	✓	X	✓	0	7		
	15	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	16	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	17	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	18	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	19	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	20	✓	X	2	✓	✓	X	✓	✓	X	✓	2	7		
	21	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	22	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	23	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	24	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	25	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	26	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	27	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	28	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	29	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	30	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	31	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	32	✓	X	✓	✓	✓	X	✓	✓	X	✓	0	7		
	33	✓	X	√/x	✓	✓	X	✓	✓	X	✓	0	6		
	34	✓	X	X	✓	✓	X	✓	✓	X	✓	0	6		
	35	✓	X	X	✓	✓	X	✓	✓	X	✓	0	6		
	totals	0	0	2	0	0	0	0	0	0	2	6			

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C	
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i> START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.25 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	4	✓/x	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	9		
	5	X	✓	✓	✓	✓	✓	✓/x	✓	✓	✓	0	8		
	6	X	✓/x	✓	✓	✓	✓	X	✓	✓	✓	0	7		
	7	X	X	✓	✓	✓	✓	X	✓/x	✓	✓	0	6		
	8	X	X	✓	✓	✓	✓	X	X	✓	✓	0	6		
	9	X	X	✓	✓	✓/x	✓	X	X	✓	✓	0	5		
	10	X	X	✓	✓	X	✓	X	X	✓	✓	0	5		
	11	X	X	✓	✓	X	✓	X	X	✓	✓	0	5		
	12	X	X	✓	✓	X	✓	X	X	✓	✓	0	5		
	13	X	X	✓	✓	X	✓	X	X	✓	✓	0	5		
	14	X	X	✓	✓	X	✓/x	X	X	✓	✓	0	4		
	15	X	X	✓	✓	X	X	X	X	✓	✓	0	4		
	16	X	X	✓	✓	X	X	X	X	✓	✓/x	0	3		
	17	X	X	✓	✓	X	X	X	X	✓	X	0	3		
	18	X	X	✓	✓	X	X	X	X	✓	X	0	3		
	19	X	X	✓	✓/x	X	X	X	X	✓	X	0	2		
	20	X	X	✓	X	X	X	X	X	✓	X	0	2		
	21	X	X	✓	X	X	X	X	X	✓	X	0	2		
	22	X	X	✓	X	X	X	X	X	✓	X	0	2		
	23	X	X	✓	X	X	X	X	X	✓	X	0	2		
	24	X	X	✓	X	X	X	X	X	✓	X	0	2		
	25	X	X	✓	X	X	X	X	X	✓	X	0	2		
	26	X	X	✓	X	X	X	X	X	✓	X	0	2		
	27	X	X	✓	X	X	X	X	X	✓	X	0	2		
	28	X	X	✓	X	X	X	X	X	✓	X	0	2		
	29	X	X	✓	X	X	X	X	X	✓	X	0	2		
	30	X	X	✓	X	X	X	X	X	✓	X	0	2		
	31	X	X	✓	X	X	X	X	X	✓	X	0	2		
	32	X	X	✓	X	X	X	X	X	✓	X	0	2		
	33	X	X	✓	X	X	X	X	X	✓	X	0	2		
	34	X	X	✓	X	X	X	X	X	✓	X	0	2		
	35	X	X	✓	X	X	X	X	X	✓	X	0	2		
	totals	0	0	0	0	0	0	0	0	0	0	0	2		

NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C				
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM:	<i>Ceriodaphnia dubia</i>	START DATE:	9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.5 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	10		
	3	✓/x	✓	✓	✓	✓	✓	✓	✓	✓	✓/x	0	8		
	4	X	✓/x	✓/x	✓/x	✓	✓	✓	✓/x	✓	X	0	4		
	5	X	X	X	X	✓	✓	✓	X	✓	X	0	4		
	6	X	X	X	X	✓	✓/x	✓/x	X	✓/x	X	0	1		
	7	X	X	X	X	✓/x	X	X	X	X	X	0	0		
	8	X	X	X	X	X	X	X	X	X	X	0	0		
	9	X	X	X	X	X	X	X	X	X	X	0	0		
	10	X	X	X	X	X	X	X	X	X	X	0	0		
	11	X	X	X	X	X	X	X	X	X	X	0	0		
	12	X	X	X	X	X	X	X	X	X	X	0	0		
	13	X	X	X	X	X	X	X	X	X	X	0	0		
	14	X	X	X	X	X	X	X	X	X	X	0	0		
	15	X	X	X	X	X	X	X	X	X	X	0	0		
	16	X	X	X	X	X	X	X	X	X	X	0	0		
	17	X	X	X	X	X	X	X	X	X	X	0	0		
	18	X	X	X	X	X	X	X	X	X	X	0	0		
	19	X	X	X	X	X	X	X	X	X	X	0	0		
	20	X	X	X	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	0	0	0	0	0	0	0	0	0	0	0	0		



NEW ENGLAND BIOASSAY - CHRONIC TOXICITY TEST BROOD DATA SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID:	NaCl 10°C		
NEB PROJECT NUMBER:	81.0220523.00	ORGANISM: <i>Ceriodaphnia dubia</i>	START DATE: 9/8/17

Concentration	Day Number	Replicate										Total Live Young	# Live Adults	Analyst-Transfer	Analyst-Counts
		A	B	C	D	E	F	G	H	I	J				
2.75 g/L	0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		10		
	2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓/x	0	9		
	3	✓	✓	✓/x	✓/x	✓/x	✓	✓/x	✓/x	✓/x	X	0	7		
	4	✓/x	✓/x	X	X	X	✓	X	X	X	X	0	1		
	5	X	X	X	X	X	✓	X	X	X	X	0	1		
	6	X	X	X	X	X	✓/x	X	X	X	X	0	0		
	7	X	X	X	X	X	X	X	X	X	X	0	0		
	8	X	X	X	X	X	X	X	X	X	X	0	0		
	9	X	X	X	X	X	X	X	X	X	X	0	0		
	10	X	X	X	X	X	X	X	X	X	X	0	0		
	11	X	X	X	X	X	X	X	X	X	X	0	0		
	12	X	X	X	X	X	X	X	X	X	X	0	0		
	13	X	X	X	X	X	X	X	X	X	X	0	0		
	14	X	X	X	X	X	X	X	X	X	X	0	0		
	15	X	X	X	X	X	X	X	X	X	X	0	0		
	16	X	X	X	X	X	X	X	X	X	X	0	0		
	17	X	X	X	X	X	X	X	X	X	X	0	0		
	18	X	X	X	X	X	X	X	X	X	X	0	0		
	19	X	X	X	X	X	X	X	X	X	X	0	0		
	20	X	X	X	X	X	X	X	X	X	X	0	0		
	21	X	X	X	X	X	X	X	X	X	X	0	0		
	22	X	X	X	X	X	X	X	X	X	X	0	0		
	23	X	X	X	X	X	X	X	X	X	X	0	0		
	24	X	X	X	X	X	X	X	X	X	X	0	0		
	25	X	X	X	X	X	X	X	X	X	X	0	0		
	26	X	X	X	X	X	X	X	X	X	X	0	0		
	27	X	X	X	X	X	X	X	X	X	X	0	0		
	28	X	X	X	X	X	X	X	X	X	X	0	0		
	29	X	X	X	X	X	X	X	X	X	X	0	0		
	30	X	X	X	X	X	X	X	X	X	X	0	0		
	31	X	X	X	X	X	X	X	X	X	X	0	0		
	32	X	X	X	X	X	X	X	X	X	X	0	0		
	33	X	X	X	X	X	X	X	X	X	X	0	0		
	34	X	X	X	X	X	X	X	X	X	X	0	0		
	35	X	X	X	X	X	X	X	X	X	X	0	0		
	totals	0	0	0	0	0	0	0	0	0	0	0	0		

SAMPLE ID: NaCl 10°C Organisms are considered to be healthy and swimming normally unless otherwiseTEST DATE: 41524 noted in the observations below. If they are listed as "small", then the adults are judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: CONTROL

DAY	OBSERVATION
1	
2	
3	Small
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	Organisms have "fungus" like growth on bodies.
13	Organisms have "fungus" like growth on bodies.
14	Organisms have "fungus" like growth on bodies.
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	Organisms have "fungus" like growth on bodies.
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C

TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.25 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	
10	Small
11	
12	Organisms have "fungus" like growth on bodies.
13	Organisms have "fungus" like growth on bodies.
14	Organisms have "fungus" like growth on bodies.
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	Organisms have "fungus" like growth on bodies.
21	Organisms have "fungus" like growth on bodies.
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	



NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C

TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.5 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	Organisms have "fungus" like growth on bodies.
13	Organisms have "fungus" like growth on bodies.
14	Organisms have "fungus" like growth on bodies.
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	Organisms have "fungus" like growth on bodies.
21	
22	
23	
24	
25	
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33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 0.75 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	
13	
14	Organisms have "fungus" like growth on bodies.
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	Organisms have "fungus" like growth on bodies.
21	Organisms have "fungus" like growth on bodies.
22	Organisms have "fungus" like growth on bodies.
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 10°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.0 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	
13	
14	
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	2 still small
21	Small
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.25 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	
13	
14	
15	
16	
17	
18	Organisms have "fungus" like growth on bodies.
19	Organisms have "fungus" like growth on bodies.
20	Half are still small
21	Small, Organisms have "fungus" like growth on bodies.
22	Organisms have "fungus" like growth on bodies.
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 10°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.5 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	Small
13	
14	
15	
16	
17	
18	About half are still small
19	About half are still small
20	About half are still small
21	Small, Organisms have "fungus" like growth on bodies.
22	Small, Organisms have "fungus" like growth on bodies.
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received, Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C  
 TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 1.75 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	
10	Small
11	
12	Small
13	
14	
15	
16	
17	
18	
19	Small
20	Small
21	Small
22	Small
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 10°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.0 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	
10	Small
11	
12	Small
13	
14	
15	
16	
17	
18	Small
19	Small
20	Small
21	Small
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 10°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.25 g/L

DAY	OBSERVATION
1	
2	
3	
4	Small
5	
6	Small
7	Small
8	Small
9	Small
10	Small
11	
12	Small
13	
14	
15	
16	
17	
18	Small
19	Small
20	Small
21	Small
22	Small
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	



NEW ENGLAND BIOASSAY - CERIODAPIINIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID: \_\_\_\_\_

NaCl 10°C

Organisms are considered to be healthy and swimming normally unless otherwise

TEST DATE: \_\_\_\_\_

41524

noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.5 g/L

DAY	OBSERVATION
1	
2	
3	Small and transparent
4	Small and transparent
5	
6	Small and transparent
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEW ENGLAND BIOASSAY - CERIODAPHNIA CHRONIC TEST OBSERVATION SHEET

Electronic Filing: Received Clerk's Office 5/29/2018

SAMPLE ID: NaCl 10°C

TEST DATE: 41524

Organisms are considered to be healthy and swimming normally unless otherwise noted in the observations below. If they are listed as "small", then the adults are

judged to be smaller in size than adults of the same age observed in standard testing.

