



Toxicity Report for Ventura County Watershed Protection District

Most Sensitive Species Testing

PROJECT: MSS-DRY-1 and MSS-DRY-1A
CONTRACT: AE20-007
CLIENT: Ms. Kelly Hahs
VCWPD
800 South Victoria Avenue, L#1670
Ventura, CA 93003-1670
SAMPLE I.D.: ME-CC, ME-VR2, ME-SCR, RW-LC1
DATE RECEIVED: 8/8/2022 and 8/10/2022
DATE REPORTED: 9/12/2022 Preliminary Results, 9/21/2022 Final Report
ABC LAB NO.: VCF0822.053, .054, .055, .073

29 North Olive Street Ventura, California 93001 (805) 643-5621

INTRODUCTION

Toxicity tests using fathead (*P. promelas*), Ceriodaphnia (*C. dubia*), midge (*C. dilutus*), and Hyalella (*H. azteca*) were performed on freshwater samples ME-CC, ME-VR2, and RW-LC1. Toxicity tests using purple urchin (*S. purpuratus*), giant kelp (*M. pyrifera*), and Topsmelt (*A. affinis*) were performed on marine sample ME-SCR to evaluate the quality of samples for Ventura County Watershed Protection District. The samples were collected on August 8th, and 10th and delivered on day of collection respectively. Testing was conducted at Aquatic Bioassay and Consulting Labs, Inc. in Ventura California from August 8th, through September 9th, 2022.

MATERIALS AND METHODS

Test Material

Test material consisted of 4 grab samples collected by Ventura County Watershed Protection District (VCWPD) sample water sites. Sample collection was performed by VCWPD personnel under the direction of Ms. Kelly Hahs. The samples were collected in 5-gallon low-density polyethylene buckets and were delivered to Aquatic Bioassay in immediately after sampling. Sample temperature was recorded upon acceptance at Aquatic Bioassay Laboratories and is included in the report for each station.

Samples were stored at 4°C. Upon arrival at Aquatic Bioassay, an aliquot of each sample was drawn and water quality parameters of pH, dissolved oxygen (DO), conductivity, temperature, salinity, alkalinity, and hardness were measured and recorded.

Bioassay Testing

The study was performed in accordance with the United States Environmental Protection Agency (USEPA) protocols:

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002, US EPA-821-R-02-013.

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, October 2002, US EPA-821-R-02-014.

Summary of results for 100% sample concentration:

Sample ID	Test	Endpoint	Control	100% Sample	Statistically Different From Control	TST Result	*Percent Effect
ME-CC	Chronic Fathead	Survival (%)	98.33	96.67	No	Pass	1.69
		Biomass (mg)	0.3402	0.3227	No	Pass	5.14
ME-CC	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-	21.0	24.2	No	Pass	-15.24
ME-CC	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
ME-CC	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
ME-VR2	Chronic Fathead	Survival (%)	96.67	91.57	No	Pass	5.17
		Biomass (mg)	0.3093	0.2967	No	Pass	4.09
ME-VR2	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-Neonates	23.2	28.0	No	Pass	-20.69
ME-VR2	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
ME-VR2	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
RW-LC1	Chronic Fathead	Survival (%)	100.00	100.00	No	Pass	0.00
		Biomass (mg)	0.3440	0.3505	No	Pass	-1.89

*Percent Effect at IWC = (Mean Control Response – Mean IWC Response) * 100 / Mean Control Response.

Summary of results for 100% sample concentration: (Cont.)

Sample ID	Test	Endpoint	Control	100% Sample	Statistically Different From Control	TST Result	*Percent Effect
RW-LC1	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #- Neonates	22.7	22.4	No	Pass	1.32
RW-LC1	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
RW-LC	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
ME-SCR	Chronic Topsmelt	Survival (%)	NA*				
		Biomass (mg)	NA*				
ME-SCR	Chronic Kelp	Germination (%)	91.00	91.60	No	Pass	-0.66
		Tube Length	13.18	13.20	No	Pass	-0.15
ME-SCR	Chronic Urchin	Fertilization (%)	93.75	96.00	No	Pass	-2.40

*Percent Effect at IWC = (Mean Control Response – Mean IWC Response) * 100 / Mean Control Response.

**Chronic Topsmelt did not meet test acceptability criteria (TAC).

Quality Assurance

All samples were received in good condition at the appropriate temperatures, and all tests were initiated within 72 hours of sample collection. The negative controls in all tests except Topsmelt met the minimum test acceptability criterion of 80 percent mean survival. Variability among replicates was minimal, and the ability to detect a statistical difference was deemed appropriate.

The chronic Topsmelt survival and growth bioassay did not meet test acceptability criteria (TAC) therefore no Topsmelt test data is available sample ME-SCR. The test exhibited high mortality in the negative controls and high variability among replicates. Speaking with the organism supplier it was noted they had limited Topsmelt available for the time period and organisms may have had stress in shipping.

Survival counts were recorded daily to ensure tests were progressing as expected. Counts were conducted daily on the control replicates. The temperatures in samples were within the recommended range for the entire test duration.

Reference Toxicant Test

A concurrent reference toxicant test using copper chloride was conducted to assess the health of the test organisms. Mean control survival met the test acceptability criterion. The median lethal concentration (LC50) calculated for this test was within two standard deviations of the internal control chart mean, indicating test organism sensitivity was typical. Reference toxicant test results are summarized in the report.

Results and Discussion

Mean survival and statistical differences from control for the tests, error bars, results summaries including individual replicate data, statistical summaries, and raw datasheets are located in in the appendix. Appropriate chain-of-custody (COC) procedures were followed during all phases of this study, and copies of the COC forms are provided in the appendix.

Results of the species sensitivity screen are as follows: ME-CC most sensitive species is chronic fathead minnow with a percent effect of 1.69 for survival and 5.14 for biomass. ME-VR2 most sensitive species is chronic fathead minnow with a percent effect of 5.17 for survival and 4.09 for biomass. LC-R1 most sensitive species is chronic Ceriodaphnia with a percent effect of 0.00 for survival and 1.32 for reproduction. ME-SCR did not meet TAC for Topsmelt. Of the remaining tests ME-SCR most sensitive species is chronic kelp with percent effect of -0.66 for germination and -0.15 for tube length. The most sensitive species for each site is highlighted in the table above.

Data Analysis and Reporting

The response observed in this test includes survival of the test organism. Two statistical methods were employed to determine whether there was an effect between the control and test sample: 1) A standard t-test approach following the statistical analysis decision tree in EPA 2002; and 2) A more recent EPA-recommended Test of Significant Toxicity (TST) approach (EPA 2010).

References:

United States Environmental Protection Agency, 1995. Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/R-95/136.

United States Environmental Protection Agency, 2002. Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/821/R-02-014.

United States Environmental Protection Agency, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA/821/R-02/012.

United States Environmental Protection Agency, 2010. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. Office of Wastewater Management. EPA 833-R-10-003.



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

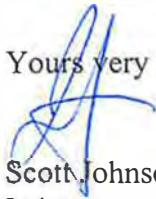
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: RW-LC1
DATE RECEIVED: 8/10/2022
ABC LAB. NO.: VCF0822.073

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL NOEC = 100.00 %
 TU_c = 1.00
 EC25 = >100.00 %
 EC50 = >100.00 %

BIOMASS NOEC = 100.00 %
 TU_c = 1.00
 IC25 = >100.00 %
 IC50 = >100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 07 Sep-22 13:23 (p 1 of 2)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 10-2414-8587	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Aug-22 15:05	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-6240-4865	Code: VCF0822.073fml	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
05-7147-1928	7d Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	---	1	1
00-9183-8742	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test		100	>100	---	4.06%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
10-2874-7576	7d Survival Rate	Linear Interpolation (ICPIN)	✓	EC15	>100	---	---	<1	1
			✓	EC20	>100	---	---	<1	
			✓	EC25	>100	---	---	<1	
			✓	EC40	>100	---	---	<1	
			✓	EC50	>100	---	---	<1	
09-2448-8243	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓	IC15	>100	---	---	<1	1
			✓	IC20	>100	---	---	<1	
			✓	IC25	>100	---	---	<1	
			✓	IC40	>100	---	---	<1	
			✓	IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
05-7147-1928	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
10-2874-7576	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
00-9183-8742	Mean Dry Biomass-mg	Control Resp	0.344	0.25	<<	Yes	Passes Criteria
09-2448-8243	Mean Dry Biomass-mg	Control Resp	0.344	0.25	<<	Yes	Passes Criteria
00-9183-8742	Mean Dry Biomass-mg	PMSD	0.04056	0.12	0.3	Yes	Below Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.344	0.3381	0.3499	0.3393	0.3473	0.001866	0.003732	1.08%	0.00%
6.25		4	0.344	0.3413	0.3467	0.342	0.346	0.000861	0.001721	0.50%	0.00%
12.5		4	0.3422	0.3394	0.345	0.3407	0.3447	0.000877	0.001753	0.51%	0.53%
25		4	0.3403	0.336	0.3446	0.338	0.344	0.001347	0.002694	0.79%	1.07%
50		4	0.343	0.3365	0.3495	0.34	0.3487	0.002046	0.004092	1.19%	0.29%
100		4	0.3505	0.3203	0.3807	0.3387	0.3787	0.009477	0.01895	5.41%	-1.89%

CETIS Summary Report

Report Date: 07 Sep-22 13:23 (p 2 of 2)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

Mean Dry Biomass-mg Detail

MD5: 34508DE070A4EC61A1B981D12FD75A6F

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3427	0.3393	0.3473	0.3467
6.25		0.342	0.3433	0.346	0.3447
12.5		0.3407	0.3447	0.3413	0.342
25		0.338	0.344	0.3387	0.3407
50		0.34	0.3433	0.34	0.3487
100		0.3447	0.34	0.3387	0.3787

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

CETIS Analytical Report

Report Date: 07 Sep-22 13:23 (p 1 of 4)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	05-7147-1928	Endpoint:	7d Survival Rate	CETIS Version:	CETISv2.1.2		
Analyzed:	07 Sep-22 13:22	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1		
Edit Date:	07 Sep-22 13:21	MD5 Hash:	68E117461239090AA7E1427F0F536296	Editor ID:	008-463-000-3		
Batch ID:	10-2414-8587	Test Type:	Growth-Survival (7d)	Analyst:			
Start Date:	11 Aug-22 15:25	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	18 Aug-22 15:05	Species:	Pimephales promelas	Brine:	Not Applicable		
Test Length:	7d	Taxon:	Actinopterygii	Source:	Aquatic Biosystems, CO	Age:	<24
Sample ID:	05-6240-4865	Code:	VCF0822.073fml	Project:			
Sample Date:	10 Aug-22 09:35	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	10 Aug-22 11:13	CAS (PC):		Station:	RW-LC1		
Sample Age:	30h (11.5 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

Test Acceptability Criteria

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

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
6.25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
12.5		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
50		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
100		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-7147-1928 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 13:22 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 13:21 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

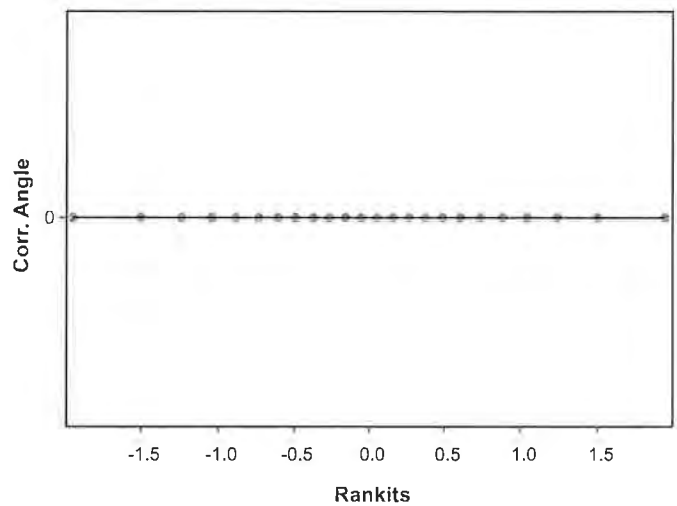
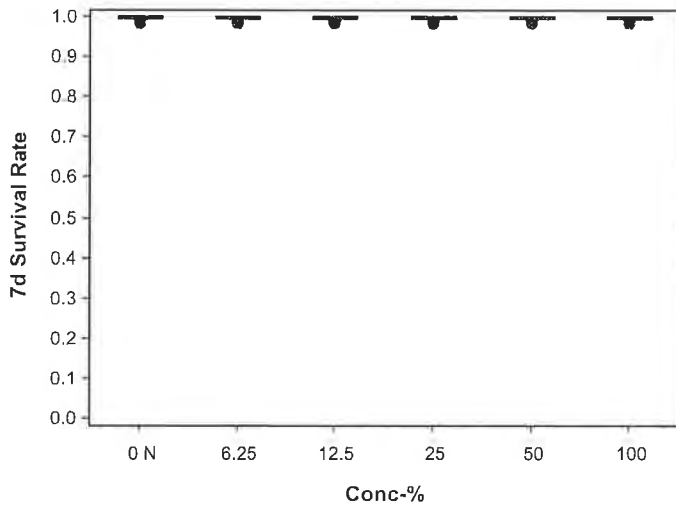
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.4410	1.4410
6.25		1.4410	1.4410	1.4410	1.4410
12.5		1.4410	1.4410	1.4410	1.4410
25		1.4410	1.4410	1.4410	1.4410
50		1.4410	1.4410	1.4410	1.4410
100		1.4410	1.4410	1.4410	1.4410

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 13:23 (p 3 of 4)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	00-9183-8742	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv2.1.2		
Analyzed:	07 Sep-22 13:22	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1		
Edit Date:	07 Sep-22 13:21	MD5 Hash:	34508DE070A4EC61A1B981D12FD75A6F	Editor ID:	008-463-000-3		
Batch ID:	10-2414-8587	Test Type:	Growth-Survival (7d)	Analyst:			
Start Date:	11 Aug-22 15:25	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	18 Aug-22 15:05	Species:	Pimephales promelas	Brine:	Not Applicable		
Test Length:	7d	Taxon:	Actinopterygii	Source:	Aquatic Biosystems, CO	Age:	<24
Sample ID:	05-6240-4865	Code:	VCF0822.073fml	Project:			
Sample Date:	10 Aug-22 09:35	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	10 Aug-22 11:13	CAS (PC):		Station:	RW-LC1		
Sample Age:	30h (11.5 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.01395	4.06%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	17	10	0	CDF	0.7334	Non-Significant Effect
		12.5	6	15	10	0	CDF	0.4761	Non-Significant Effect
		25	6	13	10	0	CDF	0.2311	Non-Significant Effect
		50	6	18	10	0	CDF	0.8333	Non-Significant Effect
		100	6	17	10	0	CDF	0.7334	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.344	0.25	<<	Yes	Passes Criteria
PMSD	0.04056	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0002402	4.804E-05	5	0.715	0.6203	Non-Significant Effect
Error	0.0012096	6.72E-05	18			
Total	0.0014498		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	25.81	15.09	9.7E-05	Unequal Variances
	Levene Equality of Variance Test	5.593	4.248	0.0028	Unequal Variances
	Mod Levene Equality of Variance Test	1.16	4.248	0.3663	Equal Variances
Distribution	Anderson-Darling A2 Test	2.008	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.895	2.576	9.8E-05	Non-Normal Distribution
	D'Agostino Skewness Test	4.017	2.576	5.9E-05	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	31.31	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2232	0.2056	0.0032	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7465	0.884	4.4E-05	Non-Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.344	0.3381	0.3499	0.3447	0.3393	0.3473	0.001866	1.08%	0.00%
6.25		4	0.344	0.3413	0.3467	0.344	0.342	0.346	0.000861	0.50%	0.00%
12.5		4	0.3422	0.3394	0.345	0.3417	0.3407	0.3447	0.000877	0.51%	0.53%
25		4	0.3403	0.336	0.3446	0.3397	0.338	0.344	0.001347	0.79%	1.07%
50		4	0.343	0.3365	0.3495	0.3411	0.34	0.3487	0.002046	1.19%	0.29%
100		4	0.3505	0.3203	0.3807	0.3423	0.3387	0.3787	0.009477	5.41%	-1.89%

Fathead Minnow 7-d Larval Survival and Growth Test

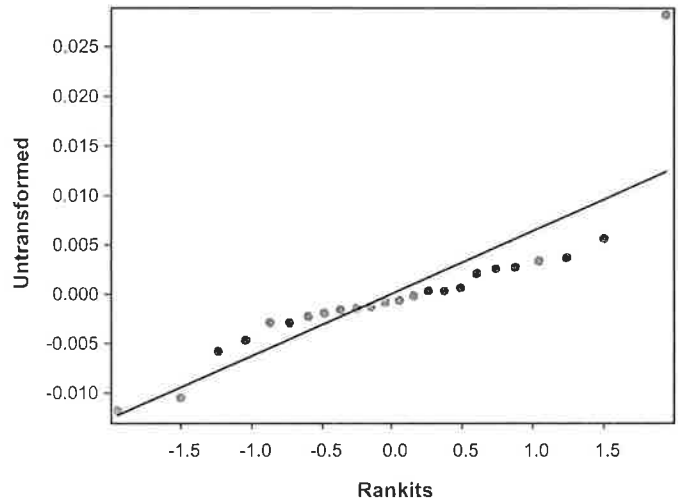
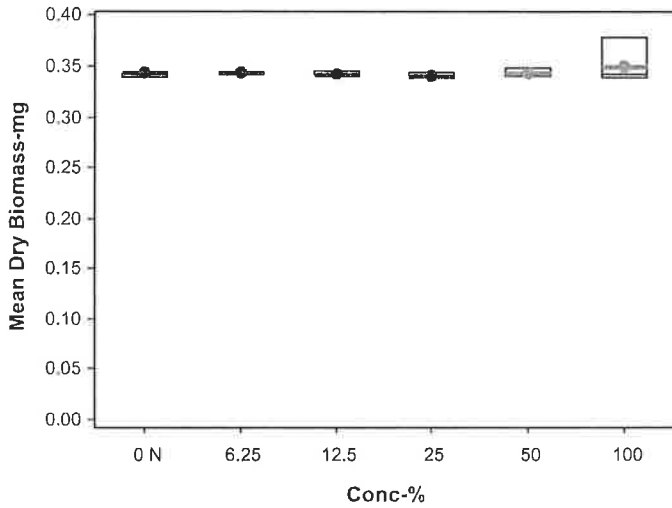
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-9183-8742 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 13:22 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 13:21 MD5 Hash: 34508DE070A4EC61A1B981D12FD75A6F Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3427	0.3393	0.3473	0.3467
6.25		0.342	0.3433	0.346	0.3447
12.5		0.3407	0.3447	0.3413	0.342
25		0.338	0.344	0.3387	0.3407
50		0.34	0.3433	0.34	0.3487
100		0.3447	0.34	0.3387	0.3787

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 13:23 (p 1 of 4)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 10-2874-7576	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 07 Sep-22 13:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 07 Sep-22 13:21	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 10-2414-8587	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 18 Aug-22 15:05	Species: Pimephales promelas	Brine: Not Applicable			
Test Length: 7d	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 05-6240-4865	Code: VCF0822.073fml	Project:			
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri				

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

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary			Calculated Variate(A/B)						Isotonic Variate		
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%

7d Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

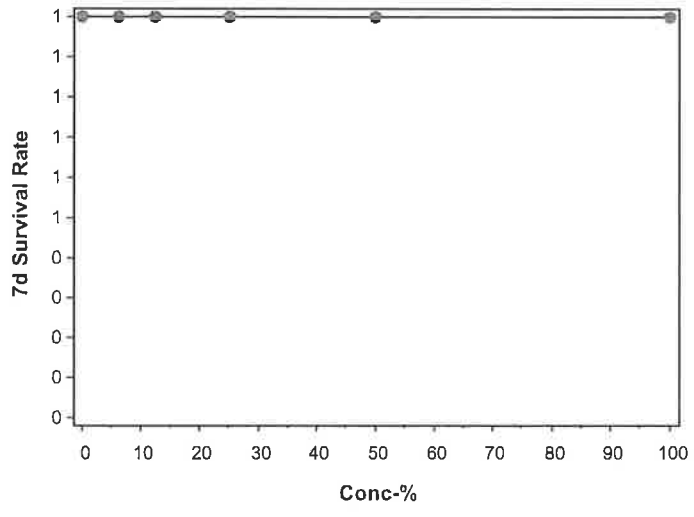
7d Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

P

Fathead Minnow 7-d Larval Survival and Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 10-2874-7576	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 13:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 07 Sep-22 13:21	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 13:23 (p 3 of 4)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 09-2448-8243	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2			
Analyzed: 07 Sep-22 13:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 07 Sep-22 13:21	MD5 Hash: 34508DE070A4EC61A1B981D12FD75A6F	Editor ID: 008-463-000-3			
Batch ID: 10-2414-8587	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 18 Aug-22 15:05	Species: Pimephales promelas	Brine: Not Applicable			
Test Length: 7d	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 05-6240-4865	Code: VCF0822.073fml	Project:			
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1123850	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.344	0.25	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.344	0.3447	0.3393	0.3473	1.08%	0.00%	0.344	0.00%
6.25		4	0.344	0.344	0.342	0.346	0.50%	0.00%	0.344	0.00%
12.5		4	0.3422	0.3417	0.3407	0.3447	0.51%	0.53%	0.344	0.00%
25		4	0.3403	0.3397	0.338	0.344	0.79%	1.07%	0.344	0.00%
50		4	0.343	0.3411	0.34	0.3487	1.19%	0.29%	0.344	0.00%
100		4	0.3505	0.3423	0.3387	0.3787	5.41%	-1.89%	0.344	0.00%

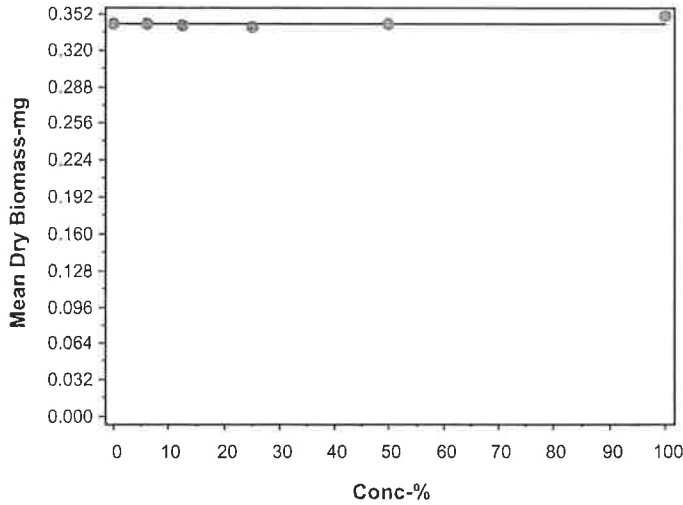
Mean Dry Biomass-mg Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3427	0.3393	0.3473	0.3467
6.25		0.342	0.3433	0.346	0.3447
12.5		0.3407	0.3447	0.3413	0.342
25		0.338	0.344	0.3387	0.3407
50		0.34	0.3433	0.34	0.3487
100		0.3447	0.34	0.3387	0.3787

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-2448-8243 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 13:22 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 07 Sep-22 13:21 MD5 Hash: 34508DE070A4EC61A1B981D12FD75A6F Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 07 Sep-22 13:23 (p 1 of 2)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 10-2414-8587	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Aug-22 15:05	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-6240-4865	Code: VCF0822.073fml	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60.75	59.88	61.62	60	62	0.1294	1.035	1.70%	0
100		8	358	358	358	358	358	0	0	0.00%	0
Overall		16	209.4	127.6	291.2	60	358	38.38	153.5	73.31%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.1	368.2	372.1	367	374	0.2946	2.357	0.64%	0
6.25		8	595.8	593	598.5	592	599	0.405	3.24	0.54%	0
12.5		8	776	772.2	779.8	770	782	0.563	4.504	0.58%	0
25		8	987.4	690.6	1284	109	1120	44.37	354.9	35.95%	0
50		8	1878	1874	1882	1872	1885	0.6374	5.099	0.27%	0
100		8	3291	3288	3294	3286	3297	0.4213	3.37	0.10%	0
Overall		48	1316	1020	1613	109	3297	147.6	1022	77.66%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.537	7.371	7.704	7.1	7.7	0.02494	0.1996	2.65%	0
6.25		8	7.55	7.318	7.782	7	7.8	0.03472	0.2777	3.68%	0
12.5		8	7.525	7.348	7.702	7.1	7.7	0.02652	0.2121	2.82%	0
25		8	7.45	7.25	7.65	7	7.7	0.02988	0.239	3.21%	0
50		8	7.413	7.243	7.582	7	7.6	0.02539	0.2031	2.74%	0
100		8	7.375	7.181	7.569	7	7.7	0.02893	0.2315	3.14%	0
Overall		48	7.475	7.409	7.541	7	7.8	0.03268	0.2264	3.03%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.38	94.94	95.81	95	96	0.06469	0.5175	0.54%	0
100		8	615	615	615	615	615	0	0	0.00%	0
Overall		16	355.2	212.2	498.2	95	615	67.08	268.3	75.55%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.975	7.916	8.034	7.9	8.1	0.008838	0.07071	0.89%	0
6.25		8	7.975	7.916	8.034	7.9	8.1	0.008838	0.07071	0.89%	0
12.5		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
25		8	7.988	7.934	8.041	7.9	8.1	0.008011	0.06409	0.80%	0
50		8	7.988	7.934	8.041	7.9	8.1	0.008011	0.06409	0.80%	0
100		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
Overall		48	7.979	7.962	7.996	7.9	8.1	0.0084	0.05819	0.73%	0 (0%)

