

February 25, 2016

Test Results of
First Quarter
Chronic 7-Day Renewal
Biomonitoring Testing
for
Outfall 001
Cabot, AR

Control No. 199302-1

Prepared for:

Mr. Matt Bienvenu
McClelland Consulting Engineers, Inc.
Post Office Box 34087
Little Rock, AR 72203-4087

Prepared by:

AMERICAN INTERPLEX CORPORATION
8600 Kanis Road
Little Rock, AR 72204-2322



McClelland Consulting Engineers, Inc.
ATTN: Mr. Matt Bienvenu
Post Office Box 34087
Little Rock, AR 72203-4087

Re: Chronic 7-Day Renewal utilizing *Ceriodaphnia dubia*
Outfall 001 - Cabot, AR
NPDES Permit No. AR0021661 AFIN:43-00059

Dear Mr. Matt Bienvenu:

This report is the analytical results and supporting information for the samples submitted to American Interplex Corporation (AIC). The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the Chief Operating Officer or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. Test results are summarized below:

Method 1002.0 Chronic *Ceriodaphnia dubia* Survival and Reproduction Test: The No Observable Effects Concentration (NOEC) for survival occurred at 100 % effluent, which is equal to the critical dilution of 100 %. The NOEC for reproduction occurred at 100 % effluent, which is equal to the critical dilution of 100 %. **The sample, therefore, PASSED both lethal and sub-lethal effects for the *Ceriodaphnia dubia* test.**

AMERICAN INTERPLEX CORPORATION

A handwritten signature in black ink, appearing to read 'John Overbey', is written over a horizontal line.

John Overbey
Chief Operating Officer

PDF cc: McClelland Consulting Engineers, Inc.
ATTN: Mr. Matt Bienvenu
mbienvenu@mcclelland-engrs.com

McClelland Consulting Engineers, Inc.
ATTN: Mr. Dan Beranek
dberanek@mcclelland-engrs.com

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I. Control Acceptance Criteria

Ceriodaphnia dubia Method 1002.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	100	PASS
Control Reproduction > or = 15 per Surviving Female	24.1	PASS
Control CV < or = 40% per Surviving Female	19.0	PASS
Reproduction Minimum Significant Difference 13 to 47%	29.5	PASS
Critical Dilution CV < or = 40%	21.3	PASS

II. Outlined Report

A. Introduction

1. Permit Number: AR0021661 AFIN:43-00059
2. Test Requirements: Test Method 1002.0

3. Receiving Stream:

B. Source of Effluent/Dilution Water

1. Effluent Samples:

- a. Sampling Point: Outfall 001
- b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	7.6	8.0	8.2
pH (standard units)	7.2	7.3	7.3
Alkalinity (mg/l as CaCO ₃)	87	87	91
Hardness (mg/l as CaCO ₃)	92	91	92
Conductivity (umhos/cm)	380	380	380
Residual Chlorine (mg/l)	<0.05	0.070	0.070
Ammonia as N (mg/l)	0.33	0.30	0.55

2. Dilution Water Samples: Synthetic Moderately Hard Water #4300

- a. Dates Prepared: February 6 through February 20, 2016
- b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	8.4	8.2	8.2
pH (standard units)	7.7	7.7	7.7
Alkalinity (mg/l as CaCO ₃)	59	59	59
Hardness (mg/l as CaCO ₃)	92	98	88
Conductivity (umhos/cm)	300	310	270
Residual Chlorine (mg/l)	<0.05	<0.05	<0.05

C. Test Methods

1. Test methods used:

Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013; test Method 1002.0, *Ceriodaphnia dubia* Survival and Reproduction.

2. Endpoint: No Observable Effects Concentration (NOEC)

3. Test Conditions:

Ceriodaphnia dubia Survival and Growth Method 1002.0

Date & Time Test Initiated: February 16, 2016 at 1520

Date & Time Test Terminated: February 22, 2016 at 1325

Type & Volume of Test Chamber: 30 ml disposable beaker

Volume of Sample: 15 ml

Number of Organisms per replicate: 1

Number of Replicates per dilution: 10

4. Acclimation of test organisms: Obtained from in-house cultures

5. Test Temperature: 25 +/- 1 degree Celsius

D. Test Organisms

1. Scientific Name

a. Test 1002.0 *Ceriodaphnia dubia*

III. Data Analysis

The data was analyzed using American Interplex Corporation's Laboratory Information Management Software based on Toxstat.