CONCENTRATION: 2.75 g/L

DAY	OBSERVATION
1	
2	
3	Small, transparent.
4	Small, transparent.
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 10°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME: 1245	
ANALYST	TBP	TBP	TBP	KO	KO	PD	KO		
NEB Lab Synthetic Control	1	2	3	4	5	6	7	Remarks	
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.8	11.0	
D.O. mg/L	Initial	9.0	9.3	9.9	10.9	10.6	10.8	10.3	
pH s.u.	Initial	7.5	7.9	7.9	7.6	7.6	8.2	8.2	
Conductivity µS	Initial	321	318	318	326	327	332	329	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	11.6	11.8	12.7	12.0	10.6	12.2	
pH s.u.	Final	8.4	8.4	8.1	8.5	8.3	8.8	8.6	
Conductivity µS	Final	365	349	365	356	365	367	359	
0.25 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.6	11.0	
D.O. mg/L	Initial	8.8	9.3	9.9	10.9	10.6	10.9	10.7	
pH s.u.	Initial	7.6	7.9	8.0	7.7	7.6	8.2	8.1	
Conductivity µS	Initial	790	788	759	821	866	796	847	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	12.0	12.1	12.7	11.9	11.6	12.2	
pH s.u.	Final	8.5	8.7	8.0	8.6	8.5	8.8	8.6	
Conductivity µS	Final	829	805	768	832	882	803	852	
0.5 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.8	11.0	
D.O. mg/L	Initial	8.9	9.3	9.8	10.9	10.9	11.0	10.8	
pH s.u.	Initial	7.7	8.0	8.0	7.7	7.7	8.1	8.1	
Conductivity µS	Initial	1,313	1,287	1,306	1,373	1,390	1,388	1,334	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	12.2	11.0	12.7	12.2	11.9	12.4	
pH s.u.	Final	8.5	8.8	8.6	8.7	8.7	8.9	8.6	
Conductivity µS	Final	1,319	1,270	1,333	1,347	1,380	1,363	1,315	
0.75 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.7	11.0	
D.O. mg/L	Initial	9.0	9.2	9.9	10.9	10.9	11.1	10.9	
pH s.u.	Initial	7.7	8.0	8.0	7.8	7.7	8.1	8.1	
Conductivity µS	Initial	1,831	1,746	1,800	1,872	1,871	1,894	1,875	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	12.2	11.6	12.7	11.8	12.2	12.3	
pH s.u.	Final	8.4	8.7	8.6	8.7	8.5	8.9	8.6	
Conductivity µS	Final	1,811	1,726	1,781	1,821	1,843	1,854	1,827	

NEB'S DATA SHEET FOR ROUTINE CHEMICAL AND PHYSICAL DETERMINATIONS

SAMPLE ID:		NaCl 10°C							
NEB PROJECT NUMBER:		81.0220523.00			TEST ORGANISM		<i>Ceriodaphnia dubia</i>		
DILUTION WATER SOURCE:		Moderately Hard Synthetic			START DATE:		9/8/17	TIME:	1245
1.0 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.7	11.0	
D.O. mg/L	Initial	8.9	9.3	9.9	10.8	11.1	11.1	10.9	
pH s.u.	Initial	7.8	8.0	8.0	7.8	7.7	8.1	8.1	
Conductivity μS	Initial	2,273	2,268	2,267	2,346	2,360	2,382	2,327	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	11.9	11.9	12.7	12.1	12.3	12.2	
pH s.u.	Final	8.5	8.7	0.6	8.8	8.7	8.9	8.6	
Conductivity μS	Final	2,234	2,184	2,268	2,265	2,310	2,319	2,275	
1.25 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	11.0	11.0	10.6	11.0	
D.O. mg/L	Initial	9.8	9.3	10.0	10.8	10.9	11.1	10.7	
pH s.u.	Initial	7.8	8.0	8.0	7.8	7.8	8.1	8.1	
Conductivity μS	Initial	2,799	2,778	2,737	2,811	2,830	2,881	2,846	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.6	12.1	12.0	12.6	12.1	12.3	12.1	
pH s.u.	Final	8.5	8.8	8.6	8.8	8.7	8.9	8.6	
Conductivity μS	Final	2,741	2,709	2,725	2,708	2,765	2,792	2,768	
1.5 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	10.9	11.0	11.0	11.0	
D.O. mg/L	Initial	9.7	9.4	10.0	10.7	10.9	10.7	10.8	
pH s.u.	Initial	7.8	8.0	8.0	7.9	7.8	8.0	8.1	
Conductivity μS	Initial	3,237	3,260	3,259	3,297	3,306	3,280	3,283	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.5	11.8	12.1	12.2	11.6	12.2	12.1	
pH s.u.	Final	8.4	8.7	8.6	8.6	8.7	8.7	8.6	
Conductivity μS	Final	3,170	3,202	3,252	3,170	3,250	3,190	3,187	
1.75 g/L		1	2	3	4	5	6	7	Remarks
Temp °C	Initial	11.0	11.0	11.0	10.7	11.0	11.0	12.0	
D.O. mg/L	Initial	9.3	9.5	9.9	10.6	108.0	10.7	10.8	
pH s.u.	Initial	7.8	8.0	8.0	7.9	7.8	8.0	8.1	
Conductivity μS	Initial	3,747	3,690	3,705	3,809	3,683	3,890	3,786	
Temp °C	Final	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
D.O. mg/L	Final	9.4	11.9	11.8	12.4	11.8	12.1	12.1	
pH s.u.	Final	8.4	8.8	8.5	8.6	8.7	8.7	8.5	
Conductivity μS	Final	3,580	3,592	3,684	3,649	3,710	3,748	3,686	

Table of Random Permutations of 16

C.dubia Test ID#

17-1480

Electronic Filing Received, Clerks Office 5/29/2018

7	12	15	15	1	2	17	16	18	14	15	7	13	16	7	10	9	5	10	11	10	13	5	11	7	13	16	7	7	5	13	2	14
13	3	8	16	7	13	3	14	9	13	13	2	9	15	6	2	8	4	5	8													
3	1	4	5	14	6	2	6	2	16	8	5	12	3	9	13	4	3	10	4													
11	8	16	14	15	9	14	13	8	6	5	8	14	7	3	15	13	11	4	7													
14	9	1	6	3	5	13	2	11	7	3	12	5	14	12	16	2	2	9	15													
2	16	10	13	5	15	1	9	1	4	7	10	6	9	11	9	7	6	16	11													
4	6	13	7	2	14	4	15	3	3	4	16	2	6	5	1	12	10	6	9													
6	14	6	10	4	12	16	3	4	8	10	1	15	5	14	12	14	12	3	2													
10	15	2	1	13	11	9	8	12	14	15	4	11	8	16	8	9	14	14	1													
12	10	7	12	9	7	8	12	6	15	6	13	16	12	15	4	11	8	12	6													
15	7	5	2	10	8	15	5	16	1	1	9	8	1	8	14	16	5	13	5													
16	2	11	8	8	4	10	11	5	12	9	3	10	4	4	3	10	9	1	3													
9	13	14	3	6	3	12	7	7	10	12	14	3	10	1	6	15	16	15	12													
8	11	9	4	11	16	5	4	14	9	16	11	1	2	10	5	1	15	7	13													
1	5	12	11	16	1	6	1	15	11	2	6	4	11	2	11	3	7	11	16													
5	4	3	9	12																												

CONC REP

11	8	16	5	5	13	1	13	2	16	14	12	9	8	7	5	13	3	13	3													
2	2	8	8	14	16	4	3	8	11	10	14	15	1	2	11	4	5	15	9													
6	13	2	13	6	5	9	15	11	10	12	6	16	15	16	9	10	12	16	15													
14	12	4	16	16	11	14	10	5	12	3	3	12	14	15	13	6	4	1	16													
8	6	3	9	4	10	6	4	16	2	2	9	8	16	4	6	5	15	7	8													
9	15	12	10	3	2	12	6	1	15	4	13	7	7	9	12	14	8	8	11													
3	10	11	12	13	12	5	11	7	8	9	5	14	11	10	1	3	13	3	5													
16	1	13	14	8	14	15	5	3	7	11	15	6	12	5	7	11	1	14	4													
1	14	14	2	9	15	16	14	6	14	7	8	3	13	11	8	7	7	12	7													
4	4	6	4	12	3	11	8	15	9	8	1	13	6	3	3	15	9	9	12													
15	5	1	11	10	6	3	7	10	5	5	11	10	10	12	15	16	14	5	2													
5	3	5	6	7	7	13	2	14	3	16	4	5	5	13	4	9	16	2	6													
12	7	15	15	15	9	8	12	12	13	15	10	1	4	6	16	2	6	11	1													
10	11	10	3	2	4	2	1	4	6	6	7	11	9	14	10	8	11	4	13													
7	9	7	7	11	1	7	16	13	1	13	2	4	2	1	2	12	2	10	14													
13	16	9	1	1	8	10	9	9	4	1	16	2	3	8	14	1	10	6	10													

1	6	7	4	8	6	5	2	8	15	4	6	6	1	4	5	7	13	2	10													
9	15	11	3	11	15	9	10	1	3	8	2	15	7	9	8	16	1	14	3													
10	16	4	5	12	9	16	11	7	1	7	16	11	8	3	3	12	2	3	4													
4	14	1	9	5	5	4	13	6	8	15	5	12	5	7	16	5	11	8	1													
7	3	13	14	15	2	1	14	16	5	14	9	2	16	1	12	6	14	4	13													
16	11	2	1	14	16	6	9	3	4	16	14	3	15	11	11	3	9	12	5													
3	10	16	16	13	7	13	1	11	14	9	10	16	2	10	2	10	7	10	16													
11	13	9	13	4	13	8	3	5	13	10	12	5	12	5	14	13	16	5	6													
15	2	3	12	9	12	2	4	13	10	3	13	14	4	2	1	14	8	6	12													
14	1	14	6	10	1	3	12	4	2	2	4	13	3	16	9	9	3	7	14													
13	12	5	11	3	11	15	8	2	7	11	7	8	14	6	4	4	4	15	11													
12	5	10	7	2	14	7	15	14	16	13	1	9	10	12	10	11	10	9	8													
8	9	8	10	6	4	11	7	10	11	6	8	4	9	8	15	8	6	11	9													
2	7	6	2	1	8	10	6	15	12	1	11	7	11	13	6	1	15	13	15													
6	4	15	8	16	10	14	16	9	6	12	3	10	6	14	7	2	12	16	7													
5	8	12	15	7	3	12	5	12	9	5	15	1	13	15	13	15	5	1	2													

13	4	10	4	16	13	16	13	5	3	6	14	1	16	8	7	2	3	3	12													
5	14	4	6	8	2	15	1	13	14	16	4	15	4	3	12	12	1	4	7													
2	2	2	15	14	16	9	12	16	6	10	15	14	9	10	1	14	8	8	16													
7	12	15	8	12	3	5	14	7	12	5	13	16	1	7	5	11	2	9	3													
6	9	7	14	9	14	10	11	15	11	12	1	12	12	14	16	3	11	11	8													
14	5	16	7	10	8	11	8	14	13	7	11	6	3	11	4	4	6	6	9													
15	11	8	9	7	12	8	7	1	15	9	3	3	7	13	11	10	4	5	1													
11	6	6	1	4	1	3	16	12	5	4	9	13	13	6	8	15	9	1	14													
4	10	3	16	2	11	7	9	6	9	1	8	4	11	5	2	16	10	12	4													
1	8	1	13	1	15	4	4	11	4	2	16	5	8	1	9	5	12	16	6													
9	7	14	2	6	4	14	10	9	8	15	10	7	10	9	10	6	14	10	11													
12	1	9	10	15	5	2	15	10	2	14	2	8	2	4	13	8	5	15	5													
3	3	12	11	5	9	6	6	3	10	13	12	9	6	2	15	7	15	7	13													
10	15	11	5	13	7	12	5	2	7	11	5	10	15	12	3	1	13	13	10													
8	13	13	3	3	10	13	2	4	1	8	6	11	14	15	6	9	16	2	2													
16	16	5	12	11	6	1	3	8	16	3	7	2	5	16	14	13	7	14	15													