CETIS Measurement Report

Report Date: 07 Sep-22 13:23 (p 2 of 2)
 Test Code/ID: VCF0822.073fml / 08-5534-0716

Fathead Minnow 7-d Larval Survival and Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
50		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
100		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
Overall		48	24.01	24	24.02	24	24.1	0.004032	0.02793	0.12%	0 (0%)





September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

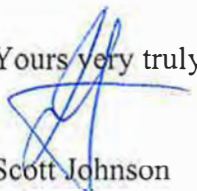
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: RW-LC1
DATE RECEIVED: 8/10/2022
ABC LAB. NO.: VCF0822.073

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL NOEC = 100.00 %
TUc = 1.00
EC25 = >100.00 %
EC50 = >100.00 %

REPRODUCTION NOEC = 100.00 %
TUc = 1.00
IC25 = >100.00 %
IC50 = >100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 08 Sep-22 15:15 (p 1 of 2)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID: 04-4813-2636	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 18 Aug-22 15:05	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Test Length: 7d	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO		Age: <24			
Sample ID: 19-1153-4899	Code: VCF0822.073cer	Project:					
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1					
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri						

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
01-5984-4405	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
08-7548-9404	Reproduction	Steel Many-One Rank Sum Test	100	>100	---	13.9%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
13-4114-5071	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
05-7159-0161	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
01-5984-4405	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
13-4114-5071	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
05-7159-0161	Reproduction	Control Resp	22.7	15	<<	Yes	Passes Criteria	
08-7548-9404	Reproduction	Control Resp	22.7	15	<<	Yes	Passes Criteria	
08-7548-9404	Reproduction	PMSD	0.1393	0.13	0.47	Yes	Passes Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
0	SC	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22.7	19.98	25.42	18	28	1.202	3.802	16.75%	0.00%
0	SC	10	6.8	5.225	8.375	4	11	0.696	2.201	32.37%	70.04%
6.25		10	26.3	24.65	27.95	23	31	0.7311	2.312	8.79%	-15.86%
12.5		10	21.7	18.45	24.95	14	31	1.438	4.547	20.96%	4.41%
25		10	23.4	21.13	25.67	17	28	1.002	3.169	13.54%	-3.08%
50		10	24	23.17	24.83	23	26	0.3651	1.155	4.81%	-5.73%
100		10	22.4	20.74	24.06	17	26	0.7333	2.319	10.35%	1.32%

CETIS Summary Report

Report Date: 08 Sep-22 15:15 (p 2 of 2)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 2248217EA3A8C47AEB72195E229DF737

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
0	SC	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

MD5: D580C61B45F61CC56603FCBF5AD9D362

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	28	27	24	26	25	18	18	19	20	22
0	SC	9	8	7	4	7	5	4	6	7	11
6.25		28	24	27	28	26	26	25	23	31	25
12.5		31	21	18	14	24	22	23	18	24	22
25		24	25	24	19	24	23	28	25	17	25
50		24	26	23	24	23	24	23	26	24	23
100		23	23	23	21	17	22	22	24	26	23

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0	SC	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 08 Sep-22 15:15 (p 1 of 2)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

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

Analysis ID: 08-7548-9404	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 08 Sep-22 10:29	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 08 Sep-22 9:33	MD5 Hash: 8469C3AAFAC23F9C119A58F62AB35DAF	Editor ID: 008-463-000-3
Batch ID: 04-4813-2636	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Aug-22 15:05	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-1153-4899	Code: VCF0822.073cer	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.162	13.93%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	131	75	5	CDF	0.9996	Non-Significant Effect
		12.5	18	96	75	3	CDF	0.5631	Non-Significant Effect
		25	18	108	75	4	CDF	0.8923	Non-Significant Effect
		50	18	112	75	2	CDF	0.9455	Non-Significant Effect
		100	18	101	75	3	CDF	0.7280	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22.7	15	<<	Yes	Passes Criteria
PMSD	0.1393	0.13	0.47	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	131.483	26.2967	5	2.757	0.0273	Significant Effect
Error	515.1	9.53889	54			
Total	646.583		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	16.21	15.09	0.0063	Unequal Variances
	Levene Equality of Variance Test	2.605	3.377	0.0350	Equal Variances
	Mod Levene Equality of Variance Test	2.291	3.377	0.0583	Equal Variances
Distribution	Anderson-Darling A2 Test	0.8914	3.878	0.0227	Normal Distribution
	D'Agostino Kurtosis Test	1.804	2.576	0.0712	Normal Distribution
	D'Agostino Skewness Test	0.001658	2.576	0.9987	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	3.255	9.21	0.1964	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1178	0.1331	0.0375	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9673	0.9459	0.1076	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	22.7	19.98	25.42	23	18	28	1.202	16.75%	0.00%
6.25		10	26.3	24.65	27.95	26	23	31	0.7311	8.79%	-15.86%
12.5		10	21.7	18.45	24.95	22	14	31	1.438	20.96%	4.41%
25		10	23.4	21.13	25.67	24	17	28	1.002	13.54%	-3.08%
50		10	24	23.17	24.83	24	23	26	0.3651	4.81%	-5.73%
100		10	22.4	20.74	24.06	23	17	26	0.7333	10.35%	1.32%

Ceriodaphnia 7-d Survival and Reproduction Test

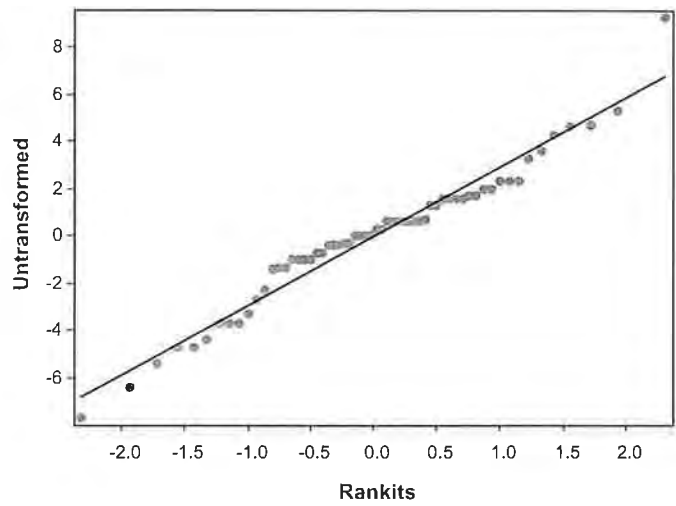
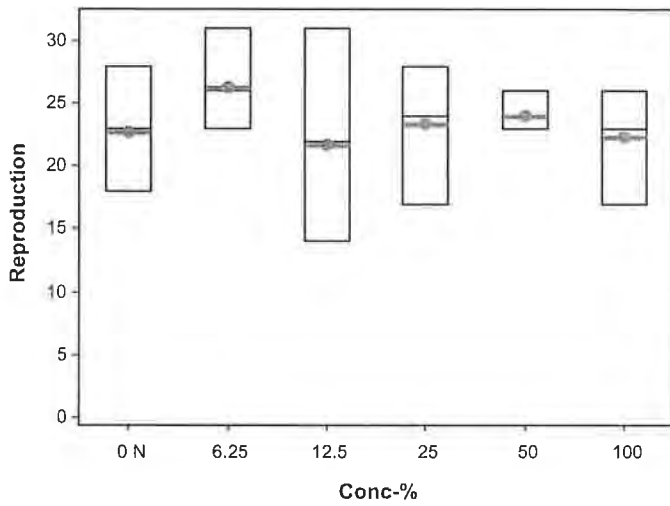
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 08-7548-9404 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 08 Sep-22 10:29 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 08 Sep-22 9:33 MD5 Hash: 8469C3AAFAC23F9C119A58F62AB35DAF Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	28	27	24	26	25	18	18	19	20	22
6.25		28	24	27	28	26	26	25	23	31	25
12.5		31	21	18	14	24	22	23	18	24	22
25		24	25	24	19	24	23	28	25	17	25
50		24	26	23	24	23	24	23	26	24	23
100		23	23	23	21	17	22	22	24	26	23

Graphics



CETIS Analytical Report

Report Date: 08 Sep-22 15:15 (p 1 of 4)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 13-4114-5071	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 08 Sep-22 10:29	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 08 Sep-22 9:33	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3			
Batch ID: 04-4813-2636	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 18 Aug-22 15:05	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 19-1153-4899	Code: VCF0822.073cer	Project:			
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri				

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

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

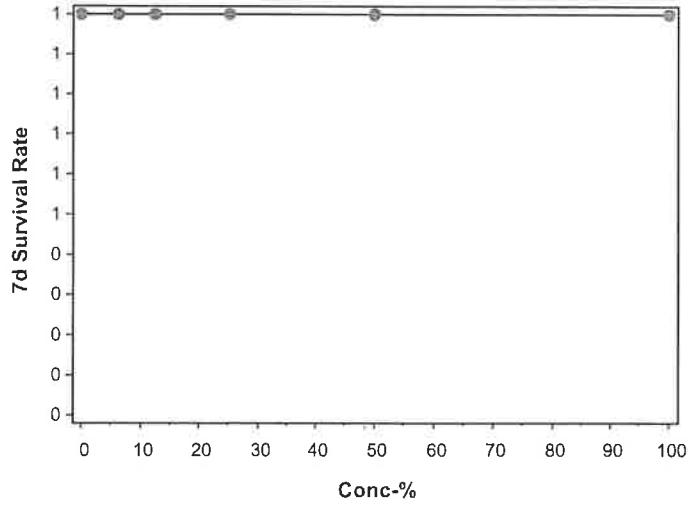
7d Survival Rate Binomials											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-4114-5071 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
Analyzed: 08 Sep-22 10:29 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 08 Sep-22 9:33 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 08 Sep-22 15:15 (p 3 of 4)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 05-7159-0161	Endpoint: Reproduction	CETIS Version: CETISv2.1.2	Analyzed: 08 Sep-22 10:29	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 08 Sep-22 9:33	MD5 Hash: 8469C3AAFAC23F9C119A58F62AB35DAF	Editor ID: 008-463-000-3	Batch ID: 04-4813-2636	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	Ending Date: 18 Aug-22 15:05	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO	Age: <24	Sample ID: 19-1153-4899	Code: VCF0822.073cer
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Project:	Receipt Date: 10 Aug-22 11:13	CAS (PC):	Source: Bioassay Report
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	Station: RW-LC1			

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1519685	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	22.7	15	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	22.7	23	18	28	16.75%	0.00%	24.5	0.00%
6.25		10	26.3	26	23	31	8.79%	-15.86%	24.5	0.00%
12.5		10	21.7	22	14	31	20.96%	4.41%	23.03	6.00%
25		10	23.4	24	17	28	13.54%	-3.08%	23.03	6.00%
50		10	24	24	23	26	4.81%	-5.73%	23.03	6.00%
100		10	22.4	23	17	26	10.35%	1.32%	22.4	8.57%

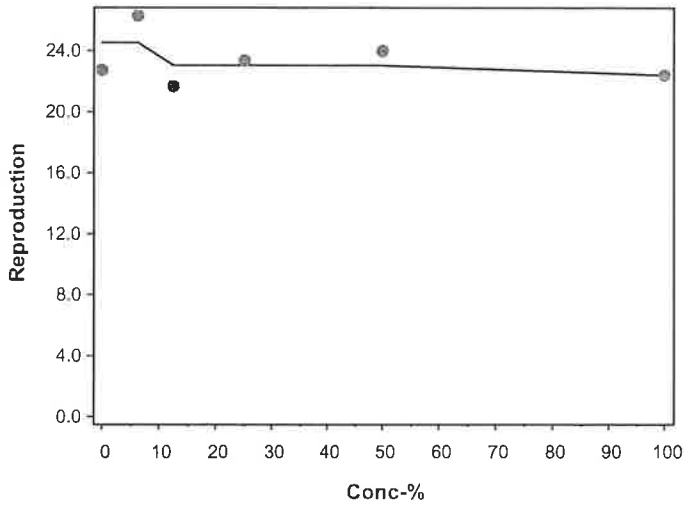
Reproduction Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	28	27	24	26	25	18	18	19	20	22
6.25		28	24	27	28	26	26	25	23	31	25
12.5		31	21	18	14	24	22	23	18	24	22
25		24	25	24	19	24	23	28	25	17	25
50		24	26	23	24	23	24	23	26	24	23
100		23	23	23	21	17	22	22	24	26	23

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-7159-0161 Endpoint: Reproduction CETIS Version: CETISv2.1.2
Analyzed: 08 Sep-22 10:29 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 08 Sep-22 9:33 MD5 Hash: 8469C3AAFAC23F9C119A58F62AB35DAF Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 08 Sep-22 15:15 (p 1 of 2)
 Test Code/ID: VCF0822.073cer / 13-5251-4067

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

Analysis ID: 01-5984-4405	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 08 Sep-22 10:29	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 08 Sep-22 9:33	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 04-4813-2636	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 11 Aug-22 15:25	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 18 Aug-22 15:05	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-1153-4899	Code: VCF0822.073cer	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

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

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Ceriodaphnia 7-d Survival and Reproduction Test

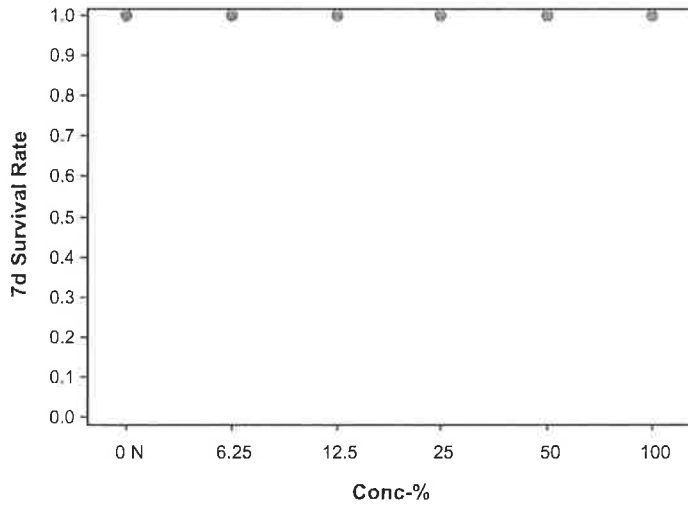
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-5984-4405 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 08 Sep-22 10:29 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 08 Sep-22 9:33 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Measurement Report

Report Date: 08 Sep-22 15:15 (p 1 of 2)

Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 04-4813-2636 Test Type: Reproduction-Survival (7d) Analyst:
 Start Date: 11 Aug-22 15:25 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water
 Ending Date: 18 Aug-22 15:05 Species: Ceriodaphnia dubia Brine: Not Applicable
 Test Length: 7d Taxon: Branchiopoda Source: Aquatic Biosystems, CO Age: <24

Sample ID: 19-1153-4899 Code: VCF0822.073cer Project:
 Sample Date: 10 Aug-22 09:35 Material: Sample Water Source: Bioassay Report
 Receipt Date: 10 Aug-22 11:13 CAS (PC): Station: RW-LC1
 Sample Age: 30h (11.5 °C) Client: Ventura County Watershed Protection Distri

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60.75	59.88	61.62	60	62	0.1294	1.035	1.70%	0
0	SC	8	66	66	66	66	66	0	0	0.00%	0
100		8	358	358	358	358	358	0	0	0.00%	0
Overall		24	161.6	101.7	221.5	60	358	28.96	141.9	87.81%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.1	368.2	372.1	367	374	0.2946	2.357	0.64%	0
0	SC	8	4036	4030	4041	4028	4045	0.8113	6.49	0.16%	0
6.25		8	595.8	593	598.5	592	599	0.405	3.24	0.54%	0
12.5		8	776	772.2	779.8	770	782	0.563	4.504	0.58%	0
25		8	1112	1109	1116	1108	1120	0.4952	3.962	0.36%	0
50		8	1878	1874	1882	1872	1885	0.6374	5.099	0.27%	0
100		8	3291	3288	3294	3286	3297	0.4213	3.37	0.10%	0
Overall		56	1723	1366	2080	367	4045	178	1332	77.34%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.537	7.371	7.704	7.1	7.7	0.02494	0.1996	2.65%	0
0	SC	8	7.313	7.168	7.457	7	7.6	0.02159	0.1727	2.36%	0
6.25		8	7.55	7.318	7.782	7	7.8	0.03472	0.2777	3.68%	0
12.5		8	7.525	7.348	7.702	7.1	7.7	0.02652	0.2121	2.82%	0
25		8	7.45	7.25	7.65	7	7.7	0.02988	0.239	3.21%	0
50		8	7.413	7.243	7.582	7	7.6	0.02539	0.2031	2.74%	0
100		8	7.375	7.181	7.569	7	7.7	0.02893	0.2315	3.14%	0
Overall		56	7.452	7.391	7.512	7	7.8	0.03015	0.2256	3.03%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.38	94.94	95.81	95	96	0.06469	0.5175	0.54%	0
0	SC	8	400	400	400	400	400	0	0	0.00%	0
100		8	615	615	615	615	615	0	0	0.00%	0
Overall		24	370.1	278.2	462.1	95	615	44.45	217.8	58.84%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.975	7.916	8.034	7.9	8.1	0.008838	0.07071	0.89%	0
0	SC	8	8.05	7.973	8.127	7.9	8.2	0.01157	0.09259	1.15%	0
6.25		8	7.975	7.916	8.034	7.9	8.1	0.008838	0.07071	0.89%	0
12.5		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
25		8	7.988	7.934	8.041	7.9	8.1	0.008011	0.06409	0.80%	0
50		8	7.988	7.934	8.041	7.9	8.1	0.008011	0.06409	0.80%	0
100		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
Overall		56	7.989	7.971	8.007	7.9	8.2	0.009074	0.0679	0.85%	0 (0%)

CETIS Measurement Report

Report Date: 08 Sep-22 15:15 (p 2 of 2)

Test Code/ID: VCF0822.073cer / 13-5251-4067

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
0	SC	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
50		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
100		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
Overall		56	24.01	24	24.01	24	24.1	0.003473	0.02599	0.11%	0 (0%)

Analyst:  P



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:


We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: RW-LC1
DATE RECEIVED: 8/10/2022
ABC LAB. NO.: VCF0822.073

ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample
*TUa = 0.00
* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 30 Aug-22 15:39 (p 1 of 1)
 Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-6321-8615	Test Type: Survival (96h)	Analyst:
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 15 Aug-22 15:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 0h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 03-2291-0582	Code: VCF0822.073ahya	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
06-1677-0543	96h Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
16-4448-1119	96h Survival Rate	Linear Interpolation (ICPIN)		EC15	>100	---	---	<1	1
				EC20	>100	---	---	<1	
				EC25	>100	---	---	<1	
				EC40	>100	---	---	<1	
				EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Attachment A Appendix I *PASS*

CETIS Analytical Report

Report Date: 30 Aug-22 15:38 (p 1 of 2)
 Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 06-1677-0543	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 30 Aug-22 15:37	Analysis: Nonparametric-Control vs Treatments	Status Level: 1			
Edit Date: 30 Aug-22 15:35	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 19-6321-8615	Test Type: Survival (96h)	Analyst:			
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 15 Aug-22 15:35	Species: Hyalella azteca	Brine: Not Applicable			
Test Length: 4d 0h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:			
Sample ID: 03-2291-0582	Code: VCF0822.073ahya	Project:			
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 30 Aug-22 15:38 (p 2 of 2)
 Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-1677-0543 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 30 Aug-22 15:37 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 30 Aug-22 15:35 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

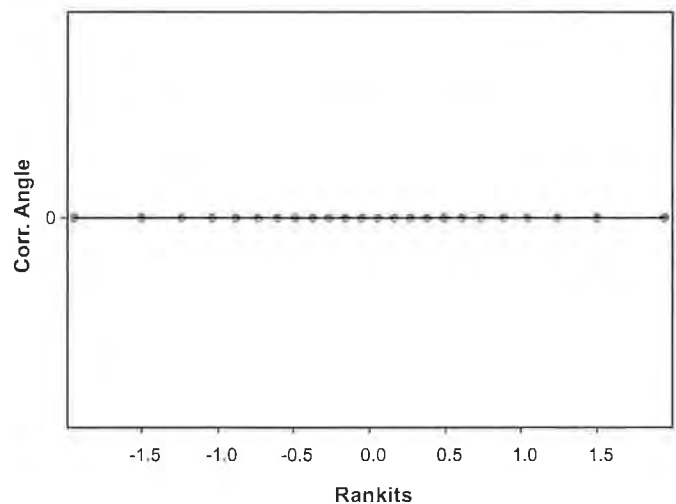
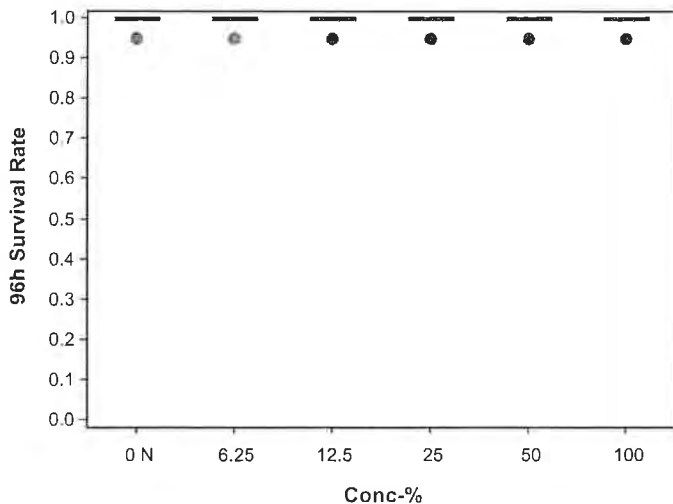
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 30 Aug-22 15:38 (p 1 of 2)
 Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-4448-1119	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 30 Aug-22 15:37	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 30 Aug-22 15:35	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 19-6321-8615	Test Type: Survival (96h)	Analyst:
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 15 Aug-22 15:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 0h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 03-2291-0582	Code: VCF0822.073ahya	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Calculated Variate(A/B)

Isotonic Variate

Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

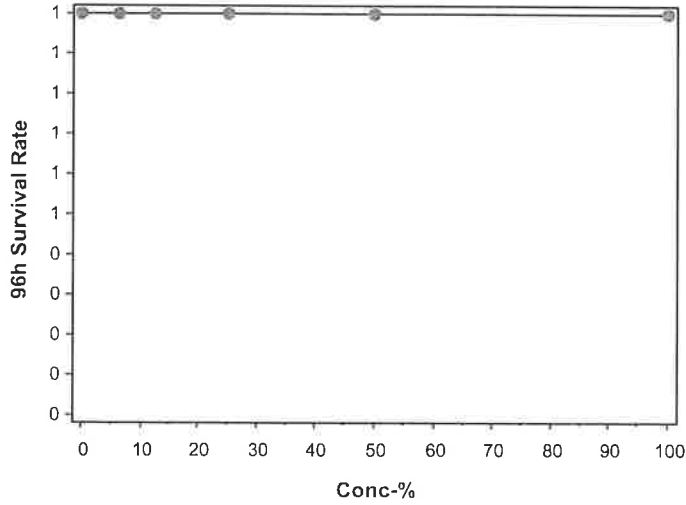
Report Date: 30 Aug-22 15:38 (p 2 of 2)
Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-4448-1119	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 30 Aug-22 15:37	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 30 Aug-22 15:35	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 30 Aug-22 15:38 (p 1 of 2)
 Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-6321-8615	Test Type: Survival (96h)	Analyst:
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 15 Aug-22 15:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 0h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 03-2291-0582	Code: VCF0822.073ahya	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	358	358	358	358	358	0	0	0.00%	0
Overall		6	209	37.71	380.3	60	358	66.63	163.2	78.10%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	368.3	364.5	372.1	367	370	0.5092	1.528	0.41%	0
6.25		3	596	587.4	604.6	592	598	1.155	3.464	0.58%	0
12.5		3	776.7	766.3	787	772	780	1.388	4.163	0.54%	0
25		3	1111	1102	1120	1108	1115	1.202	3.606	0.32%	0
50		3	1871	1855	1886	1864	1876	2.037	6.11	0.33%	0
100		3	3294	3284	3304	3290	3298	1.347	4.041	0.12%	0
Overall		18	1336	825.8	1846	367	3298	241.8	1026	76.80%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.333	6.76	7.907	7.2	7.6	0.07698	0.2309	3.15%	0
6.25		3	7.5	6.604	8.396	7.1	7.8	0.1202	0.3606	4.81%	0
12.5		3	7.467	6.668	8.265	7.1	7.7	0.1072	0.3215	4.31%	0
25		3	7.367	6.568	8.165	7	7.6	0.1072	0.3215	4.36%	0
50		3	7.367	6.793	7.94	7.1	7.5	0.07698	0.2309	3.13%	0
100		3	7.3	6.87	7.73	7.1	7.4	0.05774	0.1732	2.37%	0
Overall		18	7.389	7.266	7.512	7	7.8	0.05824	0.2471	3.34%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	615	615	615	615	615	0	0	0.00%	0
Overall		6	355	56.1	653.9	95	615	116.3	284.8	80.23%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
12.5		3	8	8	8	8	8	0	0	0.00%	0
25		3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
50		3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
100		3	8	8	8	8	8	0	0	0.00%	0
Overall		18	8	7.976	8.024	7.9	8.1	0.01143	0.04851	0.61%	0 (0%)