Ceriodaphnia dubia survival data was analyzed with Fisher's Exact Test. Reproduction data was analyzed using Kolmogorov's Test for Normality and Bartlett's test and analyzed with Dunnett's Test to determine the No Observable Effects Concentration (NOEC) for Reproduction.

IV. Standard Reference Toxicants

American Interplex Corporation has an ongoing test organism culturing program. The sensitivity of the offspring is determined by performing a standard reference toxicant test with each effluent test. Sodium chloride in synthetic moderately hard water is used as prescribed in EPA-821-R-02-013.

Ceriodaphnia dubia

Chronic reference tests are performed monthly.

A chronic reference test was performed on February 2, 2016 at 1610 to February 8, 2016 at 1450

The results were as follows: (Control No. 198842-2.)

Survival LC-50: 1777 mg/l

Growth IC-25: 720.1 mg/l

Growth PMSD: 21.4

V. Chemical Analysis/Quality Control

Parameter	Method	% Recovery	Relative % Difference
Alkalinity	SM 2320 B	NA	0.658
Hardness	EPA 200.7	95.8	3.41
pH	SM 4500-H+ B	101	0.134
Conductivity	EPA 120.1	103	4.71

VI. Organism History

Ceriodaphnia dubia

Date: February 16, 2016

Age: <24 hours

Source: In-house culture

Water Chemistry Record:

Alkalinity: 57-64 mg/l

Hardness: 80-100 mg/l

Temperature: 25 deg.C

VII. Results Summary *Ceriodaphnia dubia*, Cladoceran Survival and Reproduction Test -- Method 1002.0

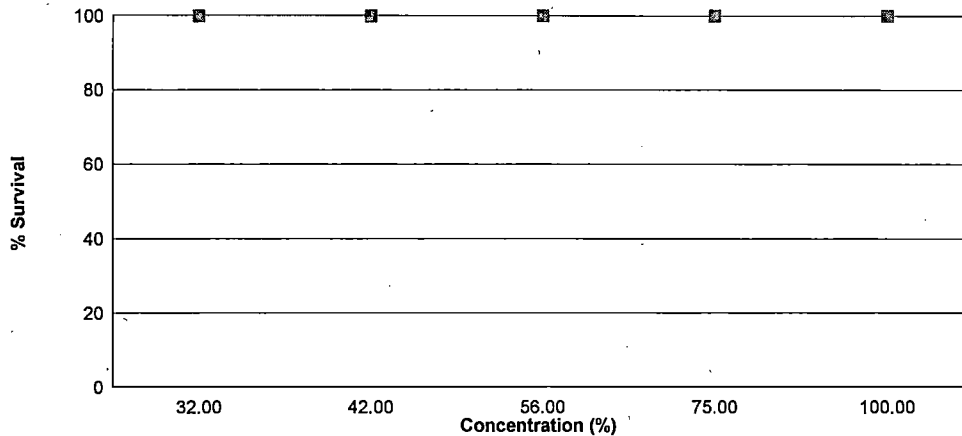
Neonates are exposed in a static renewal system to different concentrations of effluent with dilution water until 60% of surviving control organisms have three broods of offspring with an average of at least 15 young per female.

Effluent dilutions for this test were 32 %, 42 %, 56 %, 75 %, 100 % in accordance with the NPDES permit.

The low flow or 'critical' dilution is specified in the NPDES permit as 100 % effluent.

The test was initiated on February 16, 2016 at 1520 and continued through February 22, 2016 at 1325. Statistical analyses were performed on the observed data and the no observable effects concentrations (NOECs) were as follows:

- a.) NOEC survival = 100 % effluent
- b.) NOEC reproduction = 100 % effluent



Summary of the 6-day <i>Ceriodaphnia dubia</i> Survival and Reproduction Data		
Concentration	Percent Survival	Mean Reproduction
Control	100	24.1
32 %	100	24.5
42 %	100	26.0
56 %	100	25.5
75 %	100	28.5
100 %	100	28.3

Appendix A1: Test 1002.0

Ceriodaphnia dubia Survival and Reproduction

Date and Time Test Initiated: February 16, 2016 at 1520

Date and Time Test Terminated: February 22, 2016 at 1325

Concentration: Control														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	5	0	4	9	10	0.900	
4	5	4	6	4	4	3	1	0	5	0	32	10	3.20	
5	9	10	10	7	7	8	8	10	11	10	90	10	9.00	
6	13	12	13	12	11	12	9	15	0	13	110	10	11.0	
7														
8														
TOTAL	27	26	29	23	22	23	18	30	16	27	241	10	24.1	