Brood mother source: RMH 159 A11 Source's brood size: 20 (Qty)

Huff and Huff 10° 9.8.17

Tech	AT	AT	AT	AT		SIP	SIP	AT		AT	AT	AT				
Date	8.29	8.30	8.31	9.1		9.3	9.4	9.5		9.6	9.7	9.8				
Day acc.	0	1	2	3	4	5	6	7		8	9	10	11	12	13	14
Cup #						2B										
1	N	N	N	N		14	Y	Y	1	Y	N	Y				
2	N	N	N	N		12	Y	Y	2	Y	N	Y <sup>T1</sup>				
3	N	N	N	N		12	Y	Y	3	Y	N	Y <sup>T2</sup>				
4	N	N	N	N		12	Y	Y	4	Y	N	Y <sup>T3</sup>				
5	N	N	N	N		13	Y	Y	5	Y	N	Y <sup>T4</sup>				
6	N	N	N	N		14	Y	Y	6	Y	N	Y <sup>T5</sup>				
7	N	N	N	N		12	Y	Y	7	Y	N	Y <sup>T6</sup>				
8	N	N	N	N		13	Y	Y	8	Y	N	X				
9	N	N	N	N		11	Y	Y	9	Y	N	X				
10	N	N	N	N		13	Y	Y	10	Y	N	Y <sup>T7</sup>				
11	N	N	N	N		12	Y	Y	11	Y	N	Y <sup>T8</sup>				
12	N	N	N	N		13	Y	Y	12	Y	N	Y <sup>T9</sup>				
13	N	N	N	N		13	Y	Y	13	Y	N	Y <sup>T10</sup>				

Y = neonates present, and criterion has been met: ≥ 20 neonates produced in total by 3rd brood. N = no neonates  
 2B = two broods present. 2Y = two broods and criterion met: ≥ 20 neos. by 3rd brood. X = brood mother dead ae = aborted eggs  
 ✓ or P = neonates present after renewal on previous day (see time in log). A→ = acceptable for acute testing only  
 T# = neonates used in test, replicate number of test noted (and brood counted). acc. = if acclimated, H<sub>2</sub>O type used w/ renewal this day.

Test organism collection:

Tray diagram used?

Project #	Symbols (✓ / P)	(Y/N)	Time period, neonates released	Collection date / time
	T		9.7.17/1245 → 9.7.17/1715	9.8.17/0930
	T			
	T			
	T			
	T			
	T			

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 06-0103-3211 Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 11:04 Analysis: Untrimmed Spearman-Kärber Official Results: Yes

Batch ID: 15-6387-4143 Test Type: Reproduction-Survival (7d) Analyst:  
 Start Date: 08 Sep-17 12:45 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water  
 Ending Date: 13 Oct-17 11:20 Species: Ceriodaphnia dubia Brine: Not Applicable  
 Duration: 34d 23h Source: In-House Culture Age: <24h

Sample ID: 03-0070-8444 Code: 11EC725C Client: GZA GeoEnvironmental  
 Sample Date: 08 Sep-17 Material: Sodium chloride Project:  
 Receipt Date: 08 Sep-17 Source: GZA GeoEnvironmental  
 Sample Age: 13h Station:

*10<sup>0</sup>, 7-day*

Spearman-Kärber Estimates

Threshold Option	Threshold	Trim	Mu	Sigma	LC50	95% LCL	95% UCL
Control Threshold	0	0.00%	0.3366	0.01717	2.171	2.006	2.349

Test Acceptability Criteria

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

7d Survival Rate Summary

Calculated Variate(A/B)

Conc-gm/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	D	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.5		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
0.75		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
2		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
2.25		10	0.6000	0.0000	1.0000	0.1633	0.5164	86.07%	40.0%	6	10
2.5		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
2.75		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000
2.5		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.75		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 06-0103-3211

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:04

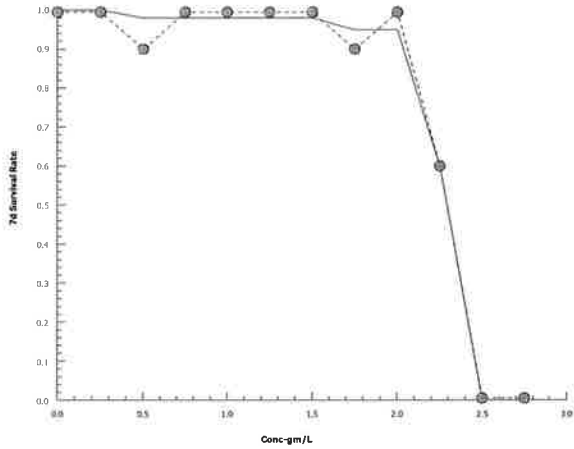
Analysis: Untrimmed Spearman-Kärber

Official Results: Yes

7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		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	1/1
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
2.25		0/1	0/1	1/1	1/1	1/1	1/1	0/1	0/1	1/1	1/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1

Graphics





Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 11-1465-3370	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2
Analyzed: 02 Nov-17 11:04	Analysis: STP 2xK Contingency Tables	Official Results: Yes
Batch ID: 15-6387-4143	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 08 Sep-17 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 13 Oct-17 11:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 34d 23h	Source: In-House Culture	Age: <24h
Sample ID: 03-0070-8444	Code: 11EC725C	Client: GZA GeoEnvironmental
Sample Date: 08 Sep-17	Material: Sodium chloride	Project:
Receipt Date: 08 Sep-17	Source: GZA GeoEnvironmental	
Sample Age: 13h	Station:	

*10°, 7-day*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2.25	> 2.25	n/a	

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	1.0000	Exact	1.0000	Non-Significant Effect
		0.5	0.5000	Exact	1.0000	Non-Significant Effect
		0.75	1.0000	Exact	1.0000	Non-Significant Effect
		1	1.0000	Exact	1.0000	Non-Significant Effect
		1.25	1.0000	Exact	1.0000	Non-Significant Effect
		1.5	1.0000	Exact	1.0000	Non-Significant Effect
		1.75	0.5000	Exact	1.0000	Non-Significant Effect
		2	1.0000	Exact	1.0000	Non-Significant Effect
		2.25	0.0433	Exact	0.3901	Non-Significant Effect

Test Acceptability Criteria

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

Data Summary

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
0.25		10	0	10	1	0	0.0%
0.5		9	1	10	0.9	0.1	10.0%
0.75		10	0	10	1	0	0.0%
1		10	0	10	1	0	0.0%
1.25		10	0	10	1	0	0.0%
1.5		10	0	10	1	0	0.0%
1.75		9	1	10	0.9	0.1	10.0%
2		10	0	10	1	0	0.0%
2.25		6	4	10	0.6	0.4	40.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	1.0000	1.0000

**CETIS Analytical Report**

Report Date:

02 Nov-17 11:04 (p 2 of 2)

Test Code:

17-1480 | 11-1372-5691

**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

Analysis ID: 11-1465-3370

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:04

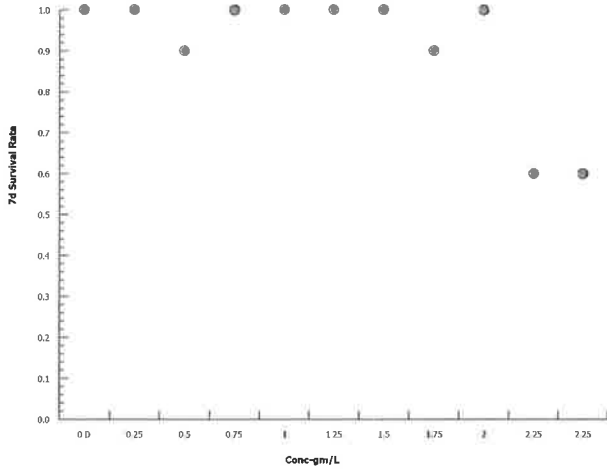
Analysis: STP 2xK Contingency Tables

Official Results: Yes

**7d Survival Rate Binomials**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		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	1/1
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
2.25		0/1	0/1	1/1	1/1	1/1	1/1	0/1	0/1	1/1	1/1

**Graphics**



Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

<b>Analysis ID:</b> 09-0664-0873	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:07	<b>Analysis:</b> Linear Regression (GLM)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	10°, 14-day

Linear Regression Options

Model Name	Link Function	Threshold Option	Thresh	Optimized	Pooled	Het Corr	Weighted
Log-Normal (Probit)	$\eta = \text{inv } \Phi[\pi]$	Control Threshold	0.000001	Yes	Yes	No	Yes

Regression Summary

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision( $\alpha:5\%$ )
14	-7.796	24.59	23.05	0.3256	0.04618	0.9934				Lack of Fit Not Tested

Point Estimates

Level	gm/L	95% LCL	95% UCL
LC50	2.117	1.97	2.239

Test Acceptability Criteria

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

Regression Parameters

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision( $\alpha:5\%$ )
Threshold	0.01608	0.015	-0.01333	0.04549	1.072	0.3117	Non-Significant Parameter
Slope	21.65	5.471	10.93	32.38	3.958	0.0033	Significant Parameter
Intercept	-7.051	1.852	-10.68	-3.422	-3.808	0.0042	Significant Parameter

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision( $\alpha:5\%$ )
Model	1351	675.6	2	830.7	<1.0E-37	Significant
Residual	7.319	0.8133	9			

Residual Analysis

Attribute	Method	Test Stat	Critical	P-Value	Decision( $\alpha:5\%$ )
Goodness-of-Fit	Pearson Chi-Sq GOF Test	7.319	16.92	0.6039	Non-Significant Heterogeneity
	Likelihood Ratio GOF Test	6.39	16.92	0.7004	Non-Significant Heterogeneity
Distribution	Shapiro-Wilk W Normality Test	0.7985	0.8608	0.0090	Non-Normal Distribution
	Anderson-Darling A2 Normality Te	1.233	2.492	0.0030	Non-Normal Distribution

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 09-0664-0873

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:07

Analysis: Linear Regression (GLM)

Official Results: Yes

7d Survival Rate Summary

Calculated Variate(A/B)

Conc-gm/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	D	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.5		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
0.75		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
2		10	0.7000	0.0000	1.0000	0.1528	0.4830	69.01%	30.0%	7	10
2.25		10	0.4000	0.0000	1.0000	0.1633	0.5164	129.10%	60.0%	4	10
2.5		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
2.75		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000
2.5		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.75		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-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		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	1/1
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	1/1	0/1	0/1	0/1	0/1	1/1	1/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		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