CETIS Measurement Report

Report Date: 30 Aug-22 15:38 (p 2 of 2)
Test Code/ID: VCF0822.073ahya / 08-0019-6067

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	RW-LC1
DATE RECEIVED:	8/10/2022
ABC LAB. NO.:	VCF0822.073


ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TU_a = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 30 Aug-22 15:42 (p 1 of 1)

Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 09-4412-9912	Test Type: Survival (96h)	Analyst:
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 15 Aug-22 15:47	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 4d 0h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 14-4572-3949	Code: VCF0822.073achi	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
21-2836-7167	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
03-4091-4269	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

Report Date: 30 Aug-22 15:41 (p 1 of 2)
 Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 21-2836-7167	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 30 Aug-22 15:40	Analysis: Nonparametric-Control vs Treatments	Status Level: 1			
Edit Date: 30 Aug-22 15:39	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 09-4412-9912	Test Type: Survival (96h)	Analyst:			
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 15 Aug-22 15:47	Species: Chironomus dilutus	Brine: Not Applicable			
Test Length: 4d 0h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:			
Sample ID: 14-4572-3949	Code: VCF0822.073achi	Project:			
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 30 Aug-22 15:41 (p 2 of 2)
 Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 21-2836-7167 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 30 Aug-22 15:40 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 30 Aug-22 15:39 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

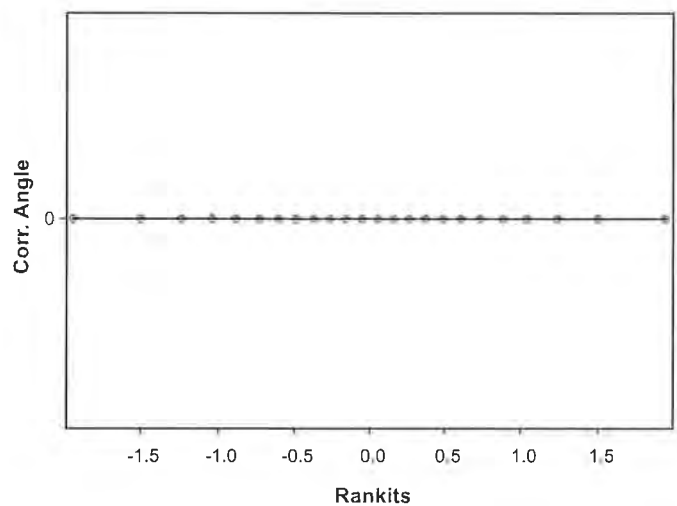
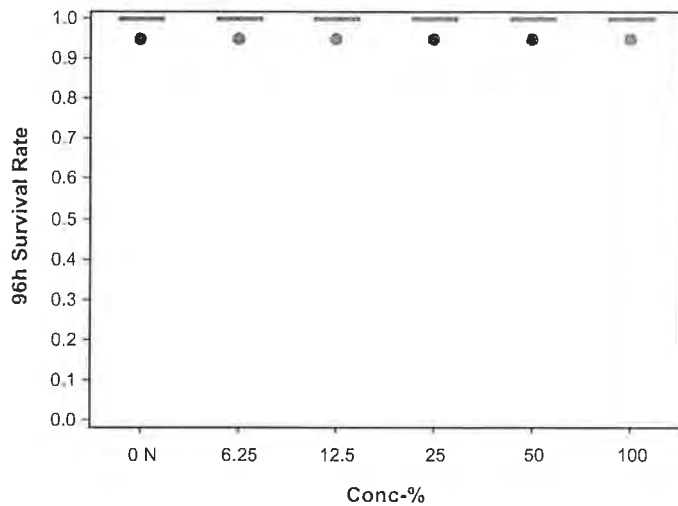
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 30 Aug-22 15:41 (p 1 of 2)
 Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-4091-4269 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 30 Aug-22 15:40 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 30 Aug-22 15:39 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 09-4412-9912 Test Type: Survival (96h) Analyst:
 Start Date: 11 Aug-22 15:30 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 15 Aug-22 15:47 Species: Chironomus dilutus Brine: Not Applicable
 Test Length: 4d 0h Taxon: Insecta Source: Aquatic Biosystems, CO Age:

Sample ID: 14-4572-3949 Code: VCF0822.073achi Project:
 Sample Date: 10 Aug-22 09:35 Material: Sample Water Source: Bioassay Report
 Receipt Date: 10 Aug-22 11:13 CAS (PC): Station: RW-LC1
 Sample Age: 30h (11.5 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

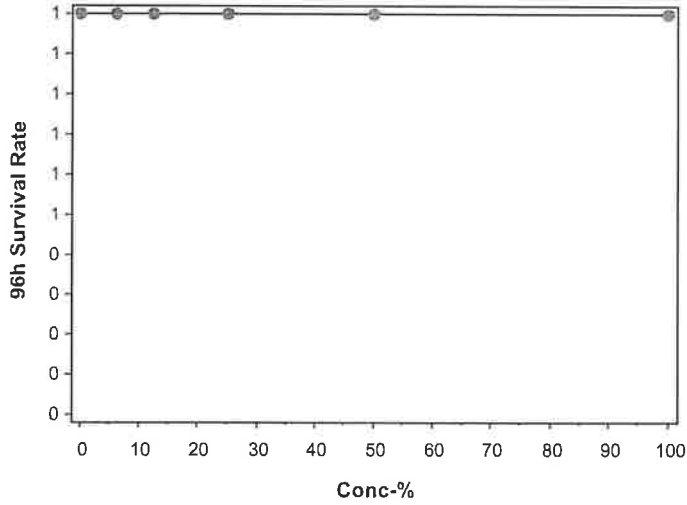
Report Date: 30 Aug-22 15:41 (p 2 of 2)
Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-4091-4269	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 30 Aug-22 15:40	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 30 Aug-22 15:39	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 30 Aug-22 15:41 (p 1 of 2)

Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 09-4412-9912	Test Type: Survival (96h)	Analyst:
Start Date: 11 Aug-22 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 15 Aug-22 15:47	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 4d 0h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 14-4572-3949	Code: VCF0822.073achi	Project:
Sample Date: 10 Aug-22 09:35	Material: Sample Water	Source: Bioassay Report
Receipt Date: 10 Aug-22 11:13	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	358	358	358	358	358	0	0	0.00%	0
Overall		6	209	37.71	380.3	60	358	66.63	163.2	78.10%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	368.3	364.5	372.1	367	370	0.5092	1.528	0.41%	0
6.25		3	596	587.4	604.6	592	598	1.155	3.464	0.58%	0
12.5		3	776.7	766.3	787	772	780	1.388	4.163	0.54%	0
25		3	1111	1102	1120	1108	1115	1.202	3.606	0.32%	0
50		3	1871	1855	1886	1864	1876	2.037	6.11	0.33%	0
100		3	3294	3284	3304	3290	3298	1.347	4.041	0.12%	0
Overall		18	1336	825.8	1846	367	3298	241.8	1026	76.80%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.333	6.76	7.907	7.2	7.6	0.07698	0.2309	3.15%	0
6.25		3	7.5	6.604	8.396	7.1	7.8	0.1202	0.3606	4.81%	0
12.5		3	7.467	6.668	8.265	7.1	7.7	0.1072	0.3215	4.31%	0
25		3	7.367	6.568	8.165	7	7.6	0.1072	0.3215	4.36%	0
50		3	7.367	6.793	7.94	7.1	7.5	0.07698	0.2309	3.13%	0
100		3	7.3	6.87	7.73	7.1	7.4	0.05774	0.1732	2.37%	0
Overall		18	7.389	7.266	7.512	7	7.8	0.05824	0.2471	3.34%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	615	615	615	615	615	0	0	0.00%	0
Overall		6	355	56.1	653.9	95	615	116.3	284.8	80.23%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
12.5		3	8	8	8	8	8	0	0	0.00%	0
25		3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
50		3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
100		3	8	8	8	8	8	0	0	0.00%	0
Overall		18	8	7.976	8.024	7.9	8.1	0.01143	0.04851	0.61%	0 (0%)

CETIS Measurement Report

Report Date: 30 Aug-22 15:41 (p 2 of 2)
Test Code/ID: VCF0822.073achi / 02-3184-2956

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

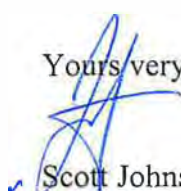
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-CC
DATE RECEIVED: 8/8/2022
ABC LAB. NO.: VCF0822.053

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

BIOMASS	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 07 Sep-22 10:40 (p 1 of 2)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-1454-2562	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:39	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24

Sample ID: 16-4306-2889	Code: VCF0822.053fml	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
09-8738-1947	7d Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	6.92%	1	1
17-5860-6625	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test		100	>100	---	14.4%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
00-2615-7835	7d Survival Rate	Linear Interpolation (ICPIN)		EC15	>100	---	---	<1	1
				EC20	>100	---	---	<1	
				EC25	>100	---	---	<1	
				EC40	>100	---	---	<1	
				EC50	>100	---	---	<1	
16-5948-7932	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)		IC15	>100	---	---	<1	1
				IC20	>100	---	---	<1	
				IC25	>100	---	---	<1	
				IC40	>100	---	---	<1	
				IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
00-2615-7835	7d Survival Rate	Control Resp	0.9833	0.8	<<	Yes	Passes Criteria	
09-8738-1947	7d Survival Rate	Control Resp	0.9833	0.8	<<	Yes	Passes Criteria	
16-5948-7932	Mean Dry Biomass-mg	Control Resp	0.3402	0.25	<<	Yes	Passes Criteria	
17-5860-6625	Mean Dry Biomass-mg	Control Resp	0.3402	0.25	<<	Yes	Passes Criteria	
17-5860-6625	Mean Dry Biomass-mg	PMSD	0.1442	0.12	0.3	Yes	Passes Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	0.00%
6.25		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	0.00%
12.5		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	0.00%
25		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	0.00%
50		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	0.00%
100		4	0.9667	0.8606	1.0730	0.8667	1.0000	0.0333	0.0667	6.90%	1.69%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3402	0.3356	0.3448	0.3373	0.344	0.00145	0.0029	0.85%	0.00%
6.25		4	0.3442	0.3327	0.3556	0.3373	0.354	0.003604	0.007209	2.09%	-1.18%
12.5		4	0.3422	0.3325	0.3518	0.3353	0.35	0.003035	0.006071	1.77%	-0.59%
25		4	0.3582	0.312	0.4044	0.3387	0.4013	0.01452	0.02904	8.11%	-5.29%
50		4	0.3325	0.2764	0.3886	0.28	0.3553	0.01762	0.03524	10.60%	2.25%
100		4	0.3227	0.2385	0.4068	0.244	0.3587	0.02645	0.0529	16.39%	5.14%

CETIS Summary Report

Report Date: 07 Sep-22 10:40 (p 2 of 2)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 9290CA7917939251EDF159F627DC85A7

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.9333	1.0000	1.0000
6.25		1.0000	0.9333	1.0000	1.0000
12.5		1.0000	1.0000	0.9333	1.0000
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	1.0000	1.0000	0.9333
100		1.0000	1.0000	1.0000	0.8667

Mean Dry Biomass-mg Detail

MD5: 98808EBCDE6AF30A94A52EC8088FC569

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3407	0.3373	0.3387	0.344
6.25		0.354	0.3447	0.3373	0.3407
12.5		0.35	0.3353	0.3427	0.3407
25		0.3447	0.4013	0.3387	0.348
50		0.3493	0.3453	0.3553	0.28
100		0.3447	0.3433	0.3587	0.244

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	14/15	15/15	15/15
6.25		15/15	14/15	15/15	15/15
12.5		15/15	15/15	14/15	15/15
25		15/15	15/15	15/15	14/15
50		15/15	15/15	15/15	14/15
100		15/15	15/15	15/15	13/15

CETIS Analytical Report

Report Date: 07 Sep-22 10:40 (p 1 of 3)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-8738-1947	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:38	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 07 Sep-22 10:35	MD5 Hash: 9290CA7917939251EDF159F627DC85A7	Editor ID: 008-463-000-3
Batch ID: 06-1454-2562	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:39	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 16-4306-2889	Code: VCF0822.053fml	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.06805	6.92%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	2	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	2	CDF	0.8333	Non-Significant Effect
		25	6	18	10	2	CDF	0.8333	Non-Significant Effect
		50	6	18	10	2	CDF	0.8333	Non-Significant Effect
		100	6	17.5	10	1	CDF	0.7867	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9833	0.8	<<	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0026430	0.0005286	5	0.08665	0.9934	Non-Significant Effect
Error	0.109813	0.0061007	18			
Total	0.112456		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.158	15.09	0.8268	Equal Variances
	Levene Equality of Variance Test	0.7798	4.248	0.5771	Equal Variances
	Mod Levene Equality of Variance Test	0.08665	4.248	0.9934	Equal Variances
Distribution	Anderson-Darling A2 Test	4.472	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	0.921	2.576	0.3570	Normal Distribution
	D'Agostino Skewness Test	2.73	2.576	0.0063	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	8.303	9.21	0.0157	Normal Distribution
	Kolmogorov-Smirnov D Test	0.4331	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.674	0.884	<1.0E-05	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	0.00%
6.25		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	0.00%
12.5		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	0.00%
25		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	0.00%
50		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	0.00%
100		4	0.9667	0.8606	1.0000	1.0000	0.8667	1.0000	0.0333	6.90%	1.69%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-8738-1947 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:38 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 10:35 MD5 Hash: 9290CA7917939251EDF159F627DC85A7 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	0.00%
6.25		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	0.00%
12.5		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	0.00%
25		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	0.00%
50		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	0.00%
100		4	1.3800	1.1860	1.5750	1.4410	1.1970	1.4410	0.0611	8.85%	2.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.9333	1.0000	1.0000
6.25		1.0000	0.9333	1.0000	1.0000
12.5		1.0000	1.0000	0.9333	1.0000
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	1.0000	1.0000	0.9333
100		1.0000	1.0000	1.0000	0.8667

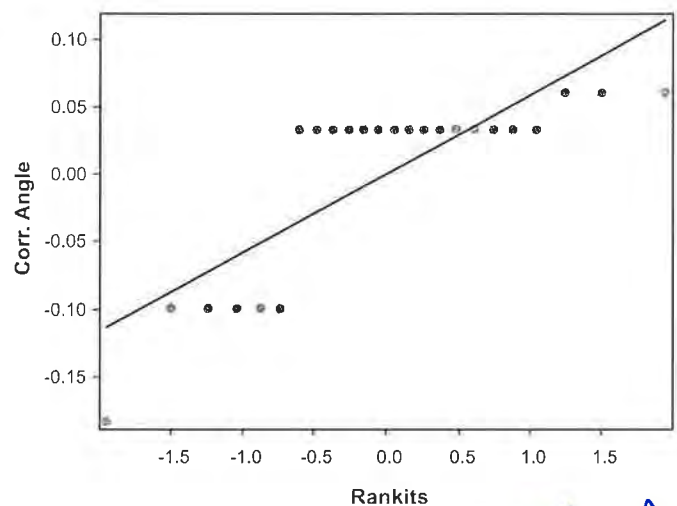
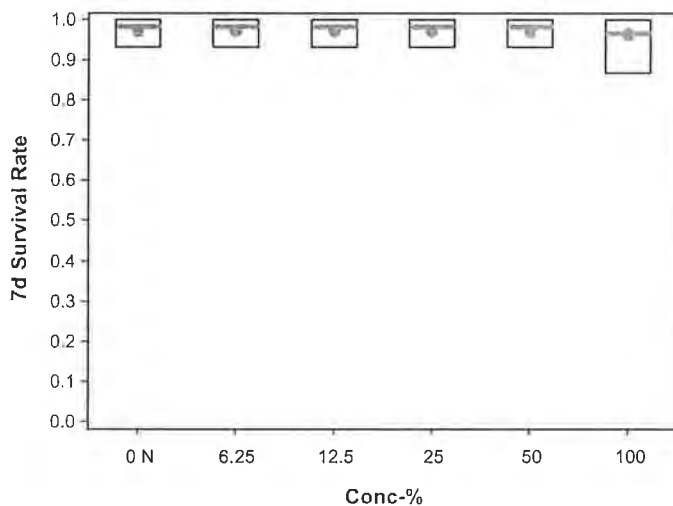
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.3100	1.4410	1.4410
6.25		1.4410	1.3100	1.4410	1.4410
12.5		1.4410	1.4410	1.3100	1.4410
25		1.4410	1.4410	1.4410	1.3100
50		1.4410	1.4410	1.4410	1.3100
100		1.4410	1.4410	1.4410	1.1970

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	14/15	15/15	15/15
6.25		15/15	14/15	15/15	15/15
12.5		15/15	15/15	14/15	15/15
25		15/15	15/15	15/15	14/15
50		15/15	15/15	15/15	14/15
100		15/15	15/15	15/15	13/15

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:40 (p 3 of 3)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-5860-6625	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:38	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 07 Sep-22 10:35	MD5 Hash: 98808EBCDE6AF30A94A52EC8088FC569	Editor ID: 008-463-000-3
Batch ID: 06-1454-2562	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:39	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 16-4306-2889	Code: VCF0822.053fml	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.04904	14.42%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	21	10	2	CDF	0.9778	Non-Significant Effect
		12.5	6	19.5	10	1	CDF	0.9315	Non-Significant Effect
		25	6	23.5	10	1	CDF	0.9981	Non-Significant Effect
		50	6	22	10	0	CDF	0.9908	Non-Significant Effect
		100	6	21	10	0	CDF	0.9778	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.3402	0.25	<<	Yes	Passes Criteria
PMSD	0.1442	0.12	0.3	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0028352	0.0005670	5	0.6831	0.6422	Non-Significant Effect
Error	0.0149421	0.0008301	18			
Total	0.0177773		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	23.49	15.09	0.0003	Unequal Variances
	Levene Equality of Variance Test	4.125	4.248	0.0113	Equal Variances
	Mod Levene Equality of Variance Test	0.6862	4.248	0.6400	Equal Variances
Distribution	Anderson-Darling A2 Test	1.124	3.878	0.0062	Non-Normal Distribution
	D'Agostino Kurtosis Test	2.475	2.576	0.0133	Normal Distribution
	D'Agostino Skewness Test	2.673	2.576	0.0075	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	13.27	9.21	0.0013	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.186	0.2056	0.0313	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8807	0.884	0.0086	Non-Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3402	0.3356	0.3448	0.3397	0.3373	0.344	0.00145	0.85%	0.00%
6.25		4	0.3442	0.3327	0.3556	0.3427	0.3373	0.354	0.003604	2.09%	-1.18%
12.5		4	0.3422	0.3325	0.3518	0.3417	0.3353	0.35	0.003035	1.77%	-0.59%
25		4	0.3582	0.312	0.4044	0.3463	0.3387	0.4013	0.01452	8.11%	-5.29%
50		4	0.3325	0.2764	0.3886	0.3473	0.28	0.3553	0.01762	10.60%	2.25%
100		4	0.3227	0.2385	0.4068	0.344	0.244	0.3587	0.02645	16.39%	5.14%

Fathead Minnow 7-d Larval Survival and Growth Test

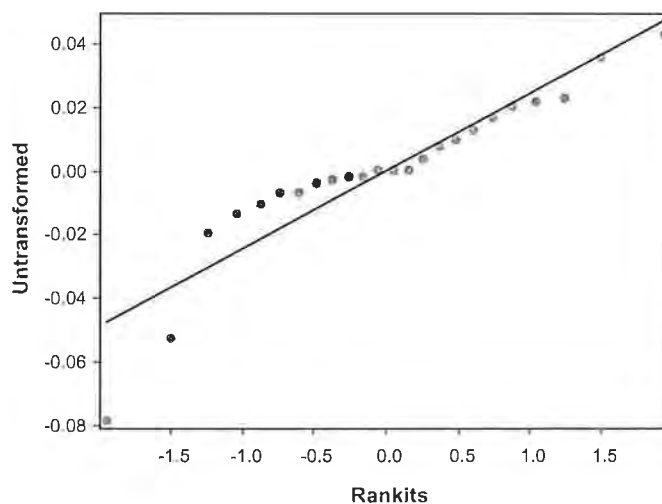
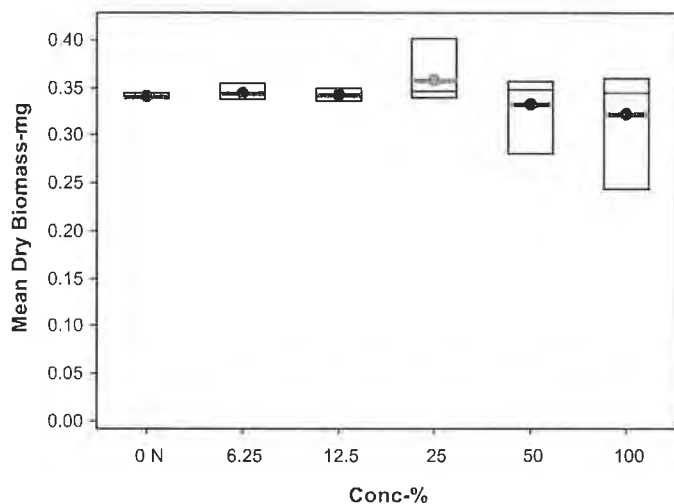
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-5860-6625 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:38 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 10:35 MD5 Hash: 98808EBCDE6AF30A94A52EC8088FC569 Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3407	0.3373	0.3387	0.344
6.25		0.354	0.3447	0.3373	0.3407
12.5		0.35	0.3353	0.3427	0.3407
25		0.3447	0.4013	0.3387	0.348
50		0.3493	0.3453	0.3553	0.28
100		0.3447	0.3433	0.3587	0.244

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:40 (p 1 of 4)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-2615-7835 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:38 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 07 Sep-22 10:35 MD5 Hash: 9290CA7917939251EDF159F627DC85A7 Editor ID: 008-463-000-3

Batch ID: 06-1454-2562 Test Type: Growth-Survival (7d) Analyst:
 Start Date: 10 Aug-22 12:15 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water
 Ending Date: 17 Aug-22 13:39 Species: Pimephales promelas Brine: Not Applicable
 Test Length: 7d 1h Taxon: Actinopterygii Source: Aquatic Biosystems, CO Age: <24

Sample ID: 16-4306-2889 Code: VCF0822.053fml Project:
 Sample Date: 08 Aug-22 08:50 Material: Sample Water Source: Bioassay Report
 Receipt Date: 08 Aug-22 10:05 CAS (PC): Station: ME-CC
 Sample Age: 51h (15.8 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9833	0.8	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	0.9833	1.0000	0.9333	1.0000	3.39%	0.00%	59/60	0.9833	0.00%
6.25		4	0.9833	1.0000	0.9333	1.0000	3.39%	0.00%	59/60	0.9833	0.00%
12.5		4	0.9833	1.0000	0.9333	1.0000	3.39%	0.00%	59/60	0.9833	0.00%
25		4	0.9833	1.0000	0.9333	1.0000	3.39%	0.00%	59/60	0.9833	0.00%
50		4	0.9833	1.0000	0.9333	1.0000	3.39%	0.00%	59/60	0.9833	0.00%
100		4	0.9667	1.0000	0.8667	1.0000	6.90%	1.69%	58/60	0.9667	1.69%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	0.9333	1.0000	1.0000
6.25		1.0000	0.9333	1.0000	1.0000
12.5		1.0000	1.0000	0.9333	1.0000
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	1.0000	1.0000	0.9333
100		1.0000	1.0000	1.0000	0.8667