Concentration: 32 %														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00	
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00	
3	0	0	4	0	0	0	0	4	3	2	13	10	1.30	
4	3	5	0	3	4	4	3	0	0	0	22	10	2.20	
5	6	13	10	8	8	1	5	12	6	6	75	10	7.50	
6	15	15	19	13	11	10	0	20	17	15	135	10	13.5	
7														
8														
TOTAL	24	33	33	24	23	15	8	36	26	23	245	10	24.5	

Concentration: 42 %														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	10	0.00	
2	0	0	0	0	0	0	0	0	0	0	0	10	0.00	
3	4	0	5	0	0	0	0	3	0	4	16	10	1.60	
4	1	4	0	3	4	4	2	0	4	0	22	10	2.20	
5	8	9	10	9	9	8	4	13	7	8	85	10	8.50	
6	19	15	15	15	14	11	11	18	0	19	137	10	13.7	
7														
8														
TOTAL	32	28	30	27	27	23	17	34	11	31	260	10	26.0	

Appendix A1: Test 1002.0

Ceriodaphnia dubia Survival and Reproduction

Date and Time Test Initiated: February 16, 2016 at 1520

Date and Time Test Terminated: February 22, 2016 at 1325

Concentration: 56 %														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	2	0	0	0	0	4	0	4	10	10	10	1.00
4	4	6	4	3	4	4	4	0	5	1	35	10	10	3.50
5	9	10	9	8	7	6	0	11	0	7	67	10	10	6.70
6	16	15	12	16	15	12	8	20	10	19	143	10	10	14.3
7														
8														
TOTAL	29	31	27	27	26	22	12	35	15	31	255	10	10	25.5

Concentration: 75 %														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	0	0	5	0	4	9	10	10	0.900
4	3	5	5	3	4	5	2	0	5	0	32	10	10	3.20
5	13	9	8	12	10	12	5	1	7	12	89	10	10	8.90
6	19	16	17	16	18	16	15	19	0	19	155	10	10	15.5
7														
8														
TOTAL	35	30	30	31	32	33	22	25	12	35	285	10	10	28.5

Concentration: 100 %														
Day	Replicate										No. of Young	No. of Adults	Young per Adult	
	1	2	3	4	5	6	7	8	9	10				
1	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
2	0	0	0	0	0	0	0	0	0	0	0	0	10	0.00
3	0	0	0	0	0	3	0	3	0	5	11	10	10	1.10
4	0	4	5	4	5	0	3	0	0	0	21	10	10	2.10
5	10	11	11	7	8	10	0	10	10	9	86	10	10	8.60
6	16	19	18	13	16	18	11	17	18	19	165	10	10	16.5
7														
8														
TOTAL	26	34	34	24	29	31	14	30	28	33	283	10	10	28.3

Appendix A2: Statistics

Ceriodaphnia dubia Survival

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
32 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) ($\alpha=0.05$) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
42 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) ($\alpha=0.05$) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
56 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) ($\alpha=0.05$) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
75 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) ($\alpha=0.05$) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Appendix A2: Statistics

Ceriodaphnia dubia Survival

Fisher's Exact Test			
Identification	Alive	Dead	Total Animals
Control	10	0	10
100 %	10	0	10
Total	20	0	20

Critical Fisher's value (10,10,10) (alpha=0.05) is 6. b value is 10. Since b is greater than 6 there is NO SIGNIFICANT DIFFERENCE between CONTROL and TREATMENT at the 0.05 level.

Summary of Fisher's Exact Test				
Group	Identification	Exposed	Dead	Sig 0.05
0	Control	10	0	
1	32 %	10	0	
2	42 %	10	0	
3	56 %	10	0	
4	75 %	10	0	
5	100 %	10	0	

Appendix A2: Statistics

Ceriodaphnia dubia Reproduction

Kolmogorov Test for Normality	No Transformation
<p>D = 0.1319 D* = 1.035 Critical D* = 1.035 (alpha = 0.01, N = 60)</p> <p>Data PASS normality test (alpha = 0.01).</p>	