New England Bioassay

Analysis ID: 09-0664-0873

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

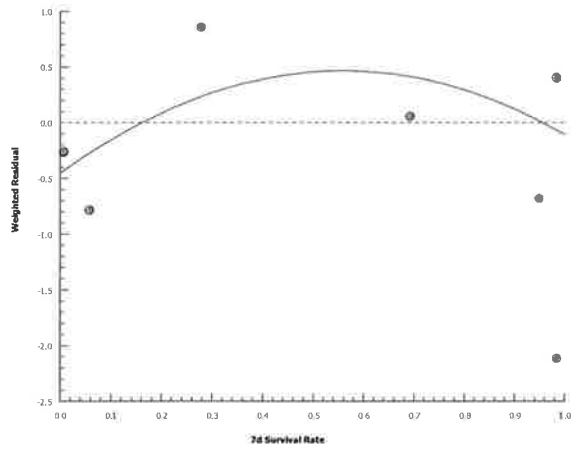
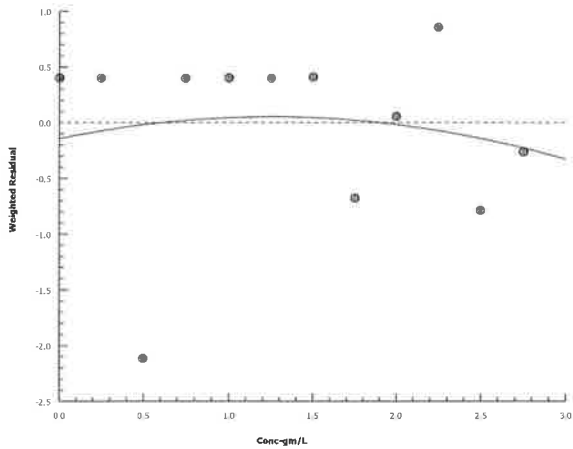
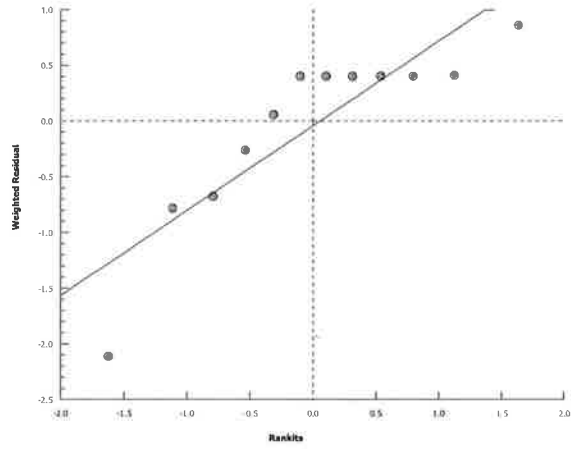
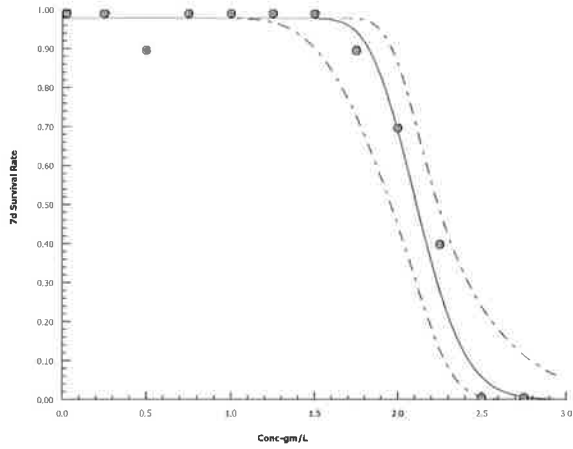
Analyzed: 02 Nov-17 11:07

Analysis: Linear Regression (GLM)

Official Results: Yes

Graphics

Log-Normal:  $\text{inv } \Phi[\pi] = \alpha + \beta \cdot \log[x]$



CETIS Analytical Report

Report Date: 02 Nov-17 11:08 (p 1 of 2)  
 Test Code: 17-1480 | 11-1372-5691

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 08-3201-6081 Endpoint: 7d Survival Rate CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 11:08 Analysis: STP 2xK Contingency Tables Official Results: Yes

Batch ID: 15-6387-4143 Test Type: Reproduction-Survival (7d) Analyst:  
 Start Date: 08 Sep-17 12:45 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water  
 Ending Date: 13 Oct-17 11:20 Species: Ceriodaphnia dubia Brine: Not Applicable  
 Duration: 34d 23h Source: In-House Culture Age: <24h

Sample ID: 03-0070-8444 Code: 11EC725C Client: GZA GeoEnvironmental  
 Sample Date: 08 Sep-17 Material: Sodium chloride Project:  
 Receipt Date: 08 Sep-17 Source: GZA GeoEnvironmental  
 Sample Age: 13h Station: *10°, 14-day*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2	2.25	2.121	

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	1.0000	Exact	1.0000	Non-Significant Effect
		0.5	0.5000	Exact	1.0000	Non-Significant Effect
		0.75	1.0000	Exact	1.0000	Non-Significant Effect
		1	1.0000	Exact	1.0000	Non-Significant Effect
		1.25	1.0000	Exact	1.0000	Non-Significant Effect
		1.5	1.0000	Exact	1.0000	Non-Significant Effect
		1.75	0.5000	Exact	1.0000	Non-Significant Effect
		2	0.1053	Exact	0.8421	Non-Significant Effect
		2.25*	0.0054	Exact	0.0488	Significant Effect

Test Acceptability Criteria

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

Data Summary

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
0.25		10	0	10	1	0	0.0%
0.5		9	1	10	0.9	0.1	10.0%
0.75		10	0	10	1	0	0.0%
1		10	0	10	1	0	0.0%
1.25		10	0	10	1	0	0.0%
1.5		10	0	10	1	0	0.0%
1.75		9	1	10	0.9	0.1	10.0%
2		7	3	10	0.7	0.3	30.0%
2.25		4	6	10	0.4	0.6	60.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	1.0000

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 08-3201-6081

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:08

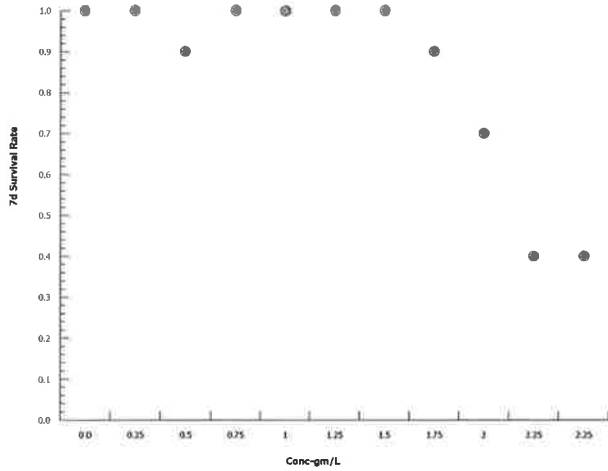
Analysis: STP 2xK Contingency Tables

Official Results: Yes

7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		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	1/1
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	1/1	0/1	0/1	0/1	0/1	1/1	1/1

Graphics



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 02-1286-4984	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:20	<b>Analysis:</b> Linear Regression (GLM)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

*10°, 21-days*

**Linear Regression Options**

Model Name	Link Function	Threshold Option	Thresh	Optimized	Pooled	Het Corr	Weighted
Log-Normal (Probit)	$\eta = \text{inv } \Phi[\pi]$	Control Threshold	0.000001	Yes	Yes	No	Yes

**Regression Summary**

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision( $\alpha:5\%$ )
20	-8.359	25.72	24.17	0.319	0.03734	0.9901				Lack of Fit Not Tested

**Point Estimates**

Level	gm/L	95% LCL	95% UCL
LC50	2.084	1.927	2.198

**Test Acceptability Criteria**

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

**Regression Parameters**

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision( $\alpha:5\%$ )
Threshold	0.0322	0.02064	-0.00826	0.07266	1.56	0.1532	Non-Significant Parameter
Slope	26.78	8.02	11.06	42.5	3.339	0.0087	Significant Parameter
Intercept	-8.543	2.653	-13.74	-3.343	-3.22	0.0105	Significant Parameter

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision( $\alpha:5\%$ )
Model	651.8	325.9	2	550.3	<1.0E-37	Significant
Residual	5.33	0.5922	9			

**Residual Analysis**

Attribute	Method	Test Stat	Critical	P-Value	Decision( $\alpha:5\%$ )
Goodness-of-Fit	Pearson Chi-Sq GOF Test	5.33	16.92	0.8047	Non-Significant Heterogeneity
	Likelihood Ratio GOF Test	5.99	16.92	0.7409	Non-Significant Heterogeneity
Distribution	Shapiro-Wilk W Normality Test	0.8211	0.8608	0.0164	Non-Normal Distribution
	Anderson-Darling A2 Normality Te	0.9568	2.492	0.0158	Non-Normal Distribution



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

Analysis ID: 02-1286-4984      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 11:20      Analysis: Linear Regression (GLM)      Official Results: Yes

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-gm/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	D	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.5		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
0.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
1		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
2		10	0.7000	0.0000	1.0000	0.1528	0.4830	69.01%	30.0%	7	10
2.25		10	0.2000	0.0000	1.0000	0.1333	0.4216	210.80%	80.0%	2	10
2.5		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
2.75		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

**7d Survival Rate Detail**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
2.5		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.75		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-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		1/1	0/1	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
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		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**

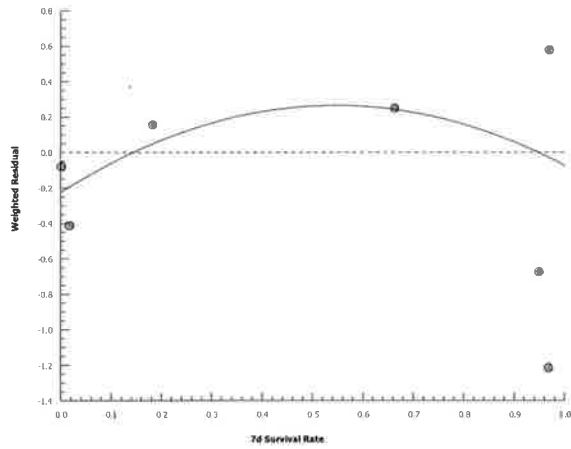
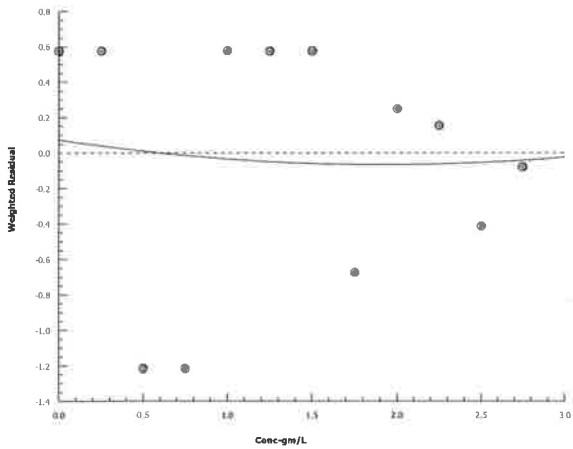
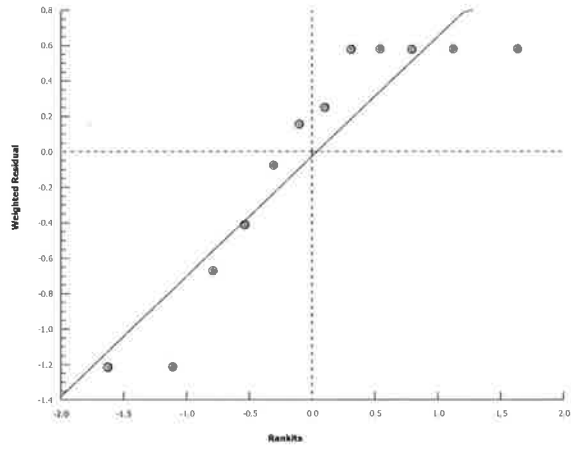
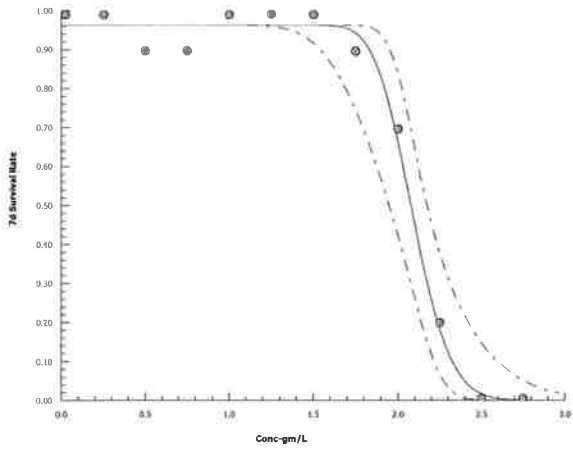
**New England Bioassay**