7d Survival Rate Binomials

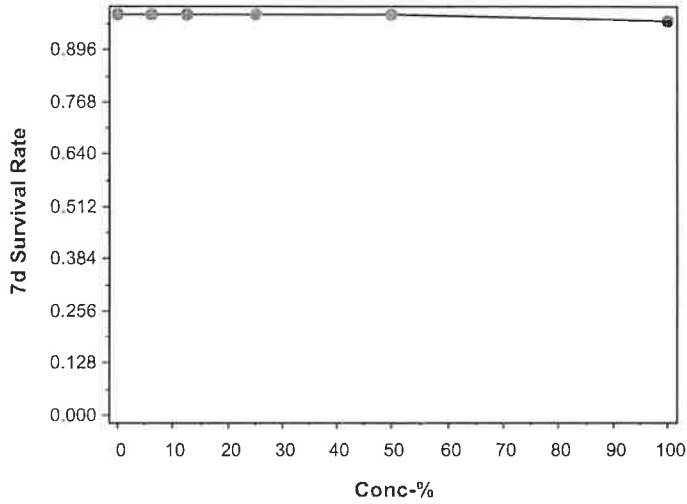
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	14/15	15/15	15/15
6.25		15/15	14/15	15/15	15/15
12.5		15/15	15/15	14/15	15/15
25		15/15	15/15	15/15	14/15
50		15/15	15/15	15/15	14/15
100		15/15	15/15	15/15	13/15

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-2615-7835	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:38	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 07 Sep-22 10:35	MD5 Hash: 9290CA7917939251EDF159F627DC85A7	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:40 (p 3 of 4)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-5948-7932 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:38 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 07 Sep-22 10:35 MD5 Hash: 98808EBCDE6AF30A94A52EC8088FC569 Editor ID: 008-463-000-3

Batch ID: 06-1454-2562 Test Type: Growth-Survival (7d) Analyst:
 Start Date: 10 Aug-22 12:15 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water
 Ending Date: 17 Aug-22 13:39 Species: Pimephales promelas Brine: Not Applicable
 Test Length: 7d 1h Taxon: Actinopterygii Source: Aquatic Biosystems, CO Age: <24

Sample ID: 16-4306-2889 Code: VCF0822.053fml Project:
 Sample Date: 08 Aug-22 08:50 Material: Sample Water Source: Bioassay Report
 Receipt Date: 08 Aug-22 10:05 CAS (PC): Station: ME-CC
 Sample Age: 51h (15.8 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1016122	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3402	0.25	<<	Yes	Passes Criteria

Point Estimates


Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.3402	0.3397	0.3373	0.344	0.85%	0.00%	0.3462	0.00%
6.25		4	0.3442	0.3427	0.3373	0.354	2.09%	-1.18%	0.3462	0.00%
12.5		4	0.3422	0.3417	0.3353	0.35	1.77%	-0.59%	0.3462	0.00%
25		4	0.3582	0.3463	0.3387	0.4013	8.11%	-5.29%	0.3462	0.00%
50		4	0.3325	0.3473	0.28	0.3553	10.60%	2.25%	0.3325	3.96%
100		4	0.3227	0.344	0.244	0.3587	16.39%	5.14%	0.3227	6.79%

Mean Dry Biomass-mg Detail

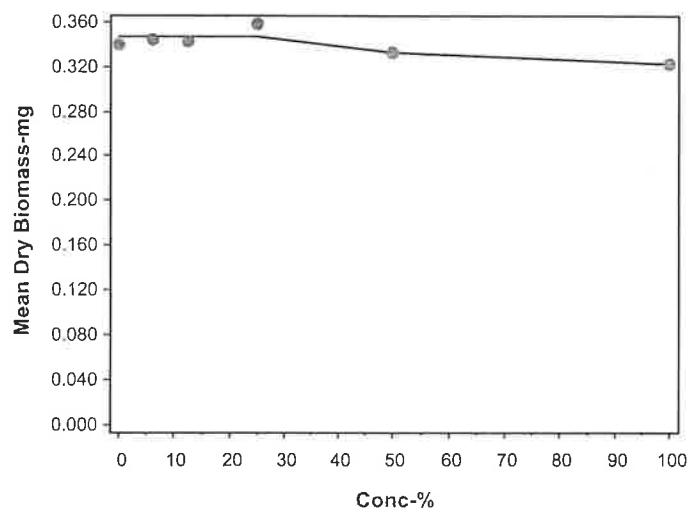
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3407	0.3373	0.3387	0.344
6.25		0.354	0.3447	0.3373	0.3407
12.5		0.35	0.3353	0.3427	0.3407
25		0.3447	0.4013	0.3387	0.348
50		0.3493	0.3453	0.3553	0.28
100		0.3447	0.3433	0.3587	0.244

Attachment A Appendix I 

Fathead Minnow 7-d Larval Survival and Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-5948-7932	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:38	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 07 Sep-22 10:35	MD5 Hash: 98808EBCDE6AF30A94A52EC8088FC569	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 07 Sep-22 10:40 (p 1 of 2)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-1454-2562	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:39	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 16-4306-2889	Code: VCF0822.053fml	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60.5	59.73	61.27	60	62	0.1157	0.9258	1.53%	0
100		8	323	323	323	323	323	0	0	0.00%	0
Overall		16	191.8	119.5	264	60	323	33.89	135.6	70.69%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.2	366.2	374.3	364	380	0.6078	4.862	1.31%	0
6.25		8	442.2	438.6	445.9	436	450	0.5459	4.367	0.99%	0
12.5		8	529	514.8	543.2	517	570	2.122	16.98	3.21%	0
25		8	738	729.9	746.1	729	755	1.214	9.71	1.32%	0
50		8	1085	1080	1089	1079	1097	0.6779	5.423	0.50%	0
100		8	1862	1859	1865	1857	1870	0.4853	3.882	0.21%	0
Overall		48	837.6	686.6	988.7	364	1870	75.09	520.3	62.11%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.5	7.321	7.679	7.1	7.7	0.02673	0.2138	2.85%	0
6.25		8	7.487	7.281	7.694	7	7.7	0.03094	0.2475	3.31%	0
12.5		8	7.45	7.236	7.664	6.9	7.7	0.03204	0.2563	3.44%	0
25		8	7.4	7.147	7.653	6.8	7.7	0.0378	0.3024	4.09%	0
50		8	7.337	7.081	7.594	6.7	7.7	0.03835	0.3068	4.18%	0
100		8	7.337	7.07	7.605	6.7	7.7	0.04005	0.3204	4.37%	0
Overall		48	7.419	7.34	7.497	6.7	7.7	0.03901	0.2703	3.64%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.25	94.86	95.64	95	96	0.05786	0.4629	0.49%	0
100		8	440	440	440	440	440	0	0	0.00%	0
Overall		16	267.6	172.8	362.5	95	440	44.51	178	66.52%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8	7.937	8.063	7.9	8.1	0.009449	0.07559	0.94%	0
6.25		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
12.5		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
25		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
50		8	7.938	7.812	8.063	7.7	8.1	0.01882	0.1506	1.90%	0
100		8	7.913	7.783	8.042	7.7	8.1	0.01941	0.1553	1.96%	0
Overall		48	7.95	7.913	7.987	7.7	8.1	0.01835	0.1272	1.60%	0 (0%)

Attachment A Appendix I 

CETIS Measurement Report

Report Date: 07 Sep-22 10:40 (p 2 of 2)
 Test Code/ID: VCF0822.053fml / 08-6727-7919

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
12.5		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
25		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
50		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
100		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
Overall		48	24.03	24.02	24.04	24	24.1	0.006761	0.04684	0.19%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

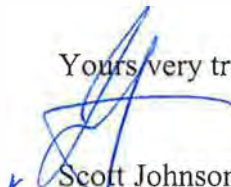
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-CC
DATE RECEIVED: 8/8/2022
ABC LAB. NO.: VCF0822.053

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL NOEC = 100.00 %
TUc = 1.00
EC25 = >100.00 %
EC50 = >100.00 %

REPRODUCTION NOEC = 100.00 %
TUc = 1.00
IC25 = >100.00 %
IC50 = >100.00 %

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:13 (p 1 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID: 08-9415-1387	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 17 Aug-22 13:39	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO		Age: <24			
Sample ID: 00-3633-5527	Code: VCF0822.053cer	Project:					
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC					
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri						

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
18-9315-8736	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
02-4580-0769	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	15.9%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
13-7706-8552	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
00-2782-7528	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
13-7706-8552	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
18-9315-8736	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
00-2782-7528	Reproduction	Control Resp	21	15	<<	Yes	Passes Criteria
02-4580-0769	Reproduction	Control Resp	21	15	<<	Yes	Passes Criteria
02-4580-0769	Reproduction	PMSD	0.1595	0.13	0.47	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	21	19.12	22.88	18	26	0.83	2.625	12.50%	0.00%
6.25		10	20.1	18.33	21.87	15	24	0.781	2.47	12.29%	4.29%
12.5		10	21	19	23	16	26	0.8819	2.789	13.28%	0.00%
25		10	22.6	20.07	25.13	18	29	1.118	3.534	15.64%	-7.62%
50		10	23.9	21.09	26.71	17	30	1.242	3.929	16.44%	-13.81%
100		10	24.2	21.38	27.02	16	28	1.245	3.938	16.27%	-15.24%

CETIS Summary Report

Report Date: 02 Sep-22 09:13 (p 2 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

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

7d Survival Rate Detail MD5: 521A0DF2AE1E59D72392DBABE0C7AEFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail MD5: 5FF51D666B7ADA3896E02CBC0295500B

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	23	19	21	23	26	23	19	19	18	19
6.25		21	21	21	15	20	24	20	21	21	17
12.5		20	18	16	20	23	22	23	21	26	21
25		20	19	18	19	23	25	25	29	25	23
50		29	25	24	21	23	17	30	25	20	25
100		27	28	22	28	20	16	23	27	26	25

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 02 Sep-22 09:13 (p 1 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 02-4580-0769	Endpoint: Reproduction	CETIS Version: CETISv2.1.2			
Analyzed: 23 Aug-22 16:07	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 23 Aug-22 15:57	MD5 Hash: 5FF51D666B7ADA3896E02CBC0295500B	Editor ID: 008-463-000-3			
Batch ID: 08-9415-1387	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 17 Aug-22 13:39	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 00-3633-5527	Code: VCF0822.053cer	Project:			
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC			
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	--	1	3.349	15.95%

Dunnett Multiple Comparison Test									
Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	0.6152	2.289	3.349	CDF	0.5943	Non-Significant Effect
		12.5	18	0	2.289	3.349	CDF	0.8333	Non-Significant Effect
		25	18	-1.094	2.289	3.349	CDF	0.9881	Non-Significant Effect
		50	18	-1.982	2.289	3.349	CDF	0.9995	Non-Significant Effect
		100	18	-2.187	2.289	3.349	CDF	0.9998	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	21	15	<<	Yes	Passes Criteria
PMSD	0.1595	0.13	0.47	Yes	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	143.133	28.6267	5	2.675	0.0312	Significant Effect	
Error	577.8	10.7	54				
Total	720.933		59				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	3.702	15.09	0.5931	Equal Variances	
	Levene Equality of Variance Test	0.9868	3.377	0.4344	Equal Variances	
	Mod Levene Equality of Variance Test	0.7551	3.377	0.5861	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.3788	3.878	0.4107	Normal Distribution	
	D'Agostino Kurtosis Test	0.1031	2.576	0.9179	Normal Distribution	
	D'Agostino Skewness Test	0.8687	2.576	0.3850	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	0.7653	9.21	0.6821	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1039	0.1331	0.1048	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9851	0.9459	0.6742	Normal Distribution	

Reproduction Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	21	19.12	22.88	19.4	18	26	0.83	12.50%	0.00%
6.25		10	20.1	18.33	21.87	21	15	24	0.781	12.29%	4.29%
12.5		10	21	19	23	21	16	26	0.8819	13.28%	0.00%
25		10	22.6	20.07	25.13	23	18	29	1.118	15.64%	-7.62%
50		10	23.9	21.09	26.71	24.75	17	30	1.242	16.44%	-13.81%
100		10	24.2	21.38	27.02	25.5	16	28	1.245	16.27%	-15.24%

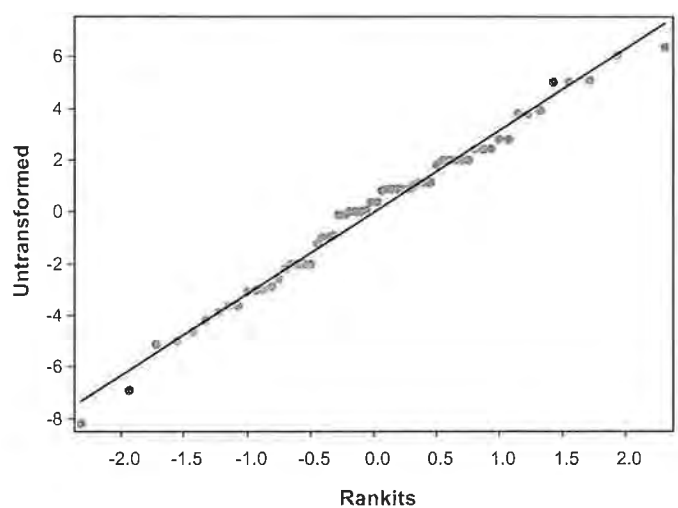
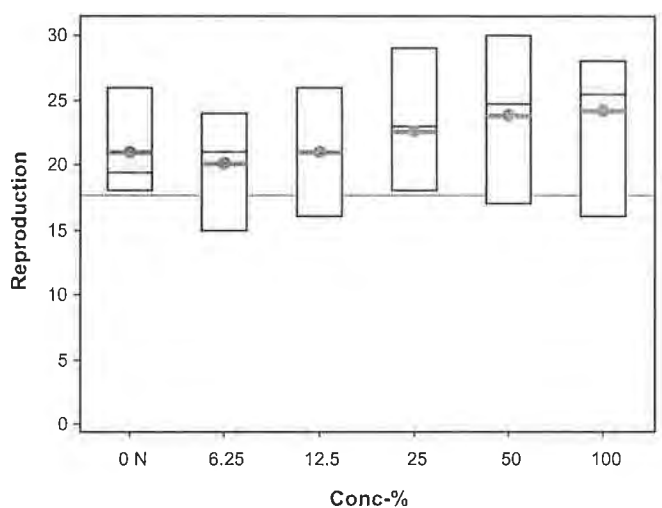
Ceriodaphnia 7-d Survival and Reproduction Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-4580-0769 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 23 Aug-22 16:07 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 23 Aug-22 15:57 MD5 Hash: 5FF51D666B7ADA3896E02CBC0295500B Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	23	19	21	23	26	23	19	19	18	19
6.25		21	21	21	15	20	24	20	21	21	17
12.5		20	18	16	20	23	22	23	21	26	21
25		20	19	18	19	23	25	25	29	25	23
50		29	25	24	21	23	17	30	25	20	25
100		27	28	22	28	20	16	23	27	26	25

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:13 (p 1 of 4)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 13-7706-8552	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 23 Aug-22 16:07	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 23 Aug-22 15:57	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3			
Batch ID: 08-9415-1387	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 17 Aug-22 13:39	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 00-3633-5527	Code: VCF0822.053cer	Project:			
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC			
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri				

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

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

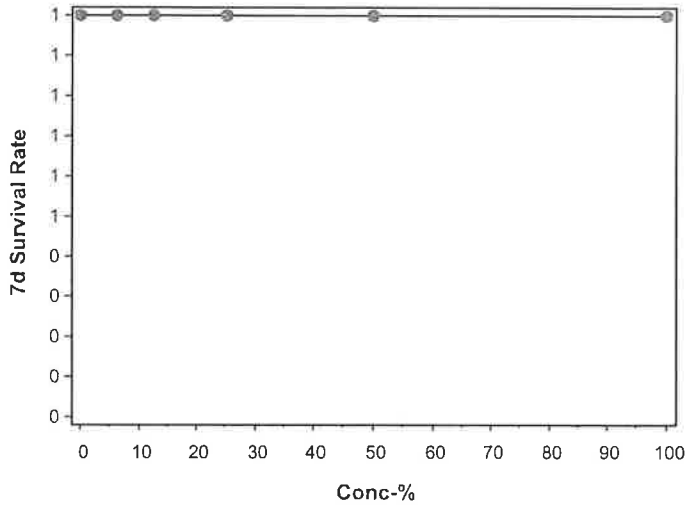
7d Survival Rate Binomials											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-7706-8552 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
Analyzed: 23 Aug-22 16:07 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 23 Aug-22 15:57 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:13 (p 3 of 4)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	00-2782-7528	Endpoint:	Reproduction	CETIS Version:	CETISv2.1.2		
Analyzed:	23 Aug-22 16:07	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1		
Edit Date:	23 Aug-22 15:57	MD5 Hash:	5FF51D666B7ADA3896E02CBC0295500B	Editor ID:	008-463-000-3		
Batch ID:	08-9415-1387	Test Type:	Reproduction-Survival (7d)	Analyst:			
Start Date:	10 Aug-22 12:15	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	17 Aug-22 13:39	Species:	Ceriodaphnia dubia	Brine:	Not Applicable		
Test Length:	7d 1h	Taxon:	Branchiopoda	Source:	Aquatic Biosystems, CO	Age:	<24
Sample ID:	00-3633-5527	Code:	VCF0822.053cer	Project:			
Sample Date:	08 Aug-22 08:50	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	08 Aug-22 10:05	CAS (PC):		Station:	ME-CC		
Sample Age:	51h (15.8 °C)	Client:	Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	59641	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	21	15	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	21	19.4	18	26	12.50%	0.00%	22.13	0.00%
6.25		10	20.1	21	15	24	12.29%	4.29%	22.13	0.00%
12.5		10	21	21	16	26	13.28%	0.00%	22.13	0.00%
25		10	22.6	23	18	29	15.64%	-7.62%	22.13	0.00%
50		10	23.9	24.75	17	30	16.44%	-13.81%	22.13	0.00%
100		10	24.2	25.5	16	28	16.27%	-15.24%	22.13	0.00%

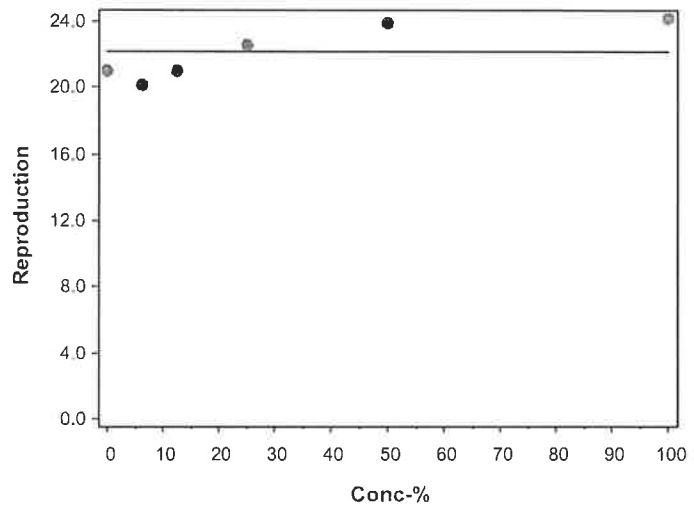
Reproduction Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	23	19	21	23	26	23	19	19	18	19
6.25		21	21	21	15	20	24	20	21	21	17
12.5		20	18	16	20	23	22	23	21	26	21
25		20	19	18	19	23	25	25	29	25	23
50		29	25	24	21	23	17	30	25	20	25
100		27	28	22	28	20	16	23	27	26	25

Attachment A Appendix I 

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

Analysis ID: 00-2782-7528	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 23 Aug-22 16:07	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 23 Aug-22 15:57	MD5 Hash: 5FF51D666B7ADA3896E02CBC0295500B	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:13 (p 1 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 18-9315-8736	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 23 Aug-22 16:07	Analysis: STP 2xK Contingency Tables	Status Level: 1			
Edit Date: 23 Aug-22 15:57	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3			
Batch ID: 08-9415-1387	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 17 Aug-22 13:39	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 00-3633-5527	Code: VCF0822.053cer	Project:			
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC			
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

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

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Ceriodaphnia 7-d Survival and Reproduction Test

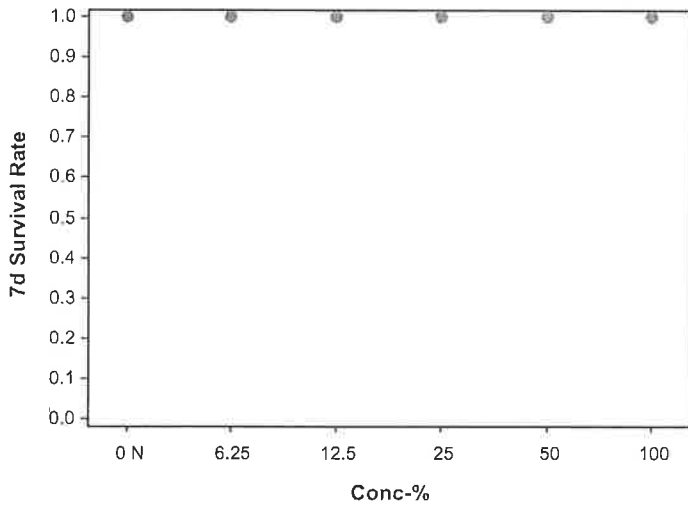
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-9315-8736 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 23 Aug-22 16:07 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 23 Aug-22 15:57 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



Handwritten signature/initials in blue ink.

CETIS Measurement Report

Report Date: 02 Sep-22 09:13 (p 1 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 08-9415-1387	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:15	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:39	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 00-3633-5527	Code: VCF0822.053cer	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 51h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60.5	59.73	61.27	60	62	0.1157	0.9258	1.53%	0
100		8	323	323	323	323	323	0	0	0.00%	0
Overall		16	191.8	119.5	264	60	323	33.89	135.6	70.69%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.2	366.2	374.3	364	380	0.6078	4.862	1.31%	0
6.25		8	442.2	438.6	445.9	436	450	0.5459	4.367	0.99%	0
12.5		8	530.2	516	544.5	517	570	2.137	17.09	3.22%	0
25		8	738	729.9	746.1	729	755	1.214	9.71	1.32%	0
50		8	1084	1080	1087	1079	1093	0.525	4.2	0.39%	0
100		8	1862	1859	1865	1857	1870	0.4853	3.882	0.21%	0
Overall		48	837.7	686.7	988.7	364	1870	75.06	520.1	62.08%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.5	7.321	7.679	7.1	7.7	0.02673	0.2138	2.85%	0
6.25		8	7.487	7.281	7.694	7	7.7	0.03094	0.2475	3.31%	0
12.5		8	7.45	7.236	7.664	6.9	7.7	0.03204	0.2563	3.44%	0
25		8	7.4	7.147	7.653	6.8	7.7	0.0378	0.3024	4.09%	0
50		8	7.337	7.081	7.594	6.7	7.7	0.03835	0.3068	4.18%	0
100		8	7.337	7.07	7.605	6.7	7.7	0.04005	0.3204	4.37%	0
Overall		48	7.419	7.34	7.497	6.7	7.7	0.03901	0.2703	3.64%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.25	94.86	95.64	95	96	0.05786	0.4629	0.49%	0
100		8	440	440	440	440	440	0	0	0.00%	0
Overall		16	267.6	172.8	362.5	95	440	44.51	178	66.52%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8	7.937	8.063	7.9	8.1	0.009449	0.07559	0.94%	0
6.25		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
12.5		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
25		8	7.95	7.841	8.059	7.7	8.1	0.01637	0.1309	1.65%	0
50		8	7.938	7.812	8.063	7.7	8.1	0.01882	0.1506	1.90%	0
100		8	7.913	7.783	8.042	7.7	8.1	0.01941	0.1553	1.96%	0
Overall		48	7.95	7.913	7.987	7.7	8.1	0.01835	0.1272	1.60%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:13 (p 2 of 2)
 Test Code/ID: VCF0822.053cer / 06-9128-8926

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
12.5		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
25		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
50		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
100		8	24.04	23.99	24.08	24	24.1	0.006459	0.05167	0.21%	0
Overall		48	24.03	24.02	24.04	24	24.1	0.006761	0.04684	0.19%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.053

ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TU_a = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:16 (p 1 of 1)
 Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 08-5019-7835	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:30	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 95h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 14-4009-0577	Code: VCF0822.053ahya	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
11-8327-7822	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	--	--	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
14-2564-9507	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	--	--	<1	1
			EC20	>100	--	--	<1	
			EC25	>100	--	--	<1	
			EC40	>100	--	--	<1	
			EC50	>100	--	--	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Handwritten signature and "PASS" stamp

CETIS Analytical Report

Report Date: 02 Sep-22 09:16 (p 1 of 2)
 Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-8327-7822	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 25 Aug-22 15:10	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 25 Aug-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 08-5019-7835	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:30	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 95h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 14-4009-0577	Code: VCF0822.053ahya	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 02 Sep-22 09:16 (p 2 of 2)
 Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-8327-7822 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 25 Aug-22 15:10 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 25 Aug-22 15:03 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc.-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