Bartlett's Test for Homogeneity of Variance	No Transformation
<p>Calculated B1 statistic = 3.459 Critical B = 15.086 (alpha = 0.01, df = 5)</p> <p>Data PASS B1 homogeneity test at 0.01 level.</p>	

Appendix A2: Statistics

Ceriodaphnia dubia Reproduction

ANOVA Table				No Transformation	
SOURCE	DF	SS	MS	F	
Between	5	175.2	35.04	0.7417	
Within (Error)	54	2551	47.24		
Total	59	2726			
Critical F = 3.38 (alpha = 0.01, df = 5,54)					
2.38 (alpha = 0.05, df = 5,54)					
Since F < Critical F FAIL TO REJECT Ho: All equal (alpha = 0.05)					

Dunnett's Test - Table 1 of 2					No Transformation	
Ho:Control<Treatment						
Group	Identification	Transformed Mean	Mean In Original Units	T Stat	Sig 0.05	
1	Control	24.1	24.1			
2	32 %	24.5	24.5	-0.1301		
3	42 %	26	26	-0.6181		
4	56 %	25.5	25.5	-0.4555		
5	75 %	28.5	28.5	-1.431		
6	100 %	28.3	28.3	-1.366		
Dunnett's critical value = 2.31 (1 Tailed, alpha = 0.05, df [used] = 5,40) (Actual df = 5,54)						

Dunnett's Test - Table 2 of 2						No Transformation	
Ho:Control<Treatment							
Group	Identification	Num of Reps	Min Sig Diff (In Orig. Units)	% of Control	Difference From Control		
1	Control	10					
2	32 %	10	7.1	29.5	-0.4		
3	42 %	10	7.1	29.5	-1.9		
4	56 %	10	7.1	29.5	-1.4		
5	75 %	10	7.1	29.5	-4.4		
6	100 %	10	7.1	29.5	-4.2		

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: February 16, 2016 at 0922

Date and Time Test Terminated: February 23, 2016 at 1010

Effluent Conc.: Control		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.4	8.3	8.2	8.1	8.2	8.0	7.9
	Final	7.8	7.7	8.2	8.2	7.8	8.3	
pH, units	Initial	7.7	7.8	7.7	7.8	7.7	7.8	7.6
	Final	7.9	7.8	7.9	8.0	8.0	7.7	
Alkalinity, mg CaCO ₃ /l		59	NA	59	NA	59	NA	NA
Hardness, mg CaCO ₃ /l		92	NA	98	NA	88	NA	NA
Conductivity, umhos/cm		300	310	310	300	270	280	310
Res. Chlorine, mg/l		<0.05	NA	<0.05	NA	<0.05	NA	NA

Effluent Conc.: 32 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.9	8.1	8.1	8.2	8.2	7.8	8.0
	Final	7.8	7.8	8.2	8.2	7.9	8.1	
pH, units	Initial	7.4	7.6	7.5	7.6	7.3	7.5	7.3
	Final	7.9	7.8	7.9	8.0	8.0	7.7	

Effluent Conc.: 42 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.7	8.0	8.2	8.1	8.2	7.7	8.0
	Final	7.8	7.7	8.0	8.1	7.9	8.0	
pH, units	Initial	7.3	7.5	7.5	7.6	7.3	7.4	7.2
	Final	7.9	7.8	8.0	8.0	8.0	7.7	