Analysis ID: 02-1286-4984      Endpoint: 7d Survival Rate  
 Analyzed: 02 Nov-17 11:20      Analysis: Linear Regression (GLM)

CETIS Version: CETISv1.9.2  
 Official Results: Yes

**Graphics**

Log-Normal:  $\text{inv } \Phi[\pi] = \alpha + \beta \cdot \log[x]$



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 18-1036-3624	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 13:51	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

*10<sup>0</sup>, 21 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	1.25	1.5	1.369		96.42%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-gm/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	120	74	2	18	Asymp	0.9929	Non-Significant Effect
		0.5	102.5	74	3	18	Asymp	0.7993	Non-Significant Effect
		0.75	88	74	2	18	Asymp	0.3191	Non-Significant Effect
		1	101.5	74	4	18	Asymp	0.7728	Non-Significant Effect
		1.25	89	74	4	18	Asymp	0.3517	Non-Significant Effect
		1.5*	71.5	74	1	18	Asymp	0.0274	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	2.3	15	>>	Yes	Below Criteria
PMSD	0.9642	0.13	0.47	Yes	Above Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	76.6857	12.781	6	2.851	0.0161	Significant Effect
Error	282.4	4.48254	63			
Total	359.086		69			

**Distributional Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	30.41	16.81	3.3E-05	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9476	0.9526	0.0055	Non-Normal Distribution

**Reproduction Summary**

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	2.3	0.949	3.651	2.5	0	5	0.5972	82.11%	0.00%
0.25		10	3.7	1.412	5.988	4	0	10	1.012	86.46%	-60.87%
0.5		10	2.4	0.7072	4.093	2	0	7	0.7483	98.60%	-4.35%
0.75		10	1.2	-0.1822	2.582	0.5	0	6	0.611	161.02%	47.83%
1		10	2.1	0.3988	3.801	1	0	5	0.752	113.24%	8.70%
1.25		10	1.4	0.2714	2.529	1.5	0	5	0.4989	112.69%	39.13%
1.5		10	0.1	-0.1262	0.3262	0	0	1	0.1	316.23%	95.65%
1.75		10	0	0	0	0	0	0	0		100.00%
2		10	0.2	-0.2524	0.6524	0	0	2	0.2	316.23%	91.30%

Ceriodaphnia 7-d Survival and Reproduction Test

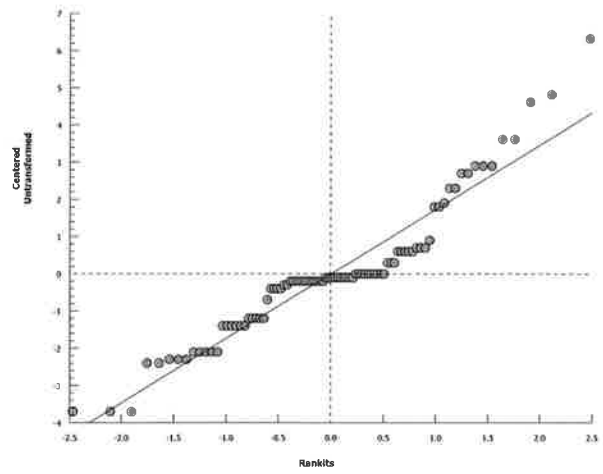
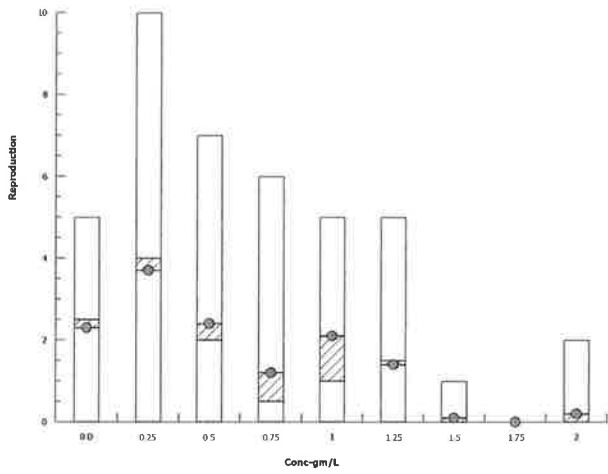
New England Bioassay

Analysis ID: 18-1036-3624      Endpoint: Reproduction      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 13:51      Analysis: Nonparametric-Control vs Treatments      Official Results: Yes

Reproduction Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	2	5	2	3	3	0	3	0	5	0
0.25		0	4	4	4	6	10	0	0	6	3
0.5		2	2	1	6	2	0	1	3	7	0
0.75		1	0	3	6	1	0	0	1	0	0
1		2	0	4	5	0	0	0	0	5	5
1.25		0	0	1	2	2	5	0	2	0	2
1.5		0	0	0	0	1	0	0	0	0	0
1.75		0	0	0	0	0	0	0	0	0	0
2		0	0	2	0	0	0	0	0	0	0

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

<b>Analysis ID:</b> 20-4148-0489	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:20	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

*10°, 21-days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2	2.25	2.121	

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	1.0000	Exact	1.0000	Non-Significant Effect
		0.5	0.5000	Exact	1.0000	Non-Significant Effect
		0.75	0.5000	Exact	1.0000	Non-Significant Effect
		1	1.0000	Exact	1.0000	Non-Significant Effect
		1.25	1.0000	Exact	1.0000	Non-Significant Effect
		1.5	1.0000	Exact	1.0000	Non-Significant Effect
		1.75	0.5000	Exact	1.0000	Non-Significant Effect
		2	0.1053	Exact	0.8421	Non-Significant Effect
		2.25*	0.0004	Exact	0.0032	Significant Effect

Test Acceptability Criteria

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

Data Summary

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
0.25		10	0	10	1	0	0.0%
0.5		9	1	10	0.9	0.1	10.0%
0.75		9	1	10	0.9	0.1	10.0%
1		10	0	10	1	0	0.0%
1.25		10	0	10	1	0	0.0%
1.5		10	0	10	1	0	0.0%
1.75		9	1	10	0.9	0.1	10.0%
2		7	3	10	0.7	0.3	30.0%
2.25		2	8	10	0.2	0.8	80.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 20-4148-0489

Endpoint: 7d Survival Rate

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:20

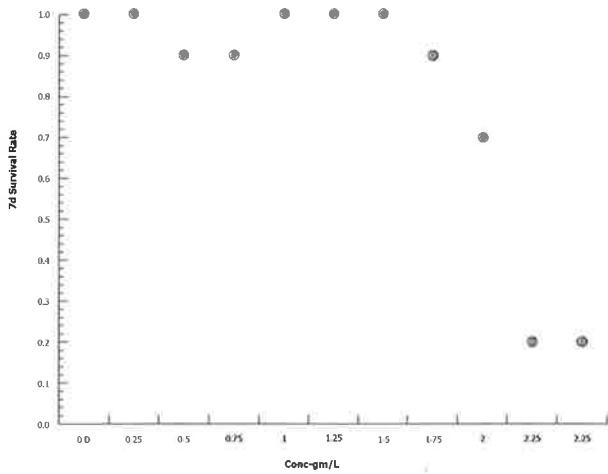
Analysis: STP 2xK Contingency Tables

Official Results: Yes

7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		1/1	0/1	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
1.25		1/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test			New England Bioassay		
Analysis ID: 04-0704-7535	Endpoint: Reproduction	CETIS Version: CETISv1.9.2			
Analyzed: 02 Nov-17 13:58	Analysis: Nonparametric-Control vs Treatments	Official Results: Yes			
Batch ID: 15-6387-4143	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 08 Sep-17 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 13 Oct-17 11:20	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Duration: 34d 23h	Source: In-House Culture	Age: <24h			
Sample ID: 03-0070-8444	Code: 11EC725C	Client: GZA GeoEnvironmental			
Sample Date: 08 Sep-17	Material: Sodium chloride	Project:			
Receipt Date: 08 Sep-17	Source: GZA GeoEnvironmental				
Sample Age: 13h	Station:				

*10° 28 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	1.25	1.5	1.369		84.89%

Steel Many-One Rank Sum Test									
Control	vs	Conc-gm/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	116	74	4	18	Asymp	0.9813	Non-Significant Effect
		0.5	104	74	5	18	Asymp	0.8355	Non-Significant Effect
		0.75	81	74	3	18	Asymp	0.1376	Non-Significant Effect
		1	87.5	74	4	18	Asymp	0.3034	Non-Significant Effect
		1.25	79.5	74	4	18	Asymp	0.1106	Non-Significant Effect
		1.5*	64.5	74	2	18	Asymp	0.0059	Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	4.1	15	>>	Yes	Below Criteria
PMSD	0.8489	0.13	0.47	Yes	Above Criteria

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	225.143	37.5238	6	3.399	0.0057	Significant Effect
Error	695.5	11.0397	63			
Total	920.643		69			

Distributional Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variances	Bartlett Equality of Variance Test	33.83	16.81	7.3E-06	Unequal Variances	
Distribution	Shapiro-Wilk W Normality Test	0.8892	0.9526	1.5E-05	Non-Normal Distribution	

Reproduction Summary											
Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	4.1	2.179	6.021	5	0	8	0.8492	65.50%	0.00%
0.25		10	6.4	2.026	10.77	6.5	0	20	1.933	95.53%	-56.10%
0.5		10	3.9	2.302	5.498	4	0	7	0.7063	57.27%	4.88%
0.75		10	2.4	-0.5048	5.305	1	0	13	1.284	169.19%	41.46%
1		10	2.6	0.5993	4.601	2	0	8	0.8844	107.57%	36.59%
1.25		10	1.7	0.579	2.821	2	0	5	0.4955	92.18%	58.54%
1.5		10	0.4	-0.2911	1.091	0	0	3	0.3055	241.52%	90.24%
1.75		10	0	0	0	0	0	0	0		100.00%
2		10	0.2	-0.2524	0.6524	0	0	2	0.2	316.23%	95.12%