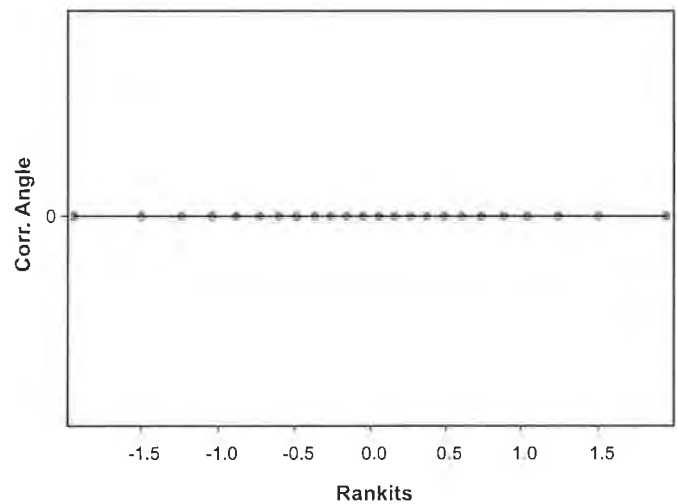
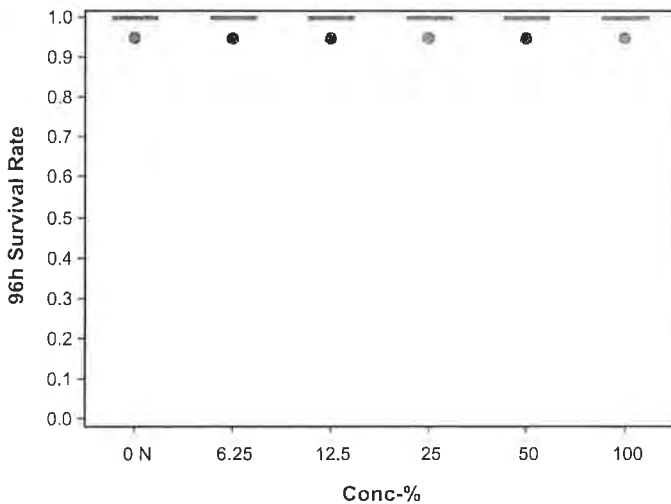
Angular (Corrected) Transformed Detail

Conc.-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc.-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:16 (p 1 of 2)
 Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 14-2564-9507	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 25 Aug-22 15:10	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 25 Aug-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 08-5019-7835	Test Type: Survival (96h)	Analyst:			
Start Date: 10 Aug-22 15:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 14 Aug-22 14:30	Species: Hyalella azteca	Brine: Not Applicable			
Test Length: 95h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:			
Sample ID: 14-4009-0577	Code: VCF0822.053ahya	Project:			
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC			
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri				

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

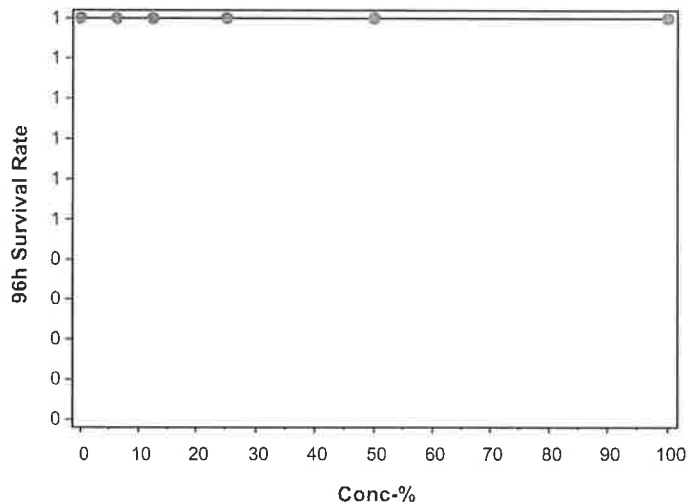
Report Date: 02 Sep-22 09:16 (p 2 of 2)
Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-2564-9507	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 25 Aug-22 15:10	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 25 Aug-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 02 Sep-22 09:16 (p 1 of 2)
 Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 08-5019-7835	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:00	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:30	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 95h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO
Sample ID: 14-4009-0577	Code: VCF0822.053ahya	Age:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Project:
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Source: Bioassay Report
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri	Station: ME-CC

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	323	323	323	323	323	0	0	0.00%	0
Overall		6	191.5	40.33	342.7	60	323	58.81	144.1	75.22%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	367.7	359.7	375.7	364	370	1.072	3.215	0.87%	0
6.25		3	439.7	430.9	448.4	436	443	1.171	3.512	0.80%	0
12.5		3	517	504.6	529.4	512	522	1.667	5	0.97%	0
25		3	729.7	728.2	731.1	729	730	0.1925	0.5774	0.08%	0
50		3	1081	1076	1087	1079	1083	0.6939	2.082	0.19%	0
100		3	1862	1856	1867	1860	1864	0.6939	2.082	0.11%	0
Overall		18	832.8	568.5	1097	364	1864	125.3	531.6	63.84%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.5	7.07	7.93	7.3	7.6	0.05773	0.1732	2.31%	0
6.25		3	7.5	7.252	7.748	7.4	7.6	0.03333	0.1	1.33%	0
12.5		3	7.5	7.252	7.748	7.4	7.6	0.03333	0.1	1.33%	0
25		3	29.33	-64.61	123.3	7.4	73	12.61	37.82	128.92%	0
50		3	7.4	6.97	7.83	7.3	7.6	0.05773	0.1732	2.34%	0
100		3	7.4	6.97	7.83	7.3	7.6	0.05773	0.1732	2.34%	0
Overall		18	11.11	3.424	18.79	7.3	73	3.641	15.45	139.10%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	440	440	440	440	440	0	0	0.00%	0
Overall		6	267.5	69.19	465.8	95	440	77.14	189	70.64%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
12.5		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
25		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
50		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
100		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
Overall		18	7.911	7.843	7.979	7.7	8	0.03223	0.1367	1.73%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:16 (p 2 of 2)
Test Code/ID: VCF0822.053ahya / 02-7201-9351

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)





September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.053

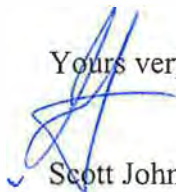
ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:19 (p 1 of 1)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 05-7267-4769	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:10	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:40	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-8597-4933	Code: VCF0822.053achi	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
12-9910-1463	96h Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
18-4015-2076	96h Survival Rate	Linear Interpolation (ICPIN)		EC15	>100	---	---	<1	1
				EC20	>100	---	---	<1	
				EC25	>100	---	---	<1	
				EC40	>100	---	---	<1	
				EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Handwritten signature and initials: [Signature] PAS

CETIS Analytical Report

Report Date: 02 Sep-22 09:19 (p 1 of 2)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-9910-1463 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 25 Aug-22 15:11 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 25 Aug-22 15:08 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 05-7267-4769 Test Type: Survival (96h) Analyst:
 Start Date: 10 Aug-22 15:10 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 14 Aug-22 14:40 Species: Chironomus dilutus Brine: Not Applicable
 Test Length: 95h Taxon: Insecta Source: Aquatic Biosystems, CO Age:

Sample ID: 01-8597-4933 Code: VCF0822.053achi Project:
 Sample Date: 08 Aug-22 08:50 Material: Sample Water Source: Bioassay Report
 Receipt Date: 08 Aug-22 10:05 CAS (PC): Station: ME-CC
 Sample Age: 54h (15.8 °C) Client: Ventura County Watershed Protection Distri

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 02 Sep-22 09:19 (p 2 of 2)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 12-9910-1463 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 25 Aug-22 15:11 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 25 Aug-22 15:08 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

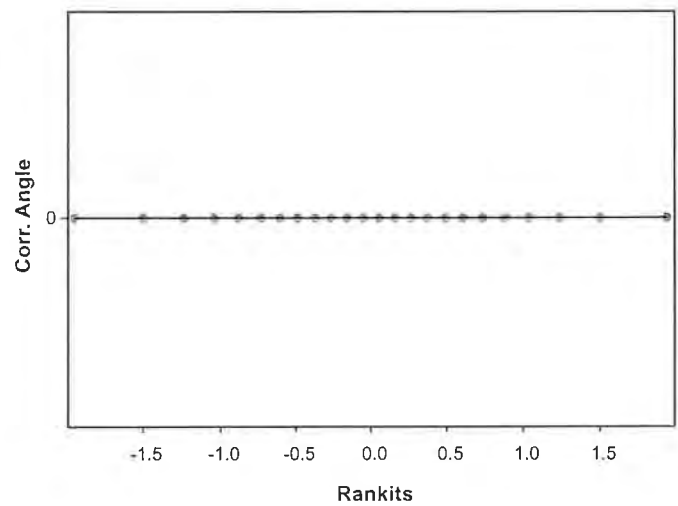
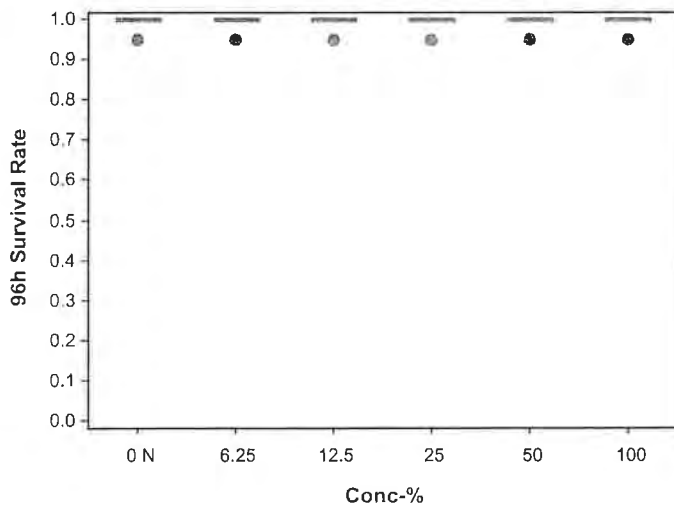
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:19 (p 1 of 2)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 18-4015-2076	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 25 Aug-22 15:11	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 25 Aug-22 15:08	MD5 Hash: 68E11746123909AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 05-7267-4769	Test Type: Survival (96h)	Analyst:			
Start Date: 10 Aug-22 15:10	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 14 Aug-22 14:40	Species: Chironomus dilutus	Brine: Not Applicable			
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:			
Sample ID: 01-8597-4933	Code: VCF0822.053achi	Project:			
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC			
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri				

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

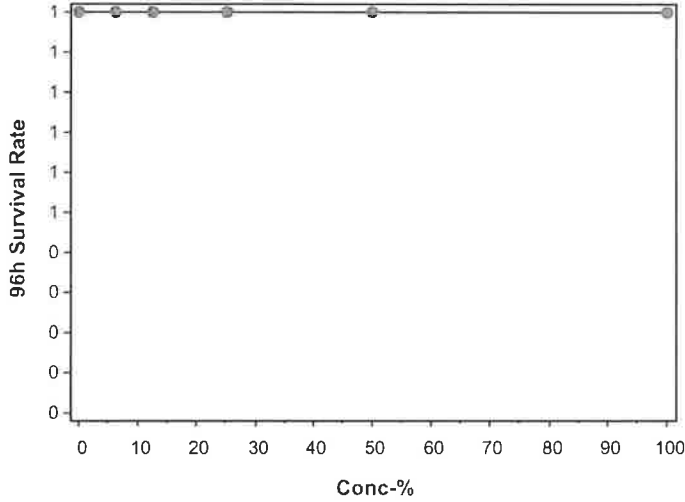
96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-4015-2076	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 25 Aug-22 15:11	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 25 Aug-22 15:08	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



Attachment A Appendix I 

CETIS Measurement Report

Report Date: 02 Sep-22 09:19 (p 1 of 2)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 05-7267-4769	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:10	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:40	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-8597-4933	Code: VCF0822.053achi	Project:
Sample Date: 08 Aug-22 08:50	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-CC
Sample Age: 54h (15.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	323	323	323	323	323	0	0	0.00%	0
Overall		6	191.5	40.33	342.7	60	323	58.81	144.1	75.22%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	367.7	359.7	375.7	364	370	1.072	3.215	0.87%	0
6.25		3	439.7	430.9	448.4	436	443	1.171	3.512	0.80%	0
12.5		3	519.7	513.4	525.9	517	522	0.8389	2.517	0.48%	0
25		3	730.7	725.5	735.8	729	733	0.6939	2.082	0.28%	0
50		3	1082	1076	1087	1079	1083	0.7698	2.309	0.21%	0
100		3	1862	1857	1867	1860	1864	0.6667	2	0.11%	0
Overall		18	833.6	569.3	1098	364	1864	125.3	531.5	63.76%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.5	7.07	7.93	7.3	7.6	0.05773	0.1732	2.31%	0
6.25		3	7.5	7.252	7.748	7.4	7.6	0.03333	0.1	1.33%	0
12.5		3	7.5	7.252	7.748	7.4	7.6	0.03333	0.1	1.33%	0
25		3	7.433	7.054	7.813	7.3	7.6	0.05092	0.1528	2.05%	0
50		3	7.4	6.97	7.83	7.3	7.6	0.05773	0.1732	2.34%	0
100		3	7.367	6.85	7.884	7.2	7.6	0.06939	0.2082	2.83%	0
Overall		18	7.45	7.379	7.521	7.2	7.6	0.03358	0.1425	1.91%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	440	440	440	440	440	0	0	0.00%	0
Overall		6	267.5	69.19	465.8	95	440	77.14	189	70.64%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
12.5		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
25		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
50		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
100		3	7.9	7.47	8.33	7.7	8	0.05774	0.1732	2.19%	0
Overall		18	7.911	7.843	7.979	7.7	8	0.03223	0.1367	1.73%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:19 (p 2 of 2)
 Test Code/ID: VCF0822.053achi / 14-1554-6400

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*" EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

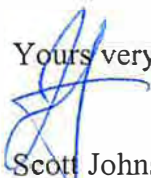
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-VR2
DATE RECEIVED: 8/8/2022
ABC LAB. NO.: VCF0822.054

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL NOEC = 100.00 %
TUc = 1.00
EC25 = >100.00 %
EC50 = >100.00 %

BIOMASS NOEC = 100.00 %
TUc = 1.00
IC25 = >100.00 %
IC50 = >100.00 %

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 07 Sep-22 10:56 (p 1 of 2)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
13-5515-4653	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	8.58%	1	1
20-4919-0565	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	100	>100	---	23.9%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
15-8868-3533	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
14-0769-7805	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
13-5515-4653	7d Survival Rate	Control Resp	0.9667	0.8	<<	Yes	Passes Criteria
15-8868-3533	7d Survival Rate	Control Resp	0.9667	0.8	<<	Yes	Passes Criteria
14-0769-7805	Mean Dry Biomass-mg	Control Resp	0.3093	0.25	<<	Yes	Passes Criteria
20-4919-0565	Mean Dry Biomass-mg	Control Resp	0.3093	0.25	<<	Yes	Passes Criteria
20-4919-0565	Mean Dry Biomass-mg	PMSD	0.2387	0.12	0.3	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9667	0.8606	1.0730	0.8667	1.0000	0.0333	0.0667	6.90%	0.00%
6.25		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	-1.72%
12.5		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	-1.72%
25		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	-1.72%
50		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	-1.72%
100		4	0.9167	0.7832	1.0500	0.8000	1.0000	0.0419	0.0839	9.15%	5.17%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3093	0.2117	0.407	0.2173	0.3427	0.03069	0.06137	19.84%	0.00%
6.25		4	0.3337	0.299	0.3684	0.302	0.3507	0.0109	0.0218	6.53%	-7.87%
12.5		4	0.3408	0.319	0.3626	0.324	0.352	0.00685	0.0137	4.02%	-10.18%
25		4	0.3258	0.2694	0.3823	0.2727	0.3453	0.01774	0.03548	10.89%	-5.33%
50		4	0.3368	0.3255	0.3482	0.3273	0.3447	0.003573	0.007147	2.12%	-8.89%
100		4	0.2967	0.1781	0.4153	0.188	0.3513	0.03727	0.07453	25.12%	4.09%

10/5/22 PAS9

CETIS Summary Report

Report Date: 07 Sep-22 10:56 (p 2 of 2)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 68DBCC92F3A7FDA0B074C2147992BF20

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	0.8667	1.0000
6.25		1.0000	1.0000	0.9333	1.0000
12.5		1.0000	1.0000	1.0000	0.9333
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	0.9333	1.0000	1.0000
100		0.8000	0.9333	0.9333	1.0000

Mean Dry Biomass-mg Detail

MD5: D38FF9D0E5957FA806B28296EEBDA812

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.34	0.3427	0.2173	0.3373
6.25		0.3373	0.3447	0.302	0.3507
12.5		0.3353	0.352	0.352	0.324
25		0.3453	0.3413	0.344	0.2727
50		0.3447	0.3273	0.338	0.3373
100		0.188	0.3513	0.3093	0.338

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	13/15	15/15
6.25		15/15	15/15	14/15	15/15
12.5		15/15	15/15	15/15	14/15
25		15/15	15/15	15/15	14/15
50		15/15	14/15	15/15	15/15
100		12/15	14/15	14/15	15/15

CETIS Analytical Report

Report Date: 07 Sep-22 10:55 (p 1 of 3)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-5515-4653	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:55	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 07 Sep-22 10:54	MD5 Hash: 68DBCC92F3A7FDA0B074C2147992BF20	Editor ID: 008-463-000-3
Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.08291	8.58%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18.5	10	1	CDF	0.8729	Non-Significant Effect
		12.5	6	18.5	10	1	CDF	0.8729	Non-Significant Effect
		25	6	18.5	10	1	CDF	0.8729	Non-Significant Effect
		50	6	18.5	10	1	CDF	0.8729	Non-Significant Effect
		100	6	14.5	10	1	CDF	0.4092	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9667	0.8	<<	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0434884	0.0086977	5	1.017	0.4365	Non-Significant Effect
Error	0.153899	0.0085499	18			
Total	0.197387		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.608	15.09	0.6071	Equal Variances
	Levene Equality of Variance Test	0.74	4.248	0.6035	Equal Variances
	Mod Levene Equality of Variance Test	0.2627	4.248	0.9276	Equal Variances
Distribution	Anderson-Darling A2 Test	3.034	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	0.8803	2.576	0.3787	Normal Distribution
	D'Agostino Skewness Test	2.118	2.576	0.0341	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	5.262	9.21	0.0720	Normal Distribution
	Kolmogorov-Smirnov D Test	0.3356	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7876	0.884	0.0002	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9667	0.8606	1.0000	1.0000	0.8667	1.0000	0.0333	6.90%	0.00%
6.25		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	-1.72%
12.5		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	-1.72%
25		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	-1.72%
50		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	-1.72%
100		4	0.9167	0.7832	1.0000	0.9333	0.8000	1.0000	0.0419	9.15%	5.17%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-5515-4653 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:55 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 10:54 MD5 Hash: 68DBCC92F3A7FDA0B074C2147992BF20 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3800	1.1860	1.5750	1.4410	1.1970	1.4410	0.0611	8.85%	0.00%
6.25		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	-2.04%
12.5		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	-2.04%
25		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	-2.04%
50		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	-2.04%
100		4	1.2920	1.0720	1.5110	1.3100	1.1070	1.4410	0.0690	10.68%	6.40%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	0.8667	1.0000
6.25		1.0000	1.0000	0.9333	1.0000
12.5		1.0000	1.0000	1.0000	0.9333
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	0.9333	1.0000	1.0000
100		0.8000	0.9333	0.9333	1.0000

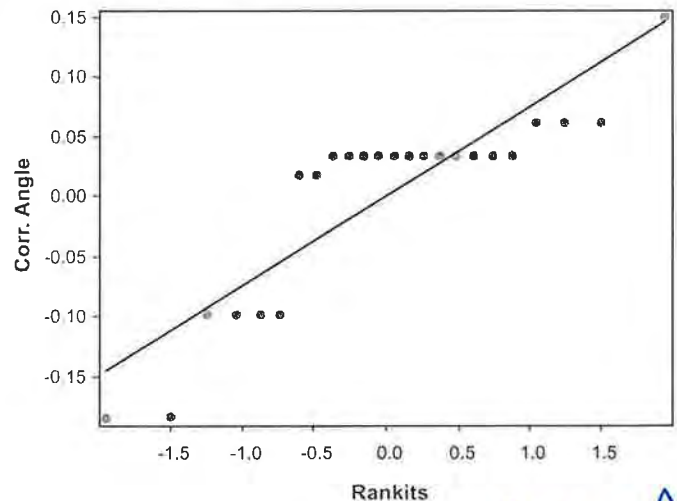
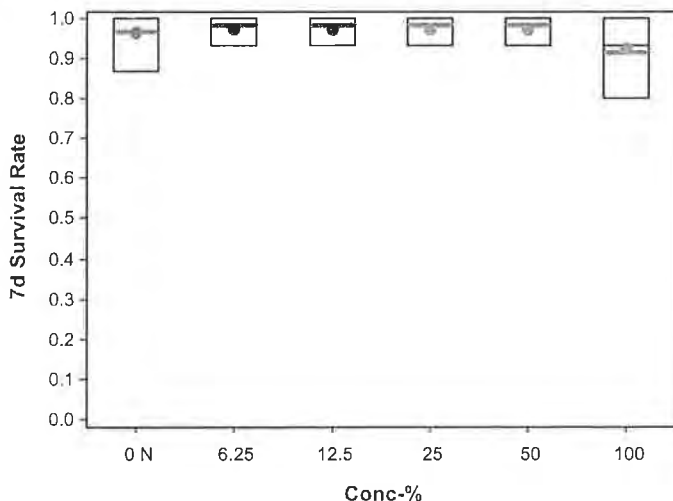
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.1970	1.4410
6.25		1.4410	1.4410	1.3100	1.4410
12.5		1.4410	1.4410	1.4410	1.3100
25		1.4410	1.4410	1.4410	1.3100
50		1.4410	1.3100	1.4410	1.4410
100		1.1070	1.3100	1.3100	1.4410

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	13/15	15/15
6.25		15/15	15/15	14/15	15/15
12.5		15/15	15/15	15/15	14/15
25		15/15	15/15	15/15	14/15
50		15/15	14/15	15/15	15/15
100		12/15	14/15	14/15	15/15

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:55 (p 3 of 3)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 20-4919-0565	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2		Analized: 07 Sep-22 10:55	Analysis: Nonparametric-Control vs Treatments	Status Level: 1	
Edit Date: 07 Sep-22 10:54	MD5 Hash: D38FF9D0E5957FA806B28296EEDBA812	Editor ID: 008-463-000-3		Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:	
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water		Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable	
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO	Age: <24	Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:	
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report		Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2	
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri						

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.07385	23.87%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	20.5	10	1	CDF	0.9667	Non-Significant Effect
		12.5	6	20	10	0	CDF	0.9516	Non-Significant Effect
		25	6	22	10	0	CDF	0.9908	Non-Significant Effect
		50	6	18.5	10	1	CDF	0.8729	Non-Significant Effect
		100	6	17	10	0	CDF	0.7334	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3093	0.25	<<	Yes	Passes Criteria
PMSD	0.2387	0.12	0.3	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0060279	0.0012056	5	0.6404	0.6720	Non-Significant Effect
Error	0.033885	0.0018825	18			
Total	0.0399129		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	15.71	15.09	0.0077	Unequal Variances
	Levene Equality of Variance Test	3.096	4.248	0.0344	Equal Variances
	Mod Levene Equality of Variance Test	0.7172	4.248	0.6188	Equal Variances
Distribution	Anderson-Darling A2 Test	1.613	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	2.139	2.576	0.0325	Normal Distribution
	D'Agostino Skewness Test	3.01	2.576	0.0026	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	13.63	9.21	0.0011	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2135	0.2056	0.0061	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.843	0.884	0.0016	Non-Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3093	0.2117	0.407	0.3387	0.2173	0.3427	0.03069	19.84%	0.00%
6.25		4	0.3337	0.299	0.3684	0.341	0.302	0.3507	0.0109	6.53%	-7.87%
12.5		4	0.3408	0.319	0.3626	0.3464	0.324	0.352	0.00685	4.02%	-10.18%
25		4	0.3258	0.2694	0.3823	0.3427	0.2727	0.3453	0.01774	10.89%	-5.33%
50		4	0.3368	0.3255	0.3482	0.3377	0.3273	0.3447	0.003573	2.12%	-8.89%
100		4	0.2967	0.1781	0.4153	0.3237	0.188	0.3513	0.03727	25.12%	4.09%