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: February 16, 2016 at 0922

Date and Time Test Terminated: February 23, 2016 at 1010

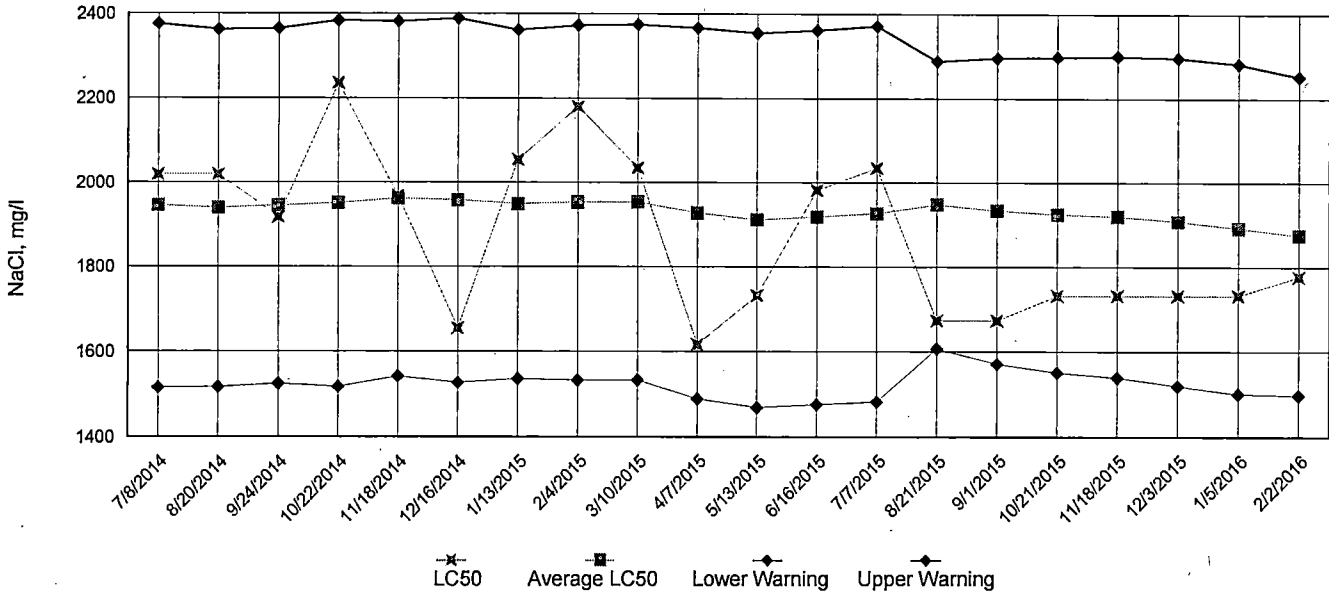
Effluent Conc.: 56 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.8	8.0	8.0	8.0	8.2	8.0	8.0
	Final	7.8	7.7	8.1	7.9	8.1	8.0	
pH, units	Initial	7.3	7.5	7.4	7.5	7.2	7.4	7.2
	Final	7.9	7.8	8.0	8.0	8.0	7.7	

Effluent Conc.: 75 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.7	7.9	7.9	7.9	8.1	2.0	7.8
	Final	7.7	7.7	8.4	8.1	7.9	8.2	
pH, units	Initial	7.2	7.4	7.4	7.4	7.1	7.3	7.1
	Final	8.0	7.8	8.0	8.0	8.0	7.7	

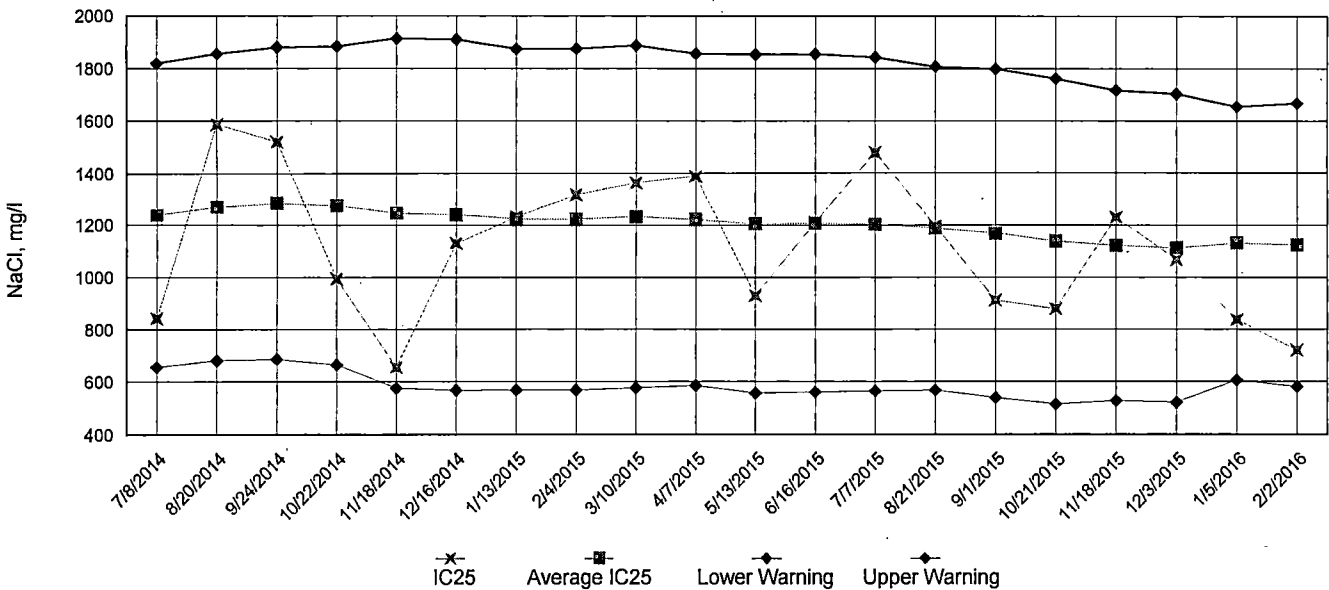
Effluent Conc.: 100 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.6	8.8	8.0	7.8	8.2	7.9	7.6
	Final	7.6	7.7	8.2	8.1	7.8	8.0	
pH, units	Initial	7.2	8.0	7.3	7.3	7.3	7.5	7.0
	Final	8.0	7.9	8.1	8.0	8.0	7.8	
Alkalinity, mg CaCO ₃ /l		87	NA	87	NA	91	NA	NA
Hardness, mg CaCO ₃ /l		92	NA	91	NA	92	NA	NA
Conductivity, umhos/cm		380	390	380	370	380	390	390
Res. Chlorine, mg/l		<0.05	NA	0.070	NA	0.070	NA	NA