Ceriodaphnia 7-d Survival and Reproduction Test

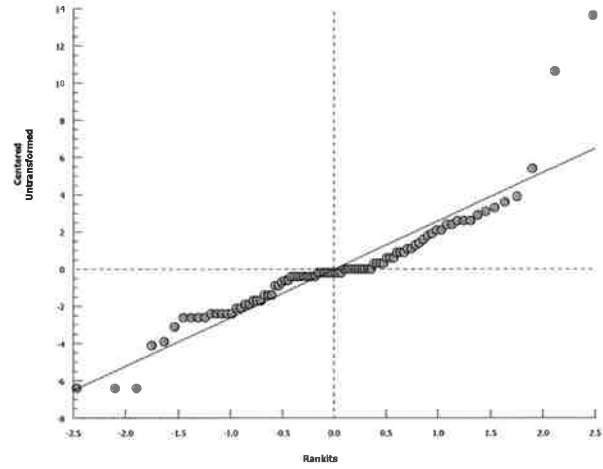
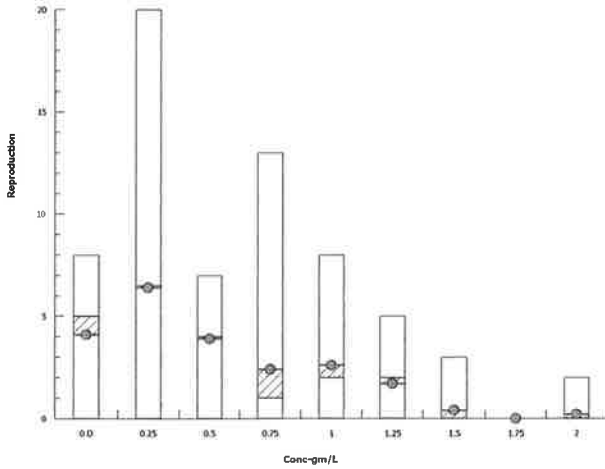
New England Bioassay

Analysis ID: 04-0704-7535      Endpoint: Reproduction      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 13:58      Analysis: Nonparametric-Control vs Treatments      Official Results: Yes

Reproduction Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	2	5	5	6	7	2	8	0	5	1
0.25		0	7	9	4	6	20	0	0	10	8
0.5		3	2	5	6	6	5	2	3	7	0
0.75		1	0	3	13	5	0	0	1	1	0
1		2	2	4	5	0	0	0	0	5	8
1.25		0	0	1	3	2	5	0	2	2	2
1.5		0	0	0	0	1	0	0	0	3	0
1.75		0	0	0	0	0	0	0	0	0	0
2		0	0	2	0	0	0	0	0	0	0

Graphics





**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 17-2165-5662	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 13:58	<b>Analysis:</b> Linear Regression (GLM)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

10° 28 days

**Linear Regression Options**

Model Name	Link Function	Threshold Option	Thresh	Optimized	Pooled	Het Corr	Weighted
Log-Normal (Probit)	$\eta = \text{inv } \Phi[\pi]$	Control Threshold	0.000001	Yes	Yes	No	Yes

**Regression Summary**

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision( $\alpha$ :5%)
20	-13.93	36.86	35.32	0.3261	0.0303	0.9279				Lack of Fit Not Tested

**Point Estimates**

Level	gm/L	95% LCL	95% UCL
LC50	2.119	1.926	2.235

**Test Acceptability Criteria**

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

**Regression Parameters**

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision( $\alpha$ :5%)
Threshold	0.1001	0.03379	0.03389	0.1663	2.963	0.0159	Significant Parameter
Slope	33.01	11.67	10.14	55.87	2.829	0.0198	Significant Parameter
Intercept	-10.76	3.928	-18.46	-3.065	-2.74	0.0228	Significant Parameter

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision( $\alpha$ :5%)
Model	179.2	89.6	2	71.76	2.9E-06	Significant
Residual	11.24	1.249	9			

**Residual Analysis**

Attribute	Method	Test Stat	Critical	P-Value	Decision( $\alpha$ :5%)
Goodness-of-Fit	Pearson Chi-Sq GOF Test	11.24	16.92	0.2598	Non-Significant Heterogeneity
	Likelihood Ratio GOF Test	13.49	16.92	0.1415	Non-Significant Heterogeneity
Distribution	Shapiro-Wilk W Normality Test	0.8941	0.8608	0.1329	Normal Distribution
	Anderson-Darling A2 Normality Te	0.5723	2.492	0.1412	Normal Distribution

**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

Analysis ID: 17-2165-5662      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 13:58      Analysis: Linear Regression (GLM)      Official Results: Yes

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-gm/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	D	10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
0.5		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	20.0%	8	10
0.75		10	0.7000	0.0000	1.0000	0.1528	0.4830	69.01%	30.0%	7	10
1		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.25		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	20.0%	8	10
1.5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.0%	10	10
1.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	10.0%	9	10
2		10	0.7000	0.0000	1.0000	0.1528	0.4830	69.01%	30.0%	7	10
2.25		10	0.2000	0.0000	1.0000	0.1333	0.4216	210.80%	80.0%	2	10
2.5		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
2.75		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

**7d Survival Rate Detail**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
2.5		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.75		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-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		0/1	0/1	1/1	1/1	1/1	1/1	0/1	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
1.25		0/1	1/1	1/1	1/1	1/1	0/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		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

New England Bioassay

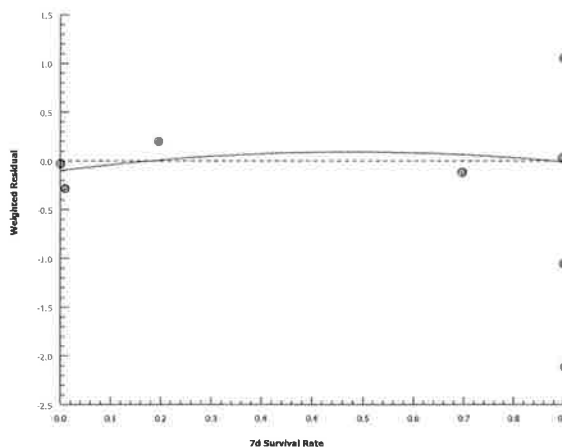
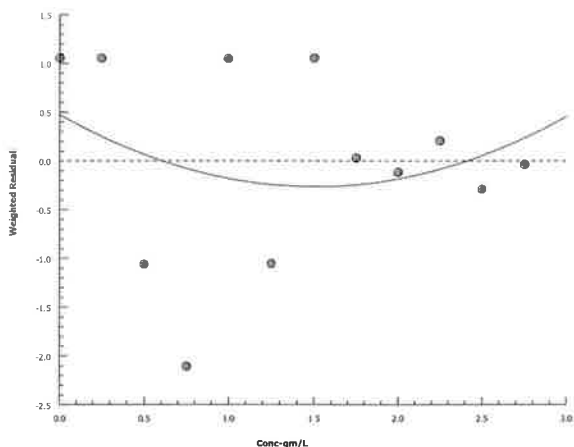
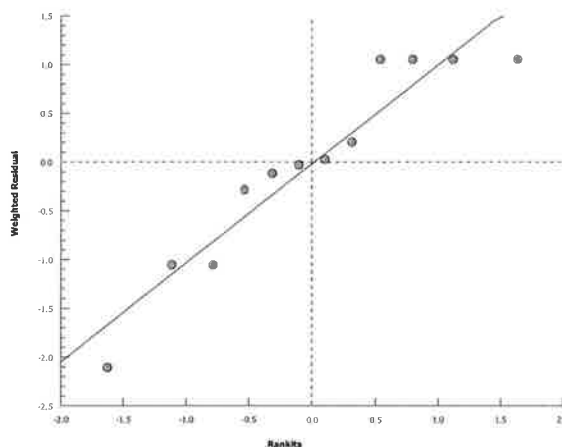
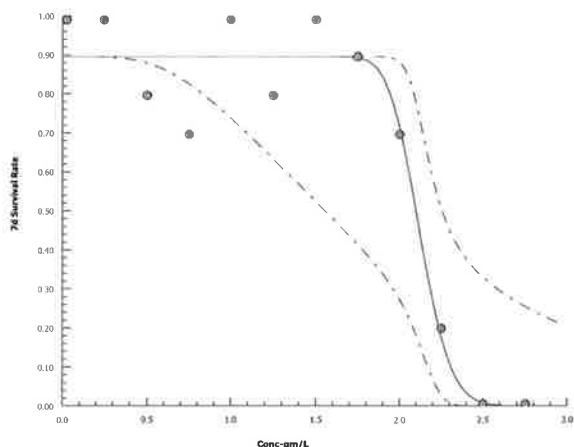
Analysis ID: 17-2165-5662  
Analyzed: 02 Nov-17 13:58

Endpoint: 7d Survival Rate  
Analysis: Linear Regression (GLM)

CETIS Version: CETISv1.9.2  
Official Results: Yes

Graphics

Log-Normal:  $\text{inv } \Phi[\pi] = \alpha + \beta \cdot \log[x]$



Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 10-8944-2045	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.2
Analyzed: 02 Nov-17 13:58	Analysis: STP 2xK Contingency Tables	Official Results: Yes
Batch ID: 15-6387-4143	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 08 Sep-17 12:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 13 Oct-17 11:20	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 34d 23h	Source: In-House Culture	Age: <24h
Sample ID: 03-0070-8444	Code: 11EC725C	Client: GZA GeoEnvironmental
Sample Date: 08 Sep-17	Material: Sodium chloride	Project:
Receipt Date: 08 Sep-17	Source: GZA GeoEnvironmental	
Sample Age: 13h	Station:	

*10<sup>0</sup> 28 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2	2.25	2.121	

Fisher Exact/Bonferroni-Holm Test

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	1.0000	Exact	1.0000	Non-Significant Effect
		0.5	0.2368	Exact	1.0000	Non-Significant Effect
		0.75	0.1053	Exact	0.8421	Non-Significant Effect
		1	1.0000	Exact	1.0000	Non-Significant Effect
		1.25	0.2368	Exact	1.0000	Non-Significant Effect
		1.5	1.0000	Exact	1.0000	Non-Significant Effect
		1.75	0.5000	Exact	1.0000	Non-Significant Effect
		2	0.1053	Exact	0.8421	Non-Significant Effect
		2.25*	0.0004	Exact	0.0032	Significant Effect

Test Acceptability Criteria

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

Data Summary

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	10	0	10	1	0	0.0%
0.25		10	0	10	1	0	0.0%
0.5		8	2	10	0.8	0.2	20.0%
0.75		7	3	10	0.7	0.3	30.0%
1		10	0	10	1	0	0.0%
1.25		8	2	10	0.8	0.2	20.0%
1.5		10	0	10	1	0	0.0%
1.75		9	1	10	0.9	0.1	10.0%
2		7	3	10	0.7	0.3	30.0%
2.25		2	8	10	0.2	0.8	80.0%