Fathead Minnow 7-d Larval Survival and Growth Test

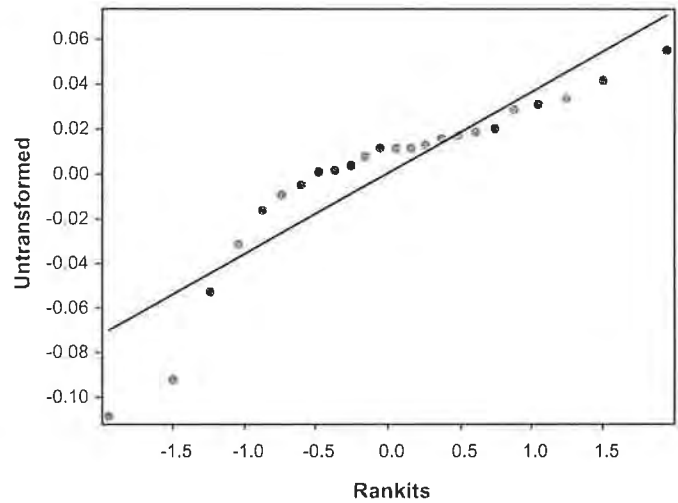
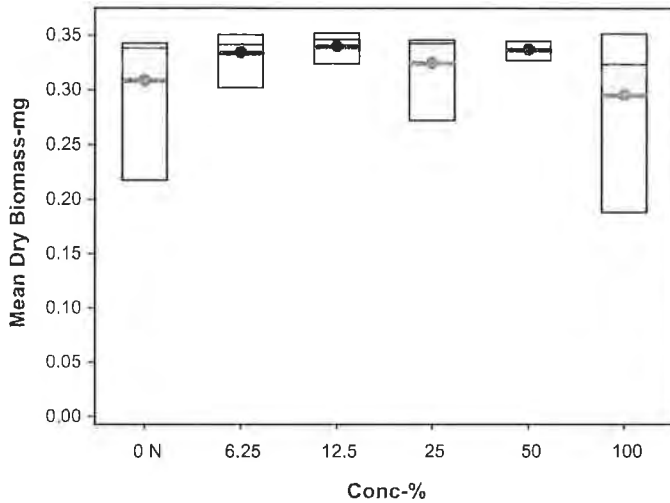
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-4919-0565 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 07 Sep-22 10:55 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 07 Sep-22 10:54 MD5 Hash: D38FF9D0E5957FA806B28296EEBDA812 Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.34	0.3427	0.2173	0.3373
6.25		0.3373	0.3447	0.302	0.3507
12.5		0.3353	0.352	0.352	0.324
25		0.3453	0.3413	0.344	0.2727
50		0.3447	0.3273	0.338	0.3373
100		0.188	0.3513	0.3093	0.338

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:56 (p 1 of 4)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-8868-3533	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:55	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 07 Sep-22 10:54	MD5 Hash: 68DBCC92F3A7FDA0B074C2147992BF20	Editor ID: 008-463-000-3
Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9667	0.8	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	0.9667	1.0000	0.8667	1.0000	6.90%	0.00%	58/60	0.9800	0.00%
6.25		4	0.9833	1.0000	0.9333	1.0000	3.39%	-1.72%	59/60	0.9800	0.00%
12.5		4	0.9833	1.0000	0.9333	1.0000	3.39%	-1.72%	59/60	0.9800	0.00%
25		4	0.9833	1.0000	0.9333	1.0000	3.39%	-1.72%	59/60	0.9800	0.00%
50		4	0.9833	1.0000	0.9333	1.0000	3.39%	-1.72%	59/60	0.9800	0.00%
100		4	0.9167	0.9333	0.8000	1.0000	9.15%	5.17%	55/60	0.9167	6.46%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	0.8667	1.0000
6.25		1.0000	1.0000	0.9333	1.0000
12.5		1.0000	1.0000	1.0000	0.9333
25		1.0000	1.0000	1.0000	0.9333
50		1.0000	0.9333	1.0000	1.0000
100		0.8000	0.9333	0.9333	1.0000

7d Survival Rate Binomials

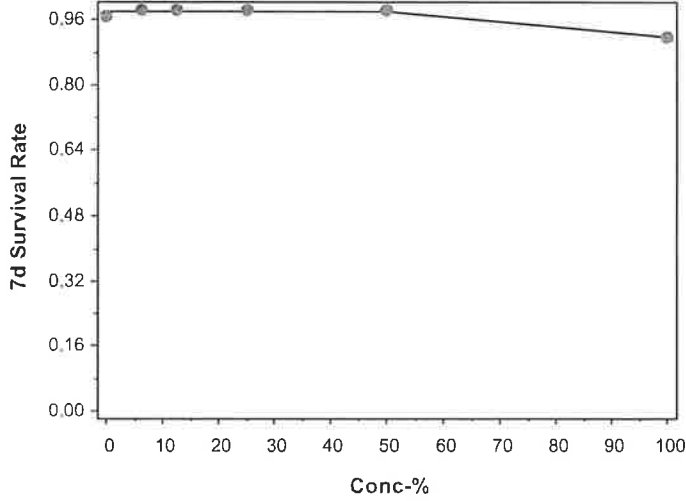
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	13/15	15/15
6.25		15/15	15/15	14/15	15/15
12.5		15/15	15/15	15/15	14/15
25		15/15	15/15	15/15	14/15
50		15/15	14/15	15/15	15/15
100		12/15	14/15	14/15	15/15

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-8868-3533	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:55	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 07 Sep-22 10:54	MD5 Hash: 68DBCC92F3A7FDA0B074C2147992BF20	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 07 Sep-22 10:56 (p 3 of 4)
 Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 14-0769-7805	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2			
Analyzed: 07 Sep-22 10:55	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 07 Sep-22 10:54	MD5 Hash: D38FF9D0E5957FA806B28296EEBDA812	Editor ID: 008-463-000-3			
Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable			
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:			
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2			
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1628831	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.3093	0.25	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.3093	0.3387	0.2173	0.3427	19.84%	0.00%	0.3293	0.00%
6.25		4	0.3337	0.341	0.302	0.3507	6.53%	-7.87%	0.3293	0.00%
12.5		4	0.3408	0.3464	0.324	0.352	4.02%	-10.18%	0.3293	0.00%
25		4	0.3258	0.3427	0.2727	0.3453	10.89%	-5.33%	0.3293	0.00%
50		4	0.3368	0.3377	0.3273	0.3447	2.12%	-8.89%	0.3293	0.00%
100		4	0.2967	0.3237	0.188	0.3513	25.12%	4.09%	0.2967	9.90%

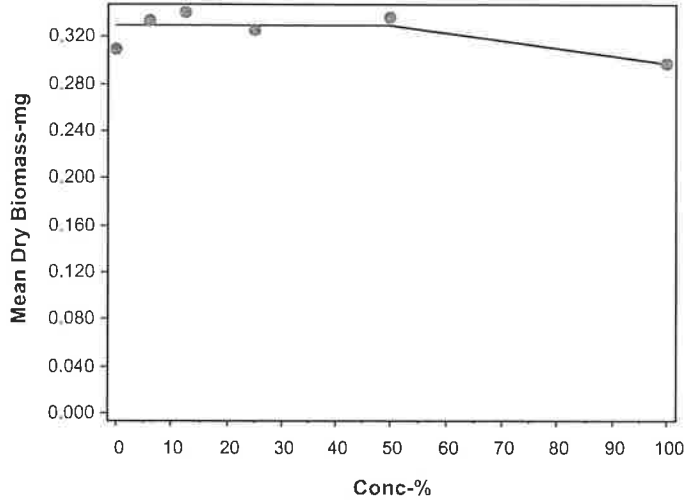
Mean Dry Biomass-mg Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.34	0.3427	0.2173	0.3373
6.25		0.3373	0.3447	0.302	0.3507
12.5		0.3353	0.352	0.352	0.324
25		0.3453	0.3413	0.344	0.2727
50		0.3447	0.3273	0.338	0.3373
100		0.188	0.3513	0.3093	0.338

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-0769-7805 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
Analyzed: 07 Sep-22 10:55 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 07 Sep-22 10:54 MD5 Hash: D38FF9D0E5957FA806B28296EEBDA812 Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 07 Sep-22 10:56 (p 1 of 2)

Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 00-2910-7945	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-3751-4801	Code: VCF0822.054fml	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60	60	60	60	60	0	0	0.00%	0
100		8	190	190	190	190	190	0	0	0.00%	0
Overall		16	125	89.23	160.8	60	190	16.78	67.13	53.71%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.2	366.2	374.3	364	380	0.6078	4.862	1.31%	0
6.25		8	445	440.8	449.2	440	455	0.6268	5.014	1.13%	0
12.5		8	476.9	469.2	484.5	464	487	1.143	9.141	1.92%	0
25		8	576.8	572.1	581.4	572	588	0.7	5.6	0.97%	0
50		8	794.9	792.9	796.8	793	799	0.2946	2.357	0.30%	0
100		8	1219	1218	1221	1216	1222	0.2191	1.753	0.14%	0
Overall		48	647.2	562.4	731.9	364	1222	42.14	292	45.11%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.5	7.321	7.679	7.1	7.7	0.02673	0.2138	2.85%	0
6.25		8	7.462	7.231	7.694	7	7.8	0.03468	0.2774	3.72%	0
12.5		8	7.412	7.215	7.61	7	7.7	0.02946	0.2357	3.18%	0
25		8	7.437	7.233	7.642	7.1	7.7	0.03057	0.2446	3.29%	0
50		8	7.45	7.231	7.669	7.1	7.8	0.03273	0.2619	3.51%	0
100		8	7.45	7.222	7.678	7.1	7.8	0.03407	0.2726	3.66%	0
Overall		48	7.452	7.382	7.522	7	7.8	0.03459	0.2397	3.22%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.25	94.86	95.64	95	96	0.05786	0.4629	0.49%	0
100		8	435	435	435	435	435	0	0	0.00%	0
Overall		16	265.1	171.6	358.6	95	435	43.86	175.4	66.17%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8	7.937	8.063	7.9	8.1	0.009449	0.07559	0.94%	0
6.25		8	7.975	7.916	8.034	7.8	8	0.008839	0.07071	0.89%	0
12.5		8	7.988	7.958	8.017	7.9	8	0.004419	0.03535	0.44%	0
25		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
50		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
100		8	7.938	7.875	8	7.8	8	0.0093	0.0744	0.94%	0
Overall		48	7.975	7.958	7.992	7.8	8.1	0.008681	0.06014	0.75%	0 (0%)

CETIS Measurement Report

Report Date: 07 Sep-22 10:56 (p 2 of 2)
Test Code/ID: VCF0822.054fml / 15-4090-3085

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
12.5		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
25		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
50		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
100		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
Overall		48	24.02	24.01	24.03	24	24.1	0.005693	0.03944	0.16%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

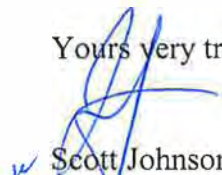
CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.054

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

REPRODUCTION	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:31 (p 1 of 2)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO	Age: <24				
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:					
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2					
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri						

Multiple Comparison Summary								
Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
03-0169-6179	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
03-9183-8216	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	14.0%	1	1

Point Estimate Summary								
Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
11-8222-9150	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
01-8141-7414	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability							
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
03-0169-6179	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
11-8222-9150	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
01-8141-7414	Reproduction	Control Resp	23.2	15	<<	Yes	Passes Criteria
03-9183-8216	Reproduction	Control Resp	23.2	15	<<	Yes	Passes Criteria
03-9183-8216	Reproduction	PMSD	0.1401	0.13	0.47	Yes	Passes Criteria

7d Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	23.2	21.24	25.16	20	30	0.8667	2.741	11.81%	0.00%
6.25		10	24.5	22.68	26.32	21	29	0.8062	2.55	10.41%	-5.60%
12.5		10	24.7	23.05	26.35	22	28	0.7311	2.312	9.36%	-6.47%
25		10	27.4	24.31	30.49	18	33	1.368	4.326	15.79%	-18.10%
50		10	25.8	23.42	28.18	20	30	1.052	3.327	12.89%	-11.21%
100		10	28	25.59	30.41	22	33	1.065	3.367	12.02%	-20.69%

CETIS Summary Report

Report Date: 02 Sep-22 09:31 (p 2 of 2)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

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

7d Survival Rate Detail MD5: 521A0DF2AE1E59D72392DBABE0C7AEFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail MD5: 5CB4CC5429E7AD6E31A86350E67F4B8B

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	21	20	23	24	21	30	23	23	24	23
6.25		27	24	24	29	24	24	24	21	21	27
12.5		26	23	22	22	25	22	27	27	25	28
25		31	27	29	24	18	31	33	29	27	25
50		28	27	20	29	23	22	28	24	27	30
100		31	31	22	26	30	27	29	33	26	25

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 02 Sep-22 09:30 (p 1 of 2)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-9183-8216	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 9:46	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 26 Aug-22 9:31	MD5 Hash: 5CB4CC5429E7AD6E31A86350E67F4B8B	Editor ID: 008-463-000-3
Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	--	1	3.25	14.01%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	-0.9157	2.289	3.25	CDF	0.9800	Non-Significant Effect
		12.5	18	-1.057	2.289	3.25	CDF	0.9867	Non-Significant Effect
		25	18	-2.958	2.289	3.25	CDF	1.0000	Non-Significant Effect
		50	18	-1.831	2.289	3.25	CDF	0.9990	Non-Significant Effect
		100	18	-3.381	2.289	3.25	CDF	1.0000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	23.2	15	<<	Yes	Passes Criteria
PMSD	0.1401	0.13	0.47	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	168.2	33.64	5	3.338	0.0106	Significant Effect
Error	544.2	10.0778	54			
Total	712.4		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.632	15.09	0.4624	Equal Variances
	Levene Equality of Variance Test	1.173	3.377	0.3343	Equal Variances
	Mod Levene Equality of Variance Test	1.028	3.377	0.4107	Equal Variances
Distribution	Anderson-Darling A2 Test	0.295	3.878	0.6271	Normal Distribution
	D'Agostino Kurtosis Test	1.024	2.576	0.3059	Normal Distribution
	D'Agostino Skewness Test	1.102	2.576	0.2705	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	2.262	9.21	0.3226	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08462	0.1331	0.3289	Normal Distribution
	Shapiro-Wilk W Normality Test	0.984	0.9459	0.6198	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	23.2	21.24	25.16	23	20	30	0.8667	11.81%	0.00%
6.25		10	24.5	22.68	26.32	24	21	29	0.8062	10.41%	-5.60%
12.5		10	24.7	23.05	26.35	25	22	28	0.7311	9.36%	-6.47%
25		10	27.4	24.31	30.49	28	18	33	1.368	15.79%	-18.10%
50		10	25.8	23.42	28.18	27	20	30	1.052	12.89%	-11.21%
100		10	28	25.59	30.41	28	22	33	1.065	12.02%	-20.69%

Ceriodaphnia 7-d Survival and Reproduction Test

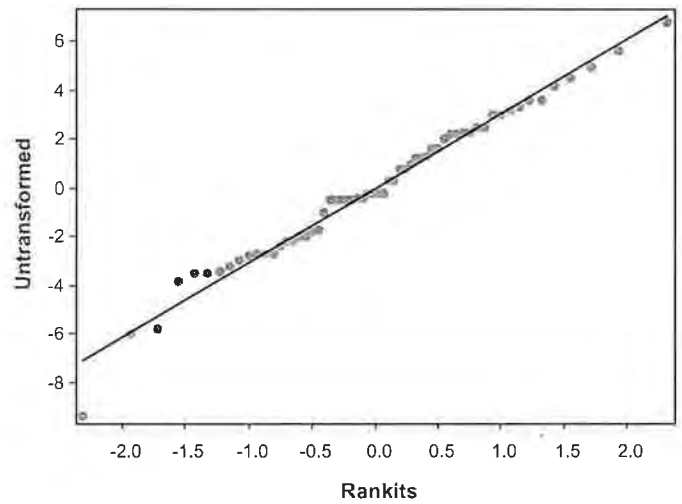
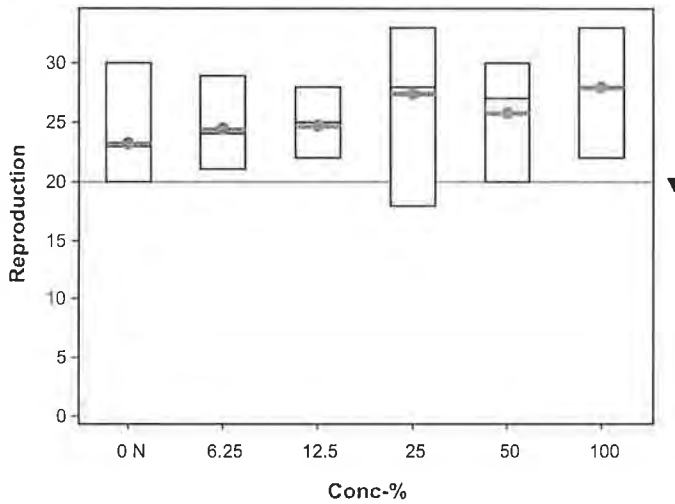
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-9183-8216 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 26 Aug-22 9:46 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 26 Aug-22 9:31 MD5 Hash: 5CB4CC5429E7AD6E31A86350E67F4B8B Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	21	20	23	24	21	30	23	23	24	23
6.25		27	24	24	29	24	24	24	21	21	27
12.5		26	23	22	22	25	22	27	27	25	28
25		31	27	29	24	18	31	33	29	27	25
50		28	27	20	29	23	22	28	24	27	30
100		31	31	22	26	30	27	29	33	26	25

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:30 (p 1 of 4)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-8222-9150	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 9:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Aug-22 9:31	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

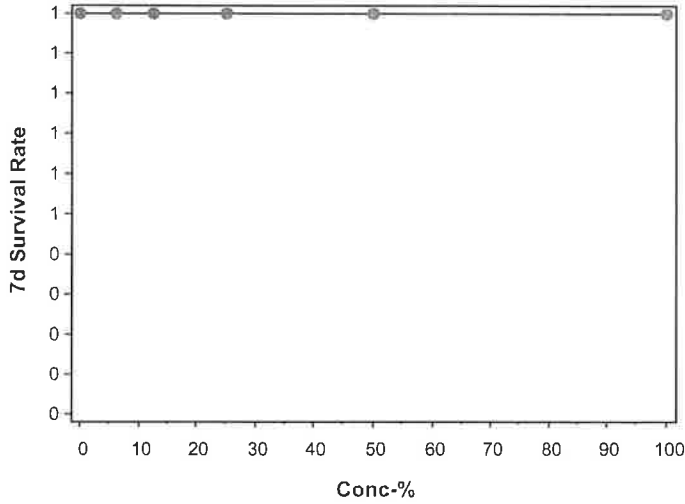
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-8222-9150 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 9:46 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 26 Aug-22 9:31 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:30 (p 3 of 4)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 01-8141-7414	Endpoint: Reproduction	CETIS Version: CETISv2.1.2			
Analyzed: 26 Aug-22 9:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 26 Aug-22 9:31	MD5 Hash: 5CB4CC5429E7AD6E31A86350E67F4B8B	Editor ID: 008-463-000-3			
Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:			
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2			
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1611430	280	Yes	Two-Point Interpolation

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	23.2	15	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	23.2	23	20	30	11.81%	0.00%	25.6	0.00%
6.25		10	24.5	24	21	29	10.41%	-5.60%	25.6	0.00%
12.5		10	24.7	25	22	28	9.36%	-6.47%	25.6	0.00%
25		10	27.4	28	18	33	15.79%	-18.10%	25.6	0.00%
50		10	25.8	27	20	30	12.89%	-11.21%	25.6	0.00%
100		10	28	28	22	33	12.02%	-20.69%	25.6	0.00%

Reproduction Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	21	20	23	24	21	30	23	23	24	23
6.25		27	24	24	29	24	24	24	21	21	27
12.5		26	23	22	22	25	22	27	27	25	28
25		31	27	29	24	18	31	33	29	27	25
50		28	27	20	29	23	22	28	24	27	30
100		31	31	22	26	30	27	29	33	26	25

CETIS Analytical Report

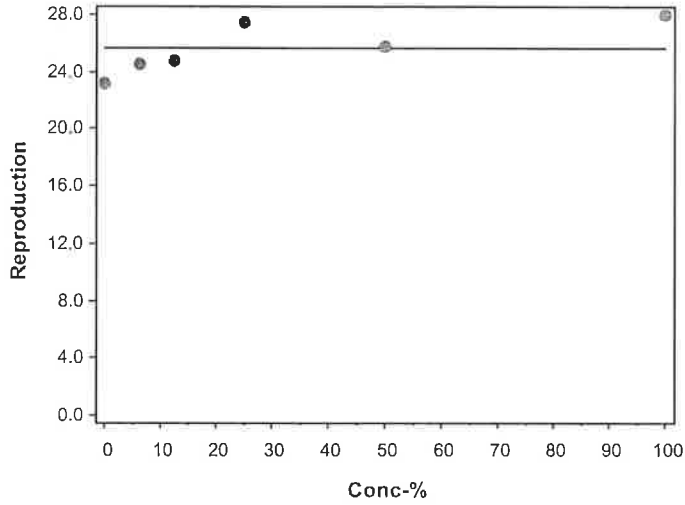
Report Date: 02 Sep-22 09:31 (p 4 of 4)
Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-8141-7414	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 9:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Aug-22 9:31	MD5 Hash: 5CB4CC5429E7AD6E31A86350E67F4B8B	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:31 (p 1 of 2)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-0169-6179	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 9:46	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 26 Aug-22 9:31	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

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

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Ceriodaphnia 7-d Survival and Reproduction Test

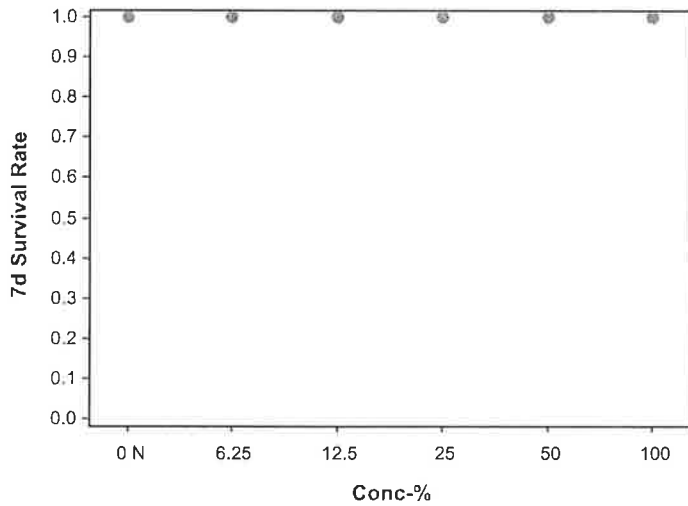
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-0169-6179 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 26 Aug-22 9:46 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 26 Aug-22 9:31 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



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CETIS Measurement Report

Report Date: 02 Sep-22 09:31 (p 1 of 2)
 Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-6548-9479	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 10 Aug-22 12:20	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 17 Aug-22 13:47	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 05-7230-2894	Code: VCF0822.054cer	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 51h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	60.5	59.73	61.27	60	62	0.1157	0.9258	1.53%	0
100		8	190	190	190	190	190	0	0	0.00%	0
Overall		16	125.2	89.61	160.9	60	190	16.72	66.88	53.39%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	370.2	366.2	374.3	364	380	0.6078	4.862	1.31%	0
6.25		8	445	440.8	449.2	440	455	0.6268	5.014	1.13%	0
12.5		8	476.9	469.2	484.5	464	487	1.143	9.141	1.92%	0
25		8	576.8	572.1	581.4	572	588	0.7	5.6	0.97%	0
50		8	794.9	792.9	796.8	793	799	0.2946	2.357	0.30%	0
100		8	1219	1218	1221	1216	1222	0.226	1.808	0.15%	0
Overall		48	647.1	562.4	731.9	364	1222	42.13	291.9	45.11%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.5	7.321	7.679	7.1	7.7	0.02673	0.2138	2.85%	0
6.25		8	7.462	7.231	7.694	7	7.8	0.03468	0.2774	3.72%	0
12.5		8	7.412	7.215	7.61	7	7.7	0.02946	0.2357	3.18%	0
25		8	7.437	7.233	7.642	7.1	7.7	0.03057	0.2446	3.29%	0
50		8	7.463	7.231	7.694	7.1	7.8	0.03468	0.2774	3.72%	0
100		8	7.45	7.222	7.678	7.1	7.8	0.03407	0.2726	3.66%	0
Overall		48	7.454	7.384	7.525	7	7.8	0.03497	0.2423	3.25%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95.25	94.86	95.64	95	96	0.05786	0.4629	0.49%	0
100		8	435	435	435	435	435	0	0	0.00%	0
Overall		16	265.1	171.6	358.6	95	435	43.86	175.4	66.17%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8	7.937	8.063	7.9	8.1	0.009449	0.07559	0.94%	0
6.25		8	7.975	7.916	8.034	7.8	8	0.008839	0.07071	0.89%	0
12.5		8	7.988	7.958	8.017	7.9	8	0.004419	0.03535	0.44%	0
25		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
50		8	7.975	7.936	8.014	7.9	8	0.005786	0.04629	0.58%	0
100		8	7.938	7.875	8	7.8	8	0.0093	0.0744	0.94%	0
Overall		48	7.975	7.958	7.992	7.8	8.1	0.008681	0.06014	0.75%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:31 (p 2 of 2)
Test Code/ID: VCF0822.054cer / 06-1916-0456

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
12.5		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
25		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
50		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
100		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
Overall		48	24.02	24.01	24.03	24	24.1	0.005693	0.03944	0.16%	0 (0%)