Appendix A4: Test 1002.0
Chronic Reference Toxicant, *Ceriodaphnia dubia*

LC50 Survival Data



IC25 Reproduction Data



Appendix B: Test 1002.0
SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

Permittee: McClelland Consulting Engineers, Inc.

NPDES No.: AR0021661 AFIN:43-00059

Date and Time Test Initiated: February 16, 2016 at 1520

Date and Time Test Terminated: February 22, 2016 at 1325

Dilution water used: Synthetic Moderately Hard Water #4300

PERCENT SURVIVAL

Time of Reading	Control	Percent Effluent				
		32 %	42 %	56 %	75 %	100 %
24 hour	100	100	100	100	100	100
48 hour	100	100	100	100	100	100
6 day	100	100	100	100	100	100

NUMBER OF YOUNG PRODUCED PER FEMALE @ 6 DAYS

Replicates	Control	Percent Effluent				
		32 %	42 %	56 %	75 %	100 %
A	27	24	32	29	35	26
B	26	33	28	31	30	34
C	29	33	30	27	30	34
D	23	24	27	27	31	24
E	22	23	27	26	32	29
F	23	15	23	22	33	31
G	18	8	17	12	22	14
H	30	36	34	35	25	30
I	16	26	11	15	12	28
J	27	23	31	31	35	33
Mean per Adult	24.1	24.5	26.0	25.5	28.5	28.3
Mean per Surviving Adult	24.1	24.5	26.0	25.5	28.5	28.3
CV %	19.0	34.6	27.6	28.4	24.9	21.3

CV = Coefficient of variation = standard deviation * 100 / mean
(calculated based on young produced by surviving females)

Appendix B: Test 1002.0
SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Ceriodaphnia dubia
SURVIVAL AND REPRODUCTION

1. Fisher's Exact Test:

Is the mean survival significantly different ($p=0.05$) than the control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION	(100 %)	_____ YES	<u> X </u> NO
b.) 1/2 LOW FLOW DILUTION	(NA)	_____ YES	_____ NO

2. Dunnett's Test:

Is the mean number of young produced per female significantly different ($p=0.05$) than the control's number of young per female for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION	(100 %)	_____ YES	<u> X </u> NO
b.) 1/2 LOW FLOW DILUTION	(NA)	_____ YES	_____ NO

- 3. If you answered NO to 1.a) enter [0] otherwise enter [1]: 0 (TLP3B)
- 4. If you answered NO to 2.a) enter [0] otherwise enter [1]: 0 (TGP3B)
- 5. NOEC Ceriodaphnia Lethality: 100 % (TOP3B)
- 6. LOEC Ceriodaphnia Lethality: 100 % (TXP3B)
- 7. NOEC Ceriodaphnia Sublethality: 100 % (TPP3B)
- 8. LOEC Ceriodaphnia Sublethality: 100 % (TYP3B)
- 9. Coefficient of variation for Ceriodaphnia Reproduction: 21.3 (TQP3B)

Appendix B: Test 1002.0
CHRONIC TOXICITY SUMMARY FORM
Ceriodaphnia dubia
CHEMICAL PARAMETERS CHART