7d Survival Rate Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000

Ceriodaphnia 7-d Survival and Reproduction Test

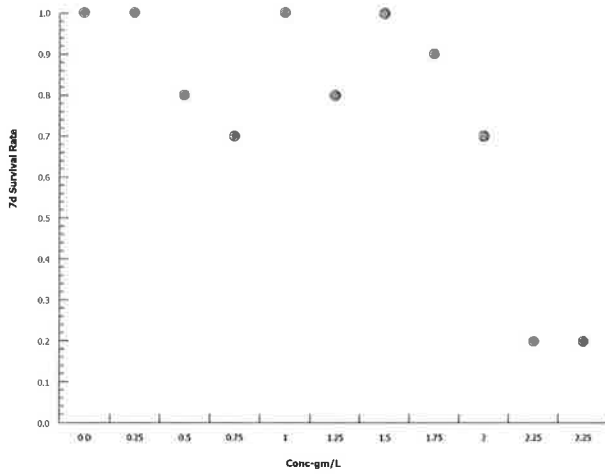
New England Bioassay

Analysis ID: 10-8944-2045      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 13:58      Analysis: STP 2xK Contingency Tables      Official Results: Yes

7d Survival Rate Binomials

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		0/1	0/1	1/1	1/1	1/1	1/1	0/1	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
1.25		0/1	1/1	1/1	1/1	1/1	0/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1

Graphics



Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

<b>Analysis ID:</b> 05-3970-2589	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:49	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	<i>10° - 35 days</i>
<b>Sample Age:</b> 13h	<b>Station:</b>	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	PMSD
Untransformed	C > T	1.25	1.5	1.369		63.45%

Steel Many-One Rank Sum Test

Control	vs	Conc-gm/L	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	112	74	2	18	Asymp	0.9564	Non-Significant Effect
		0.5	92	74	6	18	Asymp	0.4555	Non-Significant Effect
		0.75	82.5	74	4	18	Asymp	0.1689	Non-Significant Effect
		1	84	74	2	18	Asymp	0.2044	Non-Significant Effect
		1.25	75	74	4	18	Asymp	0.0530	Non-Significant Effect
		1.5*	56.5	74	1	18	Asymp	7.1E-04	Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	6.9	15	>>	Yes	Below Criteria
PMSD	0.6345	0.13	0.47	Yes	Above Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	431.943	71.9905	6	4.122	0.0015	Significant Effect
Error	1100.4	17.4667	63			
Total	1532.34		69			

Distributional Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variances	Bartlett Equality of Variance Test	29.03	16.81	6.0E-05	Unequal Variances
Distribution	Shapiro-Wilk W Normality Test	0.9744	0.9526	0.1614	Normal Distribution

Reproduction Summary

Conc-gm/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	D	10	6.9	4.214	9.586	6	2	13	1.187	54.42%	0.00%
0.25		10	8.7	3.541	13.86	9	0	21	2.281	82.90%	-26.09%
0.5		10	5.1	2.705	7.495	5.5	0	11	1.059	65.65%	26.09%
0.75		10	4.2	1.022	7.378	3	0	13	1.405	105.77%	39.13%
1		10	4.2	1.169	7.231	2	0	10	1.34	100.89%	39.13%
1.25		10	2.9	1.101	4.699	2.5	0	7	0.7951	86.70%	57.97%
1.5		10	0.4	-0.2911	1.091	0	0	3	0.3055	241.52%	94.20%
1.75		10	0	0	0	0	0	0	0		100.00%
2		10	0.2	-0.2524	0.6524	0	0	2	0.2	316.23%	97.10%

Ceriodaphnia 7-d Survival and Reproduction Test

New England Bioassay

Analysis ID: 05-3970-2589

Endpoint: Reproduction

CETIS Version: CETISv1.9.2

Analyzed: 02 Nov-17 11:49

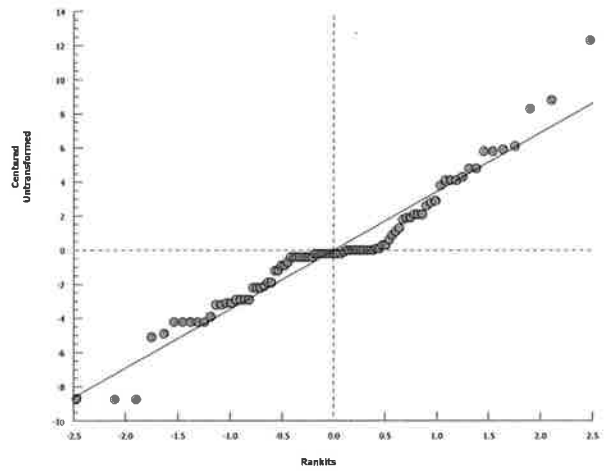
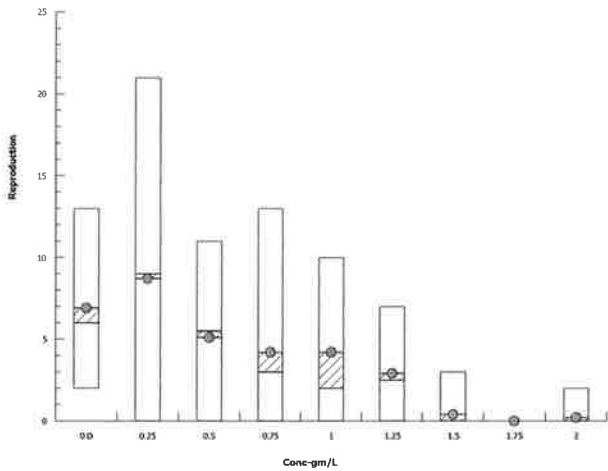
Analysis: Nonparametric-Control vs Treatments

Official Results: Yes

Reproduction Detail

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	4	5	11	13	7	2	8	3	11	5
0.25		0	9	17	9	8	21	0	0	10	13
0.5		5	2	11	6	8	7	2	3	7	0
0.75		1	0	7	13	10	3	0	1	3	4
1		2	2	9	9	0	0	0	2	8	10
1.25		0	0	3	5	2	5	0	2	7	5
1.5		0	0	0	0	1	0	0	0	3	0
1.75		0	0	0	0	0	0	0	0	0	0
2		0	0	2	0	0	0	0	0	0	0

Graphics



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

<b>Analysis ID:</b> 20-7059-6800	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:49	<b>Analysis:</b> Linear Regression (GLM)	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

*10° - 35 days*

**Linear Regression Options**

Model Name	Link Function	Threshold Option	Thresh	Optimized	Pooled	Het Corr	Weighted
Log-Normal (Probit)	$\eta = \text{inv } \Phi[\pi]$	Control Threshold	0.1	Yes	Yes	No	Yes

**Regression Summary**

Iters	LL	AICc	BIC	Mu	Sigma	Adj R2	F Stat	Critical	P-Value	Decision( $\alpha$ :5%)
10	-13.93	36.85	35.31	0.3205	0.03478	0.9324				Lack of Fit Not Tested

**Point Estimates**

Level	gm/L	95% LCL	95% UCL
LC50	2.092	1.867	2.213

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

**Regression Parameters**

Parameter	Estimate	Std Error	95% LCL	95% UCL	t Stat	P-Value	Decision( $\alpha$ :5%)
Threshold	0.1121	0.03604	0.04146	0.1828	3.11	0.0125	Significant Parameter
Slope	28.76	10.2	8.764	48.75	2.819	0.0201	Significant Parameter
Intercept	-9.217	3.412	-15.91	-2.529	-2.701	0.0244	Significant Parameter

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision( $\alpha$ :5%)
Model	157.6	78.78	2	76.82	2.2E-06	Significant
Residual	9.231	1.026	9			

**Residual Analysis**

Attribute	Method	Test Stat	Critical	P-Value	Decision( $\alpha$ :5%)
Goodness-of-Fit	Pearson Chi-Sq GOF Test	9.23	16.92	0.4163	Non-Significant Heterogeneity
	Likelihood Ratio GOF Test	11.46	16.92	0.2452	Non-Significant Heterogeneity
Distribution	Shapiro-Wilk W Normality Test	0.9345	0.8608	0.4307	Normal Distribution
	Anderson-Darling A2 Normality Te	0.3547	2.492	0.4654	Normal Distribution



**Ceriodaphnia 7-d Survival and Reproduction Test**

**New England Bioassay**

Analysis ID: 20-7059-6800      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.2  
 Analyzed: 02 Nov-17 11:49      Analysis: Linear Regression (GLM)      Official Results: Yes

**7d Survival Rate Summary**

**Calculated Variate(A/B)**

Conc-gm/L	Code	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	B
0	D	10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
0.25		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%	10	10
0.5		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
0.75		10	0.7000	0.0000	1.0000	0.1528	0.4830	69.01%	22.22%	7	10
1		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%	10	10
1.25		10	0.8000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%	8	10
1.5		10	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	-11.11%	10	10
1.75		10	0.9000	0.0000	1.0000	0.1000	0.3162	35.14%	0.0%	9	10
2		10	0.6000	0.0000	1.0000	0.1633	0.5164	86.07%	33.33%	6	10
2.25		10	0.2000	0.0000	1.0000	0.1333	0.4216	210.80%	77.78%	2	10
2.5		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10
2.75		10	0.0000	0.0000	0.0000	0.0000	0.0000		100.0%	0	10

**7d Survival Rate Detail**

Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
2.5		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2.75		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-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
0.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0.5		1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	0/1
0.75		0/1	0/1	1/1	1/1	1/1	1/1	0/1	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
1.25		0/1	1/1	1/1	1/1	1/1	0/1	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
1.75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1
2		1/1	0/1	0/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
2.25		0/1	0/1	1/1	0/1	0/1	0/1	0/1	0/1	1/1	0/1
2.5		0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1	0/1
2.75		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**

**New England Bioassay**

<b>Analysis ID:</b> 20-4056-1321	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.2
<b>Analyzed:</b> 02 Nov-17 11:49	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Official Results:</b> Yes
<b>Batch ID:</b> 15-6387-4143	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 08 Sep-17 12:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 13 Oct-17 11:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Duration:</b> 34d 23h	<b>Source:</b> In-House Culture	<b>Age:</b> <24h
<b>Sample ID:</b> 03-0070-8444	<b>Code:</b> 11EC725C	<b>Client:</b> GZA GeoEnvironmental
<b>Sample Date:</b> 08 Sep-17	<b>Material:</b> Sodium chloride	<b>Project:</b>
<b>Receipt Date:</b> 08 Sep-17	<b>Source:</b> GZA GeoEnvironmental	
<b>Sample Age:</b> 13h	<b>Station:</b>	

*10° 35 days*

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
Untransformed	C > T	2	2.25	2.121	

**Fisher Exact/Bonferroni-Holm Test**

Control	vs	Group	Test Stat	P-Type	P-Value	Decision(α:5%)
Dilution Water		0.25	1.0000	Exact	1.0000	Non-Significant Effect
		0.5	0.5000	Exact	1.0000	Non-Significant Effect
		0.75	0.2910	Exact	1.0000	Non-Significant Effect
		1	1.0000	Exact	1.0000	Non-Significant Effect
		1.25	0.5000	Exact	1.0000	Non-Significant Effect
		1.5	1.0000	Exact	1.0000	Non-Significant Effect
		1.75	0.7632	Exact	1.0000	Non-Significant Effect
		2	0.1517	Exact	1.0000	Non-Significant Effect
		2.25*	0.0027	Exact	0.0246	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9	0.8	>>	Yes	Passes Criteria