Attachment A Appendix I 



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:


We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-VR2
DATE RECEIVED: 8/8/2022
ABC LAB. NO.: VCF0822.054

ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample
*TU_a = 0.00
* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


✓ Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:38 (p 1 of 1)
 Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 03-2699-5297	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:03	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 96h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO
		Age:
Sample ID: 09-2515-4376	Code: VCF0822.054ahya	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 53h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
16-2110-7397	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
01-7448-5449	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Handwritten signature and "PASS" stamp

CETIS Analytical Report

Report Date: 02 Sep-22 09:38 (p 1 of 2)
 Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	16-2110-7397	Endpoint:	96h Survival Rate	CETIS Version:	CETISv2.1.2		
Analyzed:	26 Aug-22 11:13	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1		
Edit Date:	26 Aug-22 11:12	MD5 Hash:	68E117461239090AA7E1427F0F536296	Editor ID:	008-463-000-3		
Batch ID:	03-2699-5297	Test Type:	Survival (96h)	Analyst:			
Start Date:	10 Aug-22 15:03	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Laboratory Water		
Ending Date:	14 Aug-22 14:35	Species:	Hyalella azteca	Brine:	Not Applicable		
Test Length:	96h	Taxon:	Malacostraca	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	09-2515-4376	Code:	VCF0822.054ahya	Project:			
Sample Date:	08 Aug-22 09:40	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	08 Aug-22 10:05	CAS (PC):		Station:	ME-VR2		
Sample Age:	53h (17.8 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-2110-7397 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 26 Aug-22 11:13 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 26 Aug-22 11:12 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

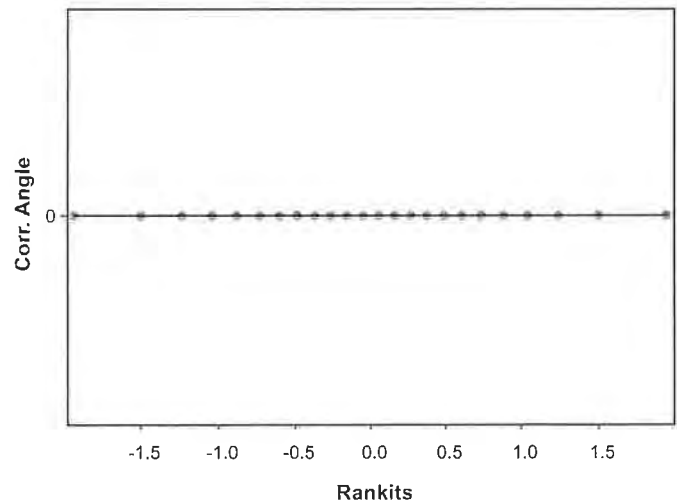
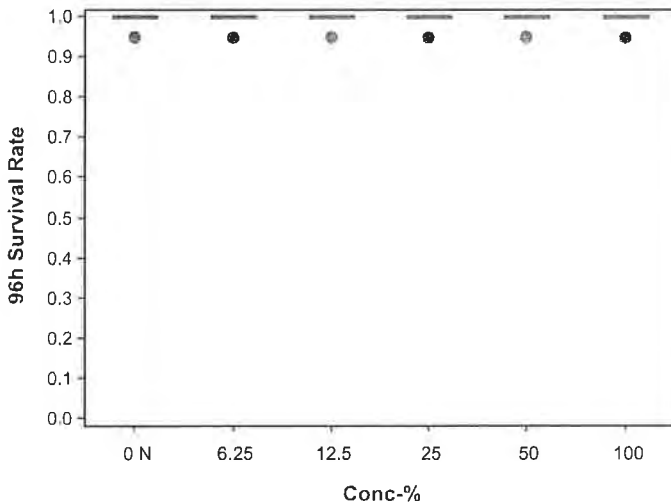
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:38 (p 1 of 2)
 Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-7448-5449	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 11:13	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Aug-22 11:12	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 03-2699-5297	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:03	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 96h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 09-2515-4376	Code: VCF0822.054ahya	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 53h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

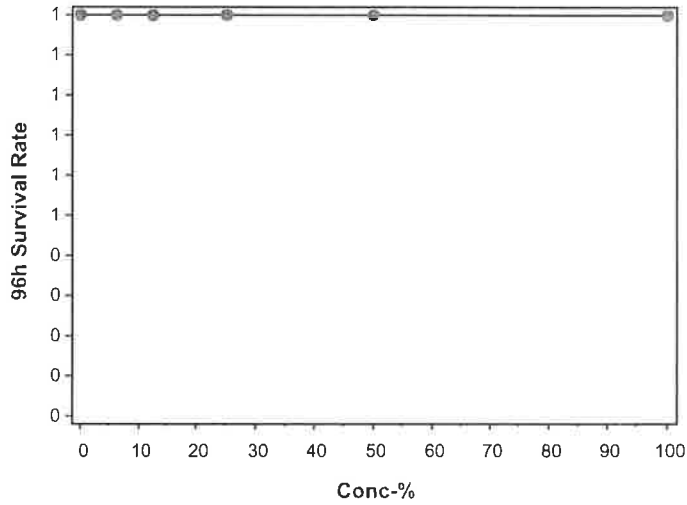
Report Date: 02 Sep-22 09:38 (p 2 of 2)
Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-7448-5449	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 11:13	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Aug-22 11:12	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 02 Sep-22 09:38 (p 1 of 2)

Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 03-2699-5297	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:03	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:35	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 96h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 09-2515-4376	Code: VCF0822.054ahya	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 53h (17.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	190	190	190	190	190	0	0	0.00%	0
Overall		6	125	50.28	199.7	60	190	29.07	71.2	56.96%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	367.7	359.7	375.7	364	370	1.072	3.215	0.87%	0
6.25		3	441	436.7	445.3	440	443	0.5774	1.732	0.39%	0
12.5		3	472	449.2	494.8	464	482	3.055	9.165	1.94%	0
25		3	573	573	573	573	573	0	0	0.00%	0
50		3	793.7	792.2	795.1	793	794	0.1925	0.5774	0.07%	0
100		3	1218	1214	1222	1216	1219	0.5774	1.732	0.14%	0
Overall		18	644.2	495.9	792.5	364	1219	70.3	298.3	46.30%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.5	7.07	7.93	7.3	7.6	0.05773	0.1732	2.31%	0
6.25		3	7.367	6.987	7.746	7.2	7.5	0.05092	0.1528	2.07%	0
12.5		3	7.367	6.987	7.746	7.2	7.5	0.05092	0.1528	2.07%	0
25		3	29.27	-64.82	123.4	7.3	73	12.62	37.87	129.41%	0
50		3	7.367	7.08	7.653	7.3	7.5	0.03849	0.1155	1.57%	0
100		3	7.4	7.152	7.648	7.3	7.5	0.03333	0.1	1.35%	0
Overall		18	11.04	3.355	18.73	7.2	73	3.645	15.46	140.00%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	435	435	435	435	435	0	0	0.00%	0
Overall		6	265	69.57	460.4	95	435	76.03	186.2	70.27%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	8	8	8	8	8	0	0	0.00%	0
12.5		3	8	8	8	8	8	0	0	0.00%	0
25		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
50		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
100		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
Overall		18	7.978	7.957	7.999	7.9	8	0.01008	0.04278	0.54%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:38 (p 2 of 2)
Test Code/ID: VCF0822.054ahya / 09-8734-5106

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)





September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.054

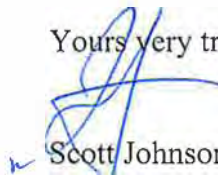
ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log(\% \text{ Mortality})/1.7$

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 02 Sep-22 09:50 (p 1 of 1)
 Test Code/ID: VCF0822.054achi / 13-3150-1957

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-7103-5770	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:52	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 96h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 21-3202-6095	Code: VCF0822.054achi	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 54h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
07-3827-2924	96h Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
04-5951-9042	96h Survival Rate	Linear Interpolation (ICPIN)		EC15	>100	---	---	<1	1
				EC20	>100	---	---	<1	
				EC25	>100	---	---	<1	
				EC40	>100	---	---	<1	
				EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

200 *PASS*

CETIS Analytical Report

Report Date: 02 Sep-22 09:50 (p 1 of 2)
 Test Code/ID: VCF0822.054achi / 13-3150-1957

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-3827-2924	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 11:17	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 26 Aug-22 11:16	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Batch ID: 18-7103-5770	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:52	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 96h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:

Sample ID: 21-3202-6095	Code: VCF0822.054achi	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 54h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-3827-2924 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 26 Aug-22 11:17 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 26 Aug-22 11:16 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

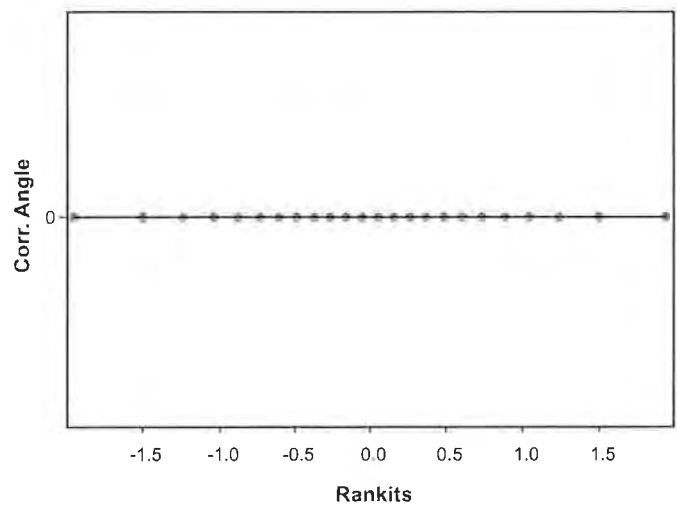
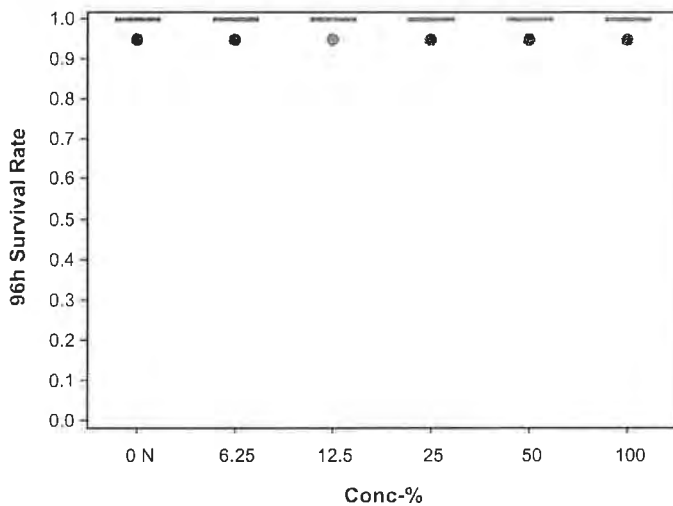
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 02 Sep-22 09:50 (p 1 of 2)
 Test Code/ID: VCF0822.054achi / 13-3150-1957

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 04-5951-9042	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 26 Aug-22 11:17	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 26 Aug-22 11:16	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 18-7103-5770	Test Type: Survival (96h)	Analyst:			
Start Date: 10 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 14 Aug-22 14:52	Species: Chironomus dilutus	Brine: Not Applicable			
Test Length: 96h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:			
Sample ID: 21-3202-6095	Code: VCF0822.054achi	Project:			
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2			
Sample Age: 54h (11.8 °C)	Client: Ventura County Watershed Protection Distri				

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary			Calculated Variate(A/B)						Isotonic Variate		
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

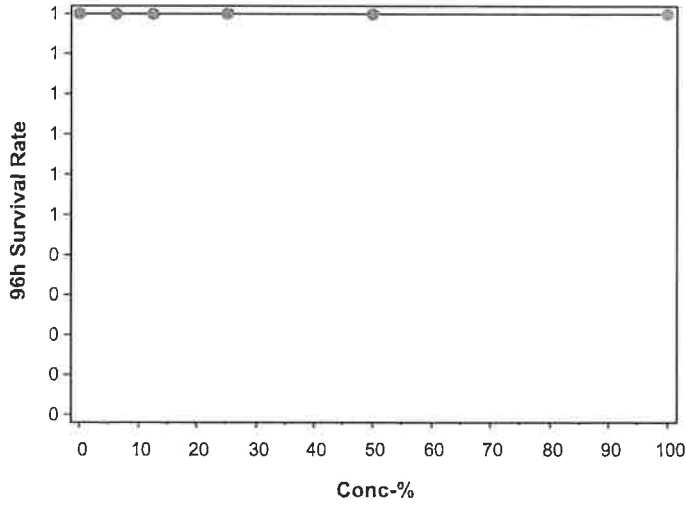
Attachment A Appendix I 

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-5951-9042	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 26 Aug-22 11:17	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Aug-22 11:16	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 02 Sep-22 09:50 (p 1 of 2)
 Test Code/ID: VCF0822.054achi / 13-3150-1957

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-7103-5770	Test Type: Survival (96h)	Analyst:
Start Date: 10 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 14 Aug-22 14:52	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 96h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 21-3202-6095	Code: VCF0822.054achi	Project:
Sample Date: 08 Aug-22 09:40	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-VR2
Sample Age: 54h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	60	60	60	60	60	0	0	0.00%	0
100		3	190	190	190	190	190	0	0	0.00%	0
Overall		6	125	50.28	199.7	60	190	29.07	71.2	56.96%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	367.7	359.7	375.7	364	370	1.072	3.215	0.87%	0
6.25		3	442	437.7	446.3	440	443	0.5774	1.732	0.39%	0
12.5		3	472	449.2	494.8	464	482	3.055	9.165	1.94%	0
25		3	573	573	573	573	573	0	0	0.00%	0
50		3	793.7	792.2	795.1	793	794	0.1925	0.5774	0.07%	0
100		3	1218	1214	1222	1216	1219	0.5774	1.732	0.14%	0
Overall		18	644.4	496.1	792.7	364	1219	70.27	298.2	46.27%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.5	7.07	7.93	7.3	7.6	0.05773	0.1732	2.31%	0
6.25		3	7.4	6.97	7.83	7.2	7.5	0.05773	0.1732	2.34%	0
12.5		3	7.367	6.987	7.746	7.2	7.5	0.05092	0.1528	2.07%	0
25		3	7.367	7.08	7.653	7.3	7.5	0.03849	0.1155	1.57%	0
50		3	7.367	7.08	7.653	7.3	7.5	0.03849	0.1155	1.57%	0
100		3	7.4	7.152	7.648	7.3	7.5	0.03333	0.1	1.35%	0
Overall		18	7.4	7.336	7.464	7.2	7.6	0.03025	0.1283	1.73%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	435	435	435	435	435	0	0	0.00%	0
Overall		6	265	69.57	460.4	95	435	76.03	186.2	70.27%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
6.25		3	8	8	8	8	8	0	0	0.00%	0
12.5		3	8	8	8	8	8	0	0	0.00%	0
25		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
50		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
100		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
Overall		18	7.978	7.957	7.999	7.9	8	0.01008	0.04278	0.54%	0 (0%)

CETIS Measurement Report

Report Date: 02 Sep-22 09:50 (p 2 of 2)
Test Code/ID: VCF0822.054achi / 13-3150-1957

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:


We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA-600/R95/136, 1995*. Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.055

CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

NOEC	=	100.00 %
TU _c	=	1.00
IC ₂₅	=	>100.00 %
IC ₅₀	=	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 01 Sep-22 09:20 (p 1 of 2)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID: 15-4382-6948	Test Type: Fertilization	Analyst:					
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater					
Ending Date: 09 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable					
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive	Age:				
Sample ID: 16-4156-2106	Code: VCF0822.055urc	Project:					
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR					
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri						

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
01-9069-8957	Fertilization Rate	Dunnett Multiple Comparison Test	100	>100	---	3.21%	1	1
14-2480-4157	Fertilization Rate	Dunnett Multiple Comparison Test	100	>100	---	3.21%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
06-0636-4463	Fertilization Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
19-4469-5619	Fertilization Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
01-9069-8957	Fertilization Rate	Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
06-0636-4463	Fertilization Rate	Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
14-2480-4157	Fertilization Rate	Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
19-4469-5619	Fertilization Rate	Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
01-9069-8957	Fertilization Rate	PMSD	0.03206	<<	0.25	No	Passes Criteria
14-2480-4157	Fertilization Rate	PMSD	0.03206	<<	0.25	No	Passes Criteria

Fertilization Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9375	0.9136	0.9614	0.9300	0.9600	0.0075	0.0150	1.60%	0.00%
6.25		4	0.9425	0.9273	0.9577	0.9300	0.9500	0.0048	0.0096	1.02%	-0.53%
12.5		4	0.9425	0.8987	0.9863	0.9100	0.9700	0.0138	0.0275	2.92%	-0.53%
25		4	0.9450	0.9245	0.9655	0.9300	0.9600	0.0065	0.0129	1.37%	-0.80%
50		4	0.9575	0.9423	0.9727	0.9500	0.9700	0.0048	0.0096	1.00%	-2.13%
100		4	0.9600	0.9470	0.9730	0.9500	0.9700	0.0041	0.0082	0.85%	-2.40%

Fertilization Rate Detail

MD5: 583D6A76CE24286CBDCCFC0A013FF769

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9300	0.9300	0.9300	0.9600
6.25		0.9400	0.9500	0.9300	0.9500
12.5		0.9100	0.9700	0.9600	0.9300
25		0.9500	0.9400	0.9300	0.9600
50		0.9600	0.9500	0.9700	0.9500
100		0.9600	0.9500	0.9700	0.9600

PKS

CETIS Summary Report

Report Date: 01 Sep-22 09:20 (p 2 of 2)
Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	93/100	93/100	93/100	96/100
6.25		94/100	95/100	93/100	95/100
12.5		91/100	97/100	96/100	93/100
25		95/100	94/100	93/100	96/100
50		96/100	95/100	97/100	95/100
100		96/100	95/100	97/100	96/100



CETIS Analytical Report

Report Date: 01 Sep-22 09:19 (p 1 of 3)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-2480-4157	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:16	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 01 Sep-22 9:12	MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769	Editor ID: 008-463-000-3
Batch ID: 15-4382-6948	Test Type: Fertilization	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 09 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 16-4156-2106	Code: VCF0822.055urc	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.03005	3.21%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-0.3986	2.407	0.05797	CDF	0.9243	Non-Significant Effect
		12.5	6	-0.5892	2.407	0.05797	CDF	0.9509	Non-Significant Effect
		25	6	-0.6493	2.407	0.05797	CDF	0.9575	Non-Significant Effect
		50	6	-1.85	2.407	0.05797	CDF	0.9986	Non-Significant Effect
		100	6	-2.101	2.407	0.05797	CDF	0.9994	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
PMSD	0.03206	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0082543	0.0016509	5	1.423	0.2633	Non-Significant Effect
Error	0.0208761	0.0011598	18			
Total	0.0291304		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	5.13	15.09	0.4002	Equal Variances
	Levene Equality of Variance Test	3.408	4.248	0.0243	Equal Variances
	Mod Levene Equality of Variance Test	2.015	4.248	0.1251	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3848	3.878	0.3979	Normal Distribution
	D'Agostino Kurtosis Test	0.2964	2.576	0.7669	Normal Distribution
	D'Agostino Skewness Test	0.3272	2.576	0.7435	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.1949	9.21	0.9072	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1259	0.2056	0.4161	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9723	0.884	0.7245	Normal Distribution

Fertilization Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9375	0.9136	0.9614	0.9300	0.9300	0.9600	0.0075	1.60%	0.00%
6.25		4	0.9425	0.9273	0.9577	0.9467	0.9300	0.9500	0.0048	1.02%	-0.53%
12.5		4	0.9425	0.8987	0.9863	0.9450	0.9100	0.9700	0.0138	2.92%	-0.53%
25		4	0.9450	0.9245	0.9655	0.9450	0.9300	0.9600	0.0065	1.37%	-0.80%
50		4	0.9575	0.9423	0.9727	0.9533	0.9500	0.9700	0.0048	1.00%	-2.13%
100		4	0.9600	0.9470	0.9730	0.9600	0.9500	0.9700	0.0041	0.85%	-2.40%

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-2480-4157 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
 Analyzed: 01 Sep-22 9:16 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 01 Sep-22 9:12 MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3200	1.2670	1.3720	1.3030	1.3030	1.3690	0.0166	2.52%	0.00%
6.25		4	1.3290	1.2970	1.3620	1.3380	1.3030	1.3450	0.0102	1.53%	-0.73%
12.5		4	1.3340	1.2390	1.4290	1.3360	1.2660	1.3970	0.0299	4.49%	-1.08%
25		4	1.3350	1.2900	1.3810	1.3340	1.3030	1.3690	0.0143	2.14%	-1.18%
50		4	1.3640	1.3250	1.4030	1.3530	1.3450	1.3970	0.0123	1.80%	-3.38%
100		4	1.3700	1.3370	1.4040	1.3690	1.3450	1.3970	0.0105	1.53%	-3.83%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9300	0.9300	0.9300	0.9600
6.25		0.9400	0.9500	0.9300	0.9500
12.5		0.9100	0.9700	0.9600	0.9300
25		0.9500	0.9400	0.9300	0.9600
50		0.9600	0.9500	0.9700	0.9500
100		0.9600	0.9500	0.9700	0.9600

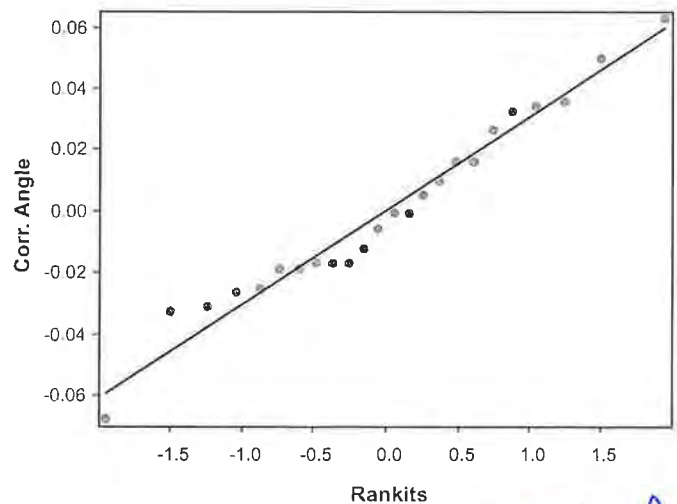
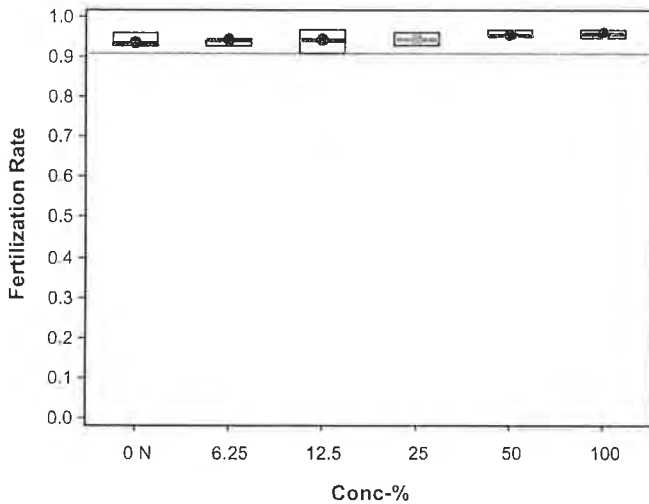
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3030	1.3030	1.3030	1.3690
6.25		1.3230	1.3450	1.3030	1.3450
12.5		1.2660	1.3970	1.3690	1.3030
25		1.3450	1.3230	1.3030	1.3690
50		1.3690	1.3450	1.3970	1.3450
100		1.3690	1.3450	1.3970	1.3690

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	93/100	93/100	93/100	96/100
6.25		94/100	95/100	93/100	95/100
12.5		91/100	97/100	96/100	93/100
25		95/100	94/100	93/100	96/100
50		96/100	95/100	97/100	95/100
100		96/100	95/100	97/100	96/100

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:19 (p 3 of 3)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-9069-8957 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
 Analyzed: 01 Sep-22 9:18 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 01 Sep-22 9:12 MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769 Editor ID: 008-463-000-3

Batch ID: 15-4382-6948 Test Type: Fertilization Analyst:
 Start Date: 09 Aug-22 15:03 Protocol: EPA/600/R-95/136 (1995) Diluent: Laboratory Seawater
 Ending Date: 09 Aug-22 15:43 Species: Strongylocentrotus purpuratus Brine: Not Applicable
 Test Length: 40m Taxon: Echinoidea Source: Ventura Dive Age:

Sample ID: 16-4156-2106 Code: VCF0822.055urc Project:
 Sample Date: 08 Aug-22 08:00 Material: Sample Water Source: Bioassay Report
 Receipt Date: 08 Aug-22 10:05 CAS (PC): Station: ME-SCR
 Sample Age: 31h (11.8 °C) Client: Ventura County Watershed Protection Distri