PERMITTEE: McClelland Consulting Engineers, SAMPLE No. 1 COLLECTED ending: DATE: February 15, 2016 TIME: 0800
 NPDES NO.: AR0021661 AFIN:43-00059, SAMPLE No. 2 COLLECTED ending: DATE: February 16, 2016 TIME: 0800
 CONTACT: Mr. Matt Bienvenu, SAMPLE No. 3 COLLECTED ending: DATE: February 18, 2016 TIME: 0800
 ANALYST: 280, 304, 310, 314 Test Initiated: DATE: February 16, 2016 TIME: 1520
 Test Terminated: DATE: February 22, 2016 TIME: 1325

DILUTION Control	DAY						
	1	2	3	4	5	6	7
D.O. Initial	8.4	8.3	8.2	8.1	8.2	8.0	7.9
Final	7.8	7.7	8.2	8.2	7.8	8.3	--
pH Initial	7.7	7.8	7.7	7.8	7.7	7.8	7.6
Final	7.9	7.8	7.9	8.0	8.0	7.7	--
Alkalinity	59	NA	59	NA	59	NA	NA
Hardness	92	NA	98	NA	88	NA	NA
Conductivity	300	310	310	300	270	280	310
Chlorine	<0.05	NA	<0.05	NA	<0.05	NA	NA

DILUTION 32 %	DAY						
	1	2	3	4	5	6	7
D.O. Initial	7.9	8.1	8.1	8.2	8.2	7.8	8.0
Final	7.8	7.8	8.2	8.2	7.9	8.1	--
pH Initial	7.4	7.6	7.5	7.6	7.3	7.5	7.3
Final	7.9	7.8	7.9	8.0	8.0	7.7	--
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	330	330	330	320	300	310	310
Chlorine	NA	NA	NA	NA	NA	NA	NA

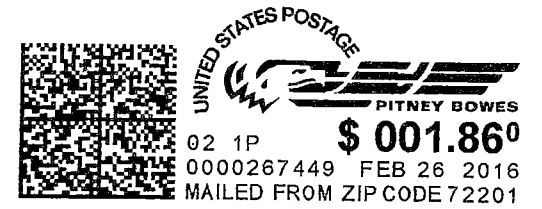
DILUTION 42 %	DAY						
	1	2	3	4	5	6	7
D.O. Initial	7.7	8.0	8.2	8.1	8.2	7.7	8.0
Final	7.8	7.7	8.0	8.1	7.9	8.0	--
pH Initial	7.3	7.5	7.5	7.6	7.3	7.4	7.2
Final	7.9	7.8	8.0	8.0	8.0	7.7	--
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	330	330	340	330	320	320	320
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 56 %	DAY						
	1	2	3	4	5	6	7
D.O. Initial	7.8	8.0	8.0	8.0	8.2	8.0	8.0
Final	7.8	7.7	8.1	7.9	8.1	8.0	--
pH Initial	7.3	7.5	7.4	7.5	7.2	7.4	7.2
Final	7.9	7.8	8.0	8.0	8.0	7.7	--
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	340	340	350	340	330	340	340
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 75 %	DAY						
	1	2	3	4	5	6	7
D.O. Initial	7.7	7.9	7.9	7.9	8.1	2.0	7.8
Final	7.7	7.7	8.4	8.1	7.9	8.2	--
pH Initial	7.2	7.4	7.4	7.4	7.1	7.3	7.1
Final	8.0	7.8	8.0	8.0	8.0	7.7	--
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	360	360	360	350	350	1.4	360
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION 100 %	DAY						
	1	2	3	4	5	6	7
D.O. Initial	7.6	8.8	8.0	7.8	8.2	7.9	7.6
Final	7.6	7.7	8.2	8.1	7.8	8.0	--
pH Initial	7.2	8.0	7.3	7.3	7.3	7.5	7.0
Final	8.0	7.9	8.1	8.0	8.0	7.8	--
Alkalinity	87	NA	87	NA	91	NA	NA
Hardness	92	NA	91	NA	92	NA	NA
Conductivity	380	390	380	370	380	390	390
Chlorine	<0.05	NA	0.070	NA	0.070	NA	NA

McClelland Consulting Engineers, Inc.
Water Lab
P.O. Box 34087
Little Rock, AR 72203-4087



Kyle Barber
5301 Northshore Dr.
North Little Rock, AR 72118-5317