**Data Summary**

Conc-gm/L	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	D	9	1	10	0.9	0.1	0.0%
0.25		10	0	10	1	0	-11.11%
0.5		8	2	10	0.8	0.2	11.11%
0.75		7	3	10	0.7	0.3	22.22%
1		10	0	10	1	0	-11.11%
1.25		8	2	10	0.8	0.2	11.11%
1.5		10	0	10	1	0	-11.11%
1.75		9	1	10	0.9	0.1	0.0%
2		6	4	10	0.6	0.4	33.33%
2.25		2	8	10	0.2	0.8	77.78%

**7d Survival Rate Detail**

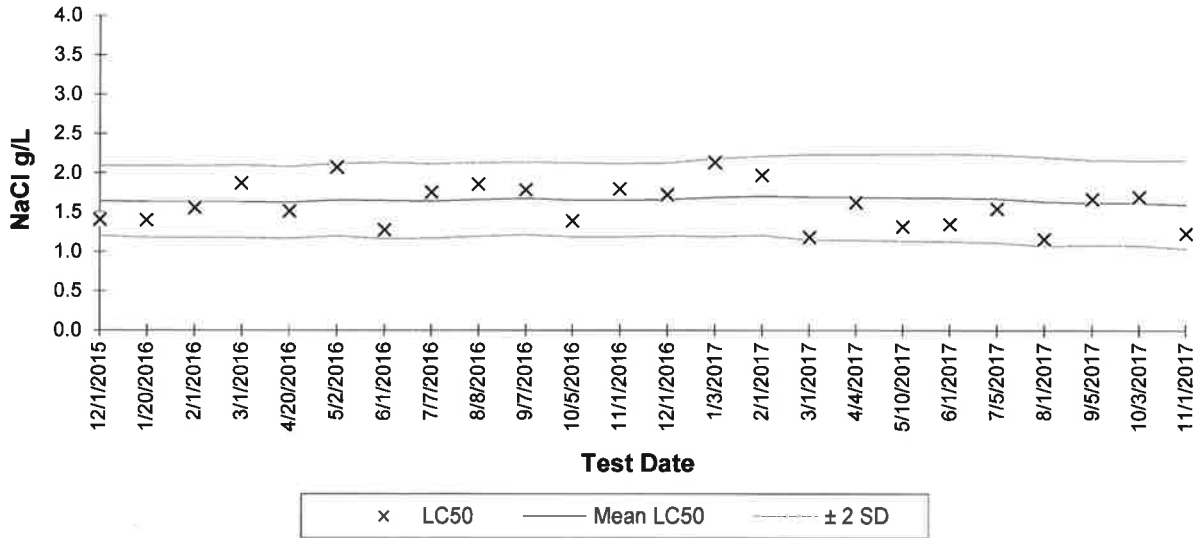
Conc-gm/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0.5		1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
0.75		0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000
1		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.25		0.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
1.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2		1.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
2.25		0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000



Attachment C

Reference Toxicant Chart

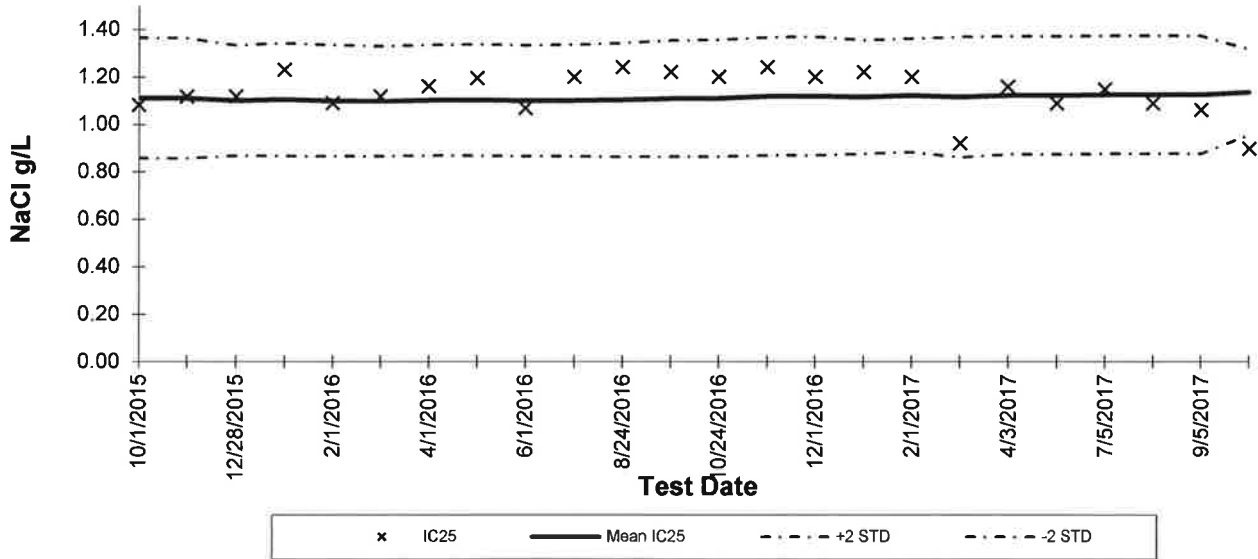
**New England Bioassay**  
**Reference Toxicant Data: Sodium chloride (NaCl) *Ceriodaphnia dubia* 48-hour LC50**



Test ID	Date	LC <sub>50</sub>	Mean LC <sub>50</sub>	STD	-2 STD	+2 STD	CV	CV National 75th %	CV National 90th %
15-1772	12/1/2015	1.4	1.6	0.2	1.2	2.1	0.13	0.29	0.34
16-107	1/20/2016	1.4	1.6	0.2	1.2	2.1	0.14	0.29	0.34
16-134	2/1/2016	1.6	1.6	0.2	1.2	2.1	0.14	0.29	0.34
16-298	3/1/2016	1.9	1.6	0.2	1.2	2.1	0.14	0.29	0.34
16-563	4/20/2016	1.5	1.6	0.2	1.2	2.1	0.14	0.29	0.34
16-592	5/2/2016	2.1	1.7	0.2	1.2	2.1	0.14	0.29	0.34
16-703	6/1/2016	1.3	1.7	0.2	1.2	2.1	0.15	0.29	0.34
16-885	7/7/2016	1.8	1.6	0.2	1.2	2.1	0.14	0.29	0.34
16-1156	8/8/2016	1.9	1.7	0.2	1.2	2.1	0.14	0.29	0.34
16-1252	9/7/2016	1.8	1.7	0.2	1.2	2.1	0.14	0.29	0.34
16-1466	10/5/2016	1.4	1.7	0.2	1.2	2.1	0.14	0.29	0.34
16-1586	11/1/2016	1.8	1.7	0.2	1.2	2.1	0.14	0.29	0.34
16-1730	12/1/2016	1.7	1.7	0.2	1.2	2.1	0.14	0.29	0.34
17-5	1/3/2017	2.1	1.7	0.2	1.2	2.2	0.15	0.29	0.34
17-147	2/1/2017	2.0	1.7	0.3	1.2	2.2	0.15	0.29	0.34
17-274	3/1/2017	1.2	1.7	0.3	1.2	2.2	0.16	0.29	0.34
17-475	4/4/2017	1.6	1.7	0.3	1.1	2.2	0.16	0.29	0.34
17-695	5/10/2017	1.3	1.7	0.3	1.1	2.2	0.16	0.29	0.34
17-772	6/1/2017	1.4	1.7	0.3	1.1	2.2	0.17	0.29	0.34
17-968	7/5/2017	1.6	1.7	0.3	1.1	2.2	0.17	0.29	0.34
17-1140	8/1/2017	1.2	1.6	0.3	1.1	2.2	0.17	0.29	0.34
17-1325	9/5/2017	1.7	1.6	0.3	1.1	2.2	0.17	0.29	0.34
17-1521	10/3/2017	1.7	1.6	0.3	1.1	2.2	0.17	0.29	0.34
17-1689	11/1/2017	1.2	1.6	0.3	1.0	2.2	0.18	0.29	0.34

**New England Bioassay**  
**Reference Toxicant Data: *Ceriodaphia dubia* Chronic Reproduction IC25**

**Reference Toxicant: Sodium chloride**  
**Test Dates: Oct 2015 - Oct 2017**



Test ID	Date	IC <sub>25</sub>	Mean IC <sub>25</sub>	STD	-2STD	+2STD	CV	CV National	CV National
								75th%	90th%
15-1540	10/1/2015	1.08	1.11	0.13	0.86	1.37	0.11	0.45	0.62
15-1691	11/2/2015	1.12	1.11	0.13	0.86	1.36	0.11	0.45	0.62
15-1897	12/28/2015	1.12	1.10	0.12	0.87	1.33	0.11	0.45	0.62
16-37	1/4/2016	1.23	1.11	0.12	0.87	1.34	0.11	0.45	0.62
16-138	2/1/2016	1.09	1.10	0.12	0.87	1.34	0.11	0.45	0.62
16-307	3/1/2016	1.12	1.10	0.12	0.87	1.33	0.11	0.45	0.62
16-463	4/1/2016	1.16	1.10	0.12	0.87	1.34	0.11	0.45	0.62
16-596	5/2/2016	1.19	1.10	0.12	0.87	1.34	0.11	0.45	0.62
16-707	6/1/2016	1.07	1.10	0.12	0.87	1.34	0.11	0.45	0.62
16-880	7/1/2016	1.20	1.10	0.12	0.87	1.34	0.11	0.45	0.62
16-1212	8/24/2016	1.24	1.10	0.12	0.86	1.34	0.11	0.45	0.62
16-1258	9/8/2016	1.22	1.11	0.12	0.87	1.35	0.11	0.45	0.62
16-1553	10/24/2016	1.20	1.11	0.12	0.87	1.36	0.11	0.45	0.62
16-1592	11/1/2016	1.24	1.12	0.12	0.87	1.37	0.11	0.45	0.62
16-1734	12/1/2016	1.20	1.12	0.13	0.87	1.37	0.11	0.45	0.62
17-14	1/3/2017	1.22	1.12	0.12	0.88	1.36	0.11	0.45	0.62
17-151	2/1/2017	1.20	1.12	0.12	0.88	1.36	0.11	0.45	0.62
17-267	3/1/2017	0.92	1.12	0.13	0.86	1.37	0.11	0.45	0.62
17-480	4/3/2017	1.16	1.12	0.12	0.87	1.37	0.11	0.45	0.62
17-616	5/1/2017	1.09	1.12	0.12	0.88	1.37	0.11	0.45	0.62
17-972	7/5/2017	1.15	1.13	0.12	0.88	1.37	0.11	0.45	0.62
17-1146	8/2/2017	1.09	1.13	0.12	0.88	1.38	0.11	0.45	0.62
17-1317	9/5/2017	1.06	1.13	0.12	0.88	1.38	0.11	0.45	0.62
17-1516	10/2/2017	0.90	1.14	0.09	0.95	1.32	0.08	0.45	0.62