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.03005	3.21%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-0.3986	2.407	0.05797	CDF	0.9243	Non-Significant Effect
		12.5	6	-0.5892	2.407	0.05797	CDF	0.9509	Non-Significant Effect
		25	6	-0.6493	2.407	0.05797	CDF	0.9575	Non-Significant Effect
		50	6	-1.85	2.407	0.05797	CDF	0.9986	Non-Significant Effect
		100	6	-2.101	2.407	0.05797	CDF	0.9994	Non-Significant Effect

Test Acceptability Criteria

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.9375	0.7	<<	Yes	Passes Criteria
PMSD	0.03206	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0082543	0.0016509	5	1.423	0.2633	Non-Significant Effect
Error	0.0208761	0.0011598	18			
Total	0.0291304		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	5.13	15.09	0.4002	Equal Variances
	Levene Equality of Variance Test	3.408	4.248	0.0243	Equal Variances
	Mod Levene Equality of Variance Test	2.015	4.248	0.1251	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3848	3.878	0.3979	Normal Distribution
	D'Agostino Kurtosis Test	0.2964	2.576	0.7669	Normal Distribution
	D'Agostino Skewness Test	0.3272	2.576	0.7435	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.1949	9.21	0.9072	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1259	0.2056	0.4161	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9723	0.884	0.7245	Normal Distribution

Fertilization Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9375	0.9136	0.9614	0.9300	0.9300	0.9600	0.0075	1.60%	0.00%
6.25		4	0.9425	0.9273	0.9577	0.9467	0.9300	0.9500	0.0048	1.02%	-0.53%
12.5		4	0.9425	0.8987	0.9863	0.9450	0.9100	0.9700	0.0138	2.92%	-0.53%
25		4	0.9450	0.9245	0.9655	0.9450	0.9300	0.9600	0.0065	1.37%	-0.80%
50		4	0.9575	0.9423	0.9727	0.9533	0.9500	0.9700	0.0048	1.00%	-2.13%
100		4	0.9600	0.9470	0.9730	0.9600	0.9500	0.9700	0.0041	0.85%	-2.40%

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-9069-8957 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
 Analyzed: 01 Sep-22 9:18 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 01 Sep-22 9:12 MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3200	1.2670	1.3720	1.3030	1.3030	1.3690	0.0166	2.52%	0.00%
6.25		4	1.3290	1.2970	1.3620	1.3380	1.3030	1.3450	0.0102	1.53%	-0.73%
12.5		4	1.3340	1.2390	1.4290	1.3360	1.2660	1.3970	0.0299	4.49%	-1.08%
25		4	1.3350	1.2900	1.3810	1.3340	1.3030	1.3690	0.0143	2.14%	-1.18%
50		4	1.3640	1.3250	1.4030	1.3530	1.3450	1.3970	0.0123	1.80%	-3.38%
100		4	1.3700	1.3370	1.4040	1.3690	1.3450	1.3970	0.0105	1.53%	-3.83%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9300	0.9300	0.9300	0.9600
6.25		0.9400	0.9500	0.9300	0.9500
12.5		0.9100	0.9700	0.9600	0.9300
25		0.9500	0.9400	0.9300	0.9600
50		0.9600	0.9500	0.9700	0.9500
100		0.9600	0.9500	0.9700	0.9600

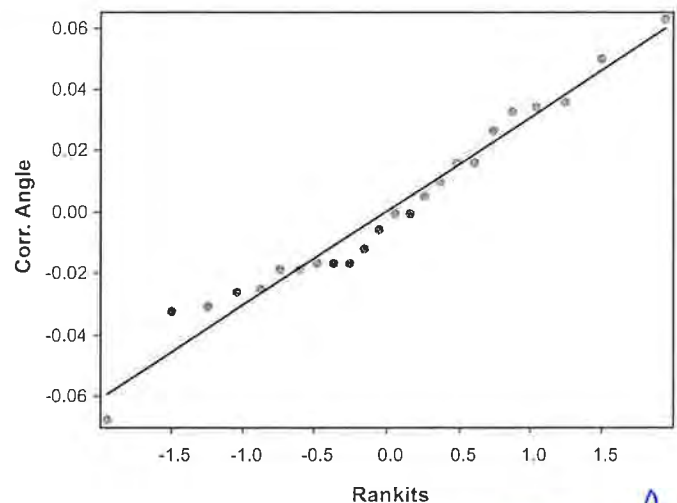
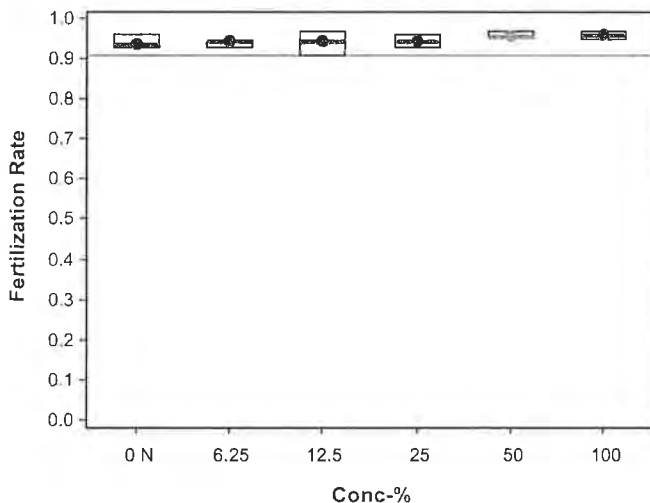
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3030	1.3030	1.3030	1.3690
6.25		1.3230	1.3450	1.3030	1.3450
12.5		1.2660	1.3970	1.3690	1.3030
25		1.3450	1.3230	1.3030	1.3690
50		1.3690	1.3450	1.3970	1.3450
100		1.3690	1.3450	1.3970	1.3690

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	93/100	93/100	93/100	96/100
6.25		94/100	95/100	93/100	95/100
12.5		91/100	97/100	96/100	93/100
25		95/100	94/100	93/100	96/100
50		96/100	95/100	97/100	95/100
100		96/100	95/100	97/100	96/100

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:19 (p 1 of 4)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-4469-5619	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:16	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 01 Sep-22 9:12	MD5 Hash: 583D6A76CE24286CBDCFC0A013FF769	Editor ID: 008-463-000-3
Batch ID: 15-4382-6948	Test Type: Fertilization	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 09 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 16-4156-2106	Code: VCF0822.055urc	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9375	0.7	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

Fertilization Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	0.9375	0.9300	0.9300	0.9600	1.60%	0.00%	375/400	0.9475	0.00%
6.25		4	0.9425	0.9467	0.9300	0.9500	1.02%	-0.53%	377/400	0.9475	0.00%
12.5		4	0.9425	0.9450	0.9100	0.9700	2.92%	-0.53%	377/400	0.9475	0.00%
25		4	0.9450	0.9450	0.9300	0.9600	1.37%	-0.80%	378/400	0.9475	0.00%
50		4	0.9575	0.9533	0.9500	0.9700	1.00%	-2.13%	383/400	0.9475	0.00%
100		4	0.9600	0.9600	0.9500	0.9700	0.85%	-2.40%	384/400	0.9475	0.00%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9300	0.9300	0.9300	0.9600
6.25		0.9400	0.9500	0.9300	0.9500
12.5		0.9100	0.9700	0.9600	0.9300
25		0.9500	0.9400	0.9300	0.9600
50		0.9600	0.9500	0.9700	0.9500
100		0.9600	0.9500	0.9700	0.9600

Fertilization Rate Binomials

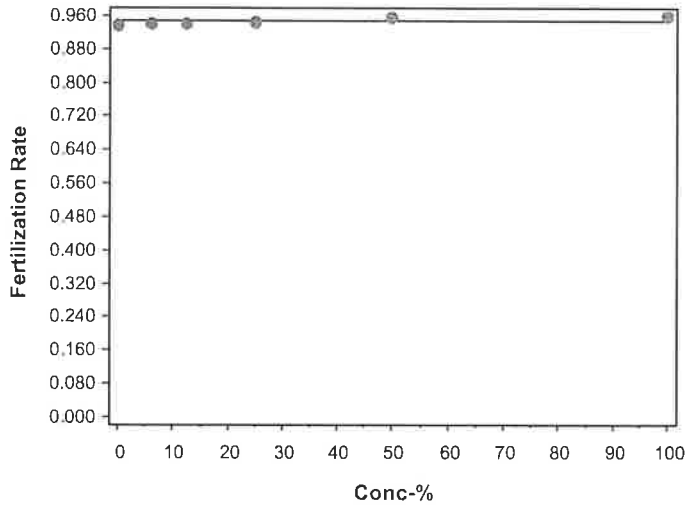
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	93/100	93/100	93/100	96/100
6.25		94/100	95/100	93/100	95/100
12.5		91/100	97/100	96/100	93/100
25		95/100	94/100	93/100	96/100
50		96/100	95/100	97/100	95/100
100		96/100	95/100	97/100	96/100

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-4469-5619 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:16 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 01 Sep-22 9:12 MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769 Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:19 (p 3 of 4)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-0636-4463	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:18	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 01 Sep-22 9:12	MD5 Hash: 583D6A76CE24286CBDDCCFC0A013FF769	Editor ID: 008-463-000-3
Batch ID: 15-4382-6948	Test Type: Fertilization	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 09 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 16-4156-2106	Code: VCF0822.055urc	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.9375	0.7	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

Fertilization Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	0.9375	0.9300	0.9300	0.9600	1.60%	0.00%	375/400	0.9475	0.00%
6.25		4	0.9425	0.9467	0.9300	0.9500	1.02%	-0.53%	377/400	0.9475	0.00%
12.5		4	0.9425	0.9450	0.9100	0.9700	2.92%	-0.53%	377/400	0.9475	0.00%
25		4	0.9450	0.9450	0.9300	0.9600	1.37%	-0.80%	378/400	0.9475	0.00%
50		4	0.9575	0.9533	0.9500	0.9700	1.00%	-2.13%	383/400	0.9475	0.00%
100		4	0.9600	0.9600	0.9500	0.9700	0.85%	-2.40%	384/400	0.9475	0.00%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9300	0.9300	0.9300	0.9600
6.25		0.9400	0.9500	0.9300	0.9500
12.5		0.9100	0.9700	0.9600	0.9300
25		0.9500	0.9400	0.9300	0.9600
50		0.9600	0.9500	0.9700	0.9500
100		0.9600	0.9500	0.9700	0.9600

Fertilization Rate Binomials

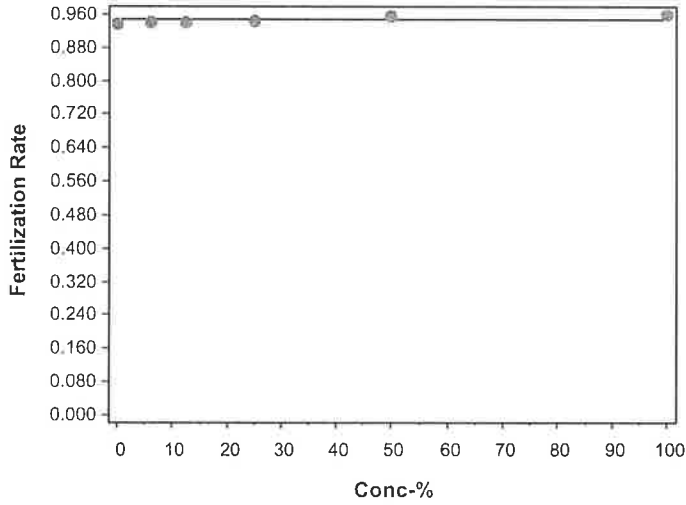
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	93/100	93/100	93/100	96/100
6.25		94/100	95/100	93/100	95/100
12.5		91/100	97/100	96/100	93/100
25		95/100	94/100	93/100	96/100
50		96/100	95/100	97/100	95/100
100		96/100	95/100	97/100	96/100

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-0636-4463 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:18 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 01 Sep-22 9:12 MD5 Hash: 583D6A76CE24286CBDCCFC0A013FF769 Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 01 Sep-22 09:19 (p 1 of 1)
 Test Code/ID: VCF0822.055urc / 17-0201-0706

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 15-4382-6948	Test Type: Fertilization	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 09 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 16-4156-2106	Code: VCF0822.055urc	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Parameter Acceptability Criteria

Parameter	TAC Limits				Overlap	Decision
	Min	Max	Lower	Upper		
Salinity	34	34	32	36	Yes	Passes Criteria
Temperature	15.8	15.8	11	13	Yes	Above Criteria

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
6.25		2	7.6	7.594	7.606	7.6	7.6	0	0	0.00%	0
12.5		2	7.3	7.283	7.317	7.3	7.3	0	0	0.00%	0
25		2	7.4	7.389	7.411	7.4	7.4	0	0	0.00%	0
50		2	7.2	7.188	7.212	7.2	7.2	0	0	0.00%	0
100		2	6	6	6	6	6	0	0	0.00%	0
Overall		12	7.233	6.838	7.629	6	7.9	0.1798	0.6228	8.61%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	8	8	8	8	8	0	0	0.00%	0
6.25		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
12.5		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
25		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
50		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
100		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
Overall		12	8.117	8.071	8.162	8	8.2	0.02072	0.07177	0.88%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
6.25		2	34	34	34	34	34	0	0	0.00%	0
12.5		2	34	34	34	34	34	0	0	0.00%	0
25		2	34	34	34	34	34	0	0	0.00%	0
50		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
Overall		12	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
6.25		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
12.5		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
25		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
50		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
100		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
Overall		12	15.8	15.8	15.8	15.8	15.8	0	0	0.00%	0 (0%)



September 8, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/R-95/136*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

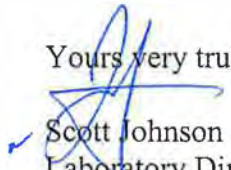
CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	8/8/2022
ABC LAB. NO.:	VCF0822.055

CHRONIC KELP GERMINATION AND GROWTH BIOASSAY

GERMINATION	NOEC =	100.00 %
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

TUBE LENGTH	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 01 Sep-22 09:53 (p 1 of 2)

Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocyctis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 10-3481-6208	Test Type: Growth-Germination	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 11 Aug-22 15:03	Species: Macrocyctis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 13-6101-5828	Code: VCF0822.055klp	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
12-1544-4859	Germination Rate	Dunnett Multiple Comparison Test	100	>100	---	2.91%	1	1
15-5568-4425	Mean Length	Dunnett Multiple Comparison Test	100	>100	---	1.14%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
06-8925-3503	Germination Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
05-0824-4118	Mean Length	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
06-8925-3503	Germination Rate	Control Resp	0.91	0.7	<<	Yes	Passes Criteria
12-1544-4859	Germination Rate	Control Resp	0.91	0.7	<<	Yes	Passes Criteria
05-0824-4118	Mean Length	Control Resp	13.18	10	<<	Yes	Passes Criteria
15-5568-4425	Mean Length	Control Resp	13.18	10	<<	Yes	Passes Criteria
12-1544-4859	Germination Rate	PMSD	0.02906	<<	0.2	No	Passes Criteria
15-5568-4425	Mean Length	PMSD	0.01143	<<	0.2	No	Passes Criteria

Germination Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	0.9100	0.8948	0.9252	0.9000	0.9300	0.0055	0.0123	1.35%	0.00%
6.25		5	0.9360	0.9103	0.9617	0.9100	0.9600	0.0093	0.0207	2.22%	-2.86%
12.5		5	0.9280	0.9118	0.9442	0.9100	0.9400	0.0058	0.0130	1.41%	-1.98%
25		5	0.9140	0.9029	0.9251	0.9100	0.9300	0.0040	0.0089	0.98%	-0.44%
50		5	0.9220	0.8966	0.9474	0.9000	0.9400	0.0092	0.0205	2.22%	-1.32%
100		5	0.9160	0.8993	0.9327	0.9000	0.9300	0.0060	0.0134	1.46%	-0.66%

Mean Length Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	13.18	13.02	13.34	13	13.3	0.05831	0.1304	0.99%	0.00%
6.25		5	13.14	13.03	13.25	13	13.2	0.04	0.08944	0.68%	0.30%
12.5		5	13.12	13.02	13.22	13	13.2	0.03742	0.08367	0.64%	0.46%
25		5	13.08	12.92	13.24	12.9	13.2	0.05831	0.1304	1.00%	0.76%
50		5	13.18	13.08	13.28	13.1	13.3	0.03742	0.08367	0.63%	0.00%
100		5	13.2	13.11	13.29	13.1	13.3	0.03162	0.07071	0.54%	-0.15%

Handwritten signature and "PASS" stamp

CETIS Summary Report

Report Date: 01 Sep-22 09:53 (p 2 of 2)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Germination Rate Detail

MD5: BE4EBFF63E658B0CB05AC39AB5A9885A

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9100	0.9000	0.9300	0.9100	0.9000
6.25		0.9100	0.9400	0.9600	0.9500	0.9200
12.5		0.9100	0.9400	0.9200	0.9400	0.9300
25		0.9300	0.9100	0.9100	0.9100	0.9100
50		0.9000	0.9000	0.9400	0.9300	0.9400
100		0.9300	0.9000	0.9100	0.9300	0.9100

Mean Length Detail

MD5: 602024769511D664F6EA5DE78AD62DC9

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13	13.2	13.1	13.3	13.3
6.25		13	13.2	13.2	13.1	13.2
12.5		13.1	13	13.2	13.1	13.2
25		13	13.2	13.2	13.1	12.9
50		13.1	13.3	13.1	13.2	13.2
100		13.2	13.2	13.2	13.1	13.3

Germination Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	91/100	90/100	93/100	91/100	90/100
6.25		91/100	94/100	96/100	95/100	92/100
12.5		91/100	94/100	92/100	94/100	93/100
25		93/100	91/100	91/100	91/100	91/100
50		90/100	90/100	94/100	93/100	94/100
100		93/100	90/100	91/100	93/100	91/100

CETIS Analytical Report

Report Date: 01 Sep-22 09:53 (p 1 of 3)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-1544-4859	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:52	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 01 Sep-22 9:46	MD5 Hash: BE4EBFF63E658B0CB05AC39AB5A9885	Editor ID: 008-463-000-3
Batch ID: 10-3481-6208	Test Type: Growth-Germination	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 11 Aug-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 13-6101-5828	Code: VCF0822.055klp	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.02644	2.91%

Dunnnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	-2.73	2.362	0.0441	CDF	0.9999	Non-Significant Effect
		12.5	8	-1.783	2.362	0.0441	CDF	0.9985	Non-Significant Effect
		25	8	-0.3654	2.362	0.0441	CDF	0.9190	Non-Significant Effect
		50	8	-1.226	2.362	0.0441	CDF	0.9913	Non-Significant Effect
		100	8	-0.5783	2.362	0.0441	CDF	0.9502	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.91	0.7	<<	Yes	Passes Criteria
PMSD	0.02906	<<	0.2	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0089953	0.0017991	5	2.064	0.1054	Non-Significant Effect
Error	0.0209194	0.0008716	24			
Total	0.0299147		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.481	15.09	0.4825	Equal Variances
	Levene Equality of Variance Test	2.493	3.895	0.0593	Equal Variances
	Mod Levene Equality of Variance Test	2.203	4.248	0.0991	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4491	3.878	0.2817	Normal Distribution
	D'Agostino Kurtosis Test	1.311	2.576	0.1897	Normal Distribution
	D'Agostino Skewness Test	0.07793	2.576	0.9379	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.726	9.21	0.4220	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1411	0.1853	0.1292	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9666	0.9031	0.4498	Normal Distribution

Germination Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9100	0.8948	0.9252	0.9100	0.9000	0.9300	0.0055	1.35%	0.00%
6.25		5	0.9360	0.9103	0.9617	0.9400	0.9100	0.9600	0.0093	2.22%	-2.86%
12.5		5	0.9280	0.9118	0.9442	0.9300	0.9100	0.9400	0.0058	1.40%	-1.98%
25		5	0.9140	0.9029	0.9251	0.9100	0.9100	0.9300	0.0040	0.98%	-0.44%
50		5	0.9220	0.8966	0.9474	0.9300	0.9000	0.9400	0.0092	2.22%	-1.32%
100		5	0.9160	0.8993	0.9327	0.9100	0.9000	0.9300	0.0060	1.46%	-0.66%

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-1544-4859 Endpoint: Germination Rate CETIS Version: CETISv2.1.2
 Analyzed: 01 Sep-22 9:52 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 01 Sep-22 9:46 MD5 Hash: BE4EBFF63E658B0CB05AC39AB5A9885 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.2670	1.2390	1.2940	1.2660	1.2490	1.3030	0.0099	1.74%	0.00%
6.25		5	1.3180	1.2650	1.3710	1.3230	1.2660	1.3690	0.0191	3.23%	-4.02%
12.5		5	1.3000	1.2690	1.3310	1.3030	1.2660	1.3230	0.0112	1.92%	-2.63%
25		5	1.2730	1.2530	1.2940	1.2660	1.2660	1.3030	0.0074	1.30%	-0.54%
50		5	1.2900	1.2430	1.3370	1.3030	1.2490	1.3230	0.0170	2.94%	-1.81%
100		5	1.2770	1.2470	1.3080	1.2660	1.2490	1.3030	0.0109	1.91%	-0.85%

Germination Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9100	0.9000	0.9300	0.9100	0.9000
6.25		0.9100	0.9400	0.9600	0.9500	0.9200
12.5		0.9100	0.9400	0.9200	0.9400	0.9300
25		0.9300	0.9100	0.9100	0.9100	0.9100
50		0.9000	0.9000	0.9400	0.9300	0.9400
100		0.9300	0.9000	0.9100	0.9300	0.9100

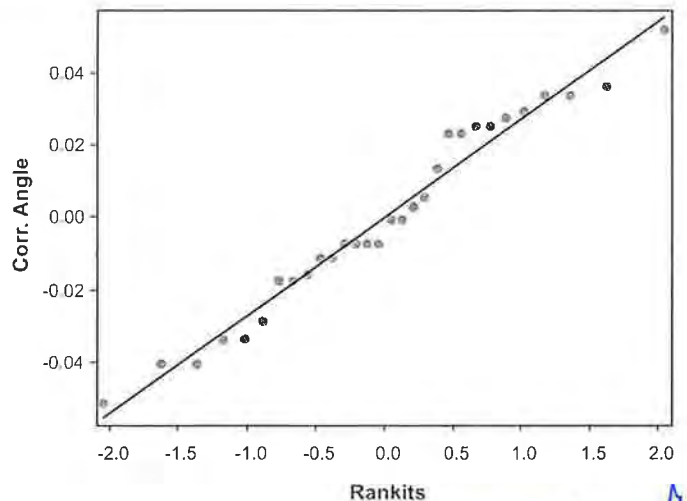
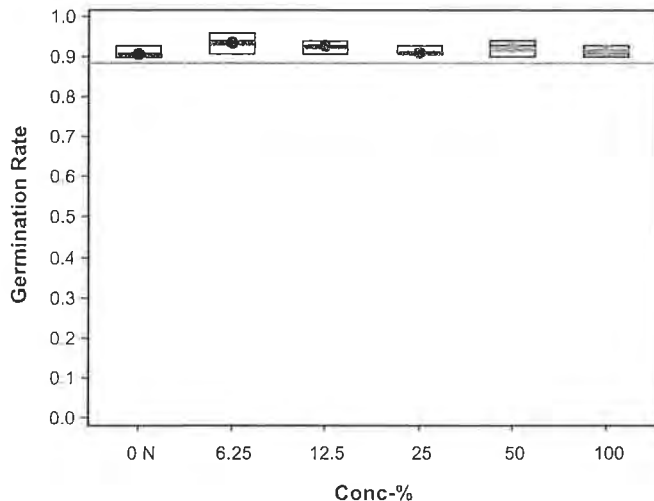
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.2660	1.2490	1.3030	1.2660	1.2490
6.25		1.2660	1.3230	1.3690	1.3450	1.2840
12.5		1.2660	1.3230	1.2840	1.3230	1.3030
25		1.3030	1.2660	1.2660	1.2660	1.2660
50		1.2490	1.2490	1.3230	1.3030	1.3230
100		1.3030	1.2490	1.2660	1.3030	1.2660

Germination Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	91/100	90/100	93/100	91/100	90/100
6.25		91/100	94/100	96/100	95/100	92/100
12.5		91/100	94/100	92/100	94/100	93/100
25		93/100	91/100	91/100	91/100	91/100
50		90/100	90/100	94/100	93/100	94/100
100		93/100	90/100	91/100	93/100	91/100

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:53 (p 3 of 3)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	15-5568-4425	Endpoint:	Mean Length	CETIS Version:	CETISv2.1.2		
Analyzed:	01 Sep-22 9:52	Analysis:	Parametric-Control vs Treatments	Status Level:	1		
Edit Date:	01 Sep-22 9:46	MD5 Hash:	602024769511D664F6EA5DE78AD62DC9	Editor ID:	008-463-000-3		
Batch ID:	10-3481-6208	Test Type:	Growth-Germination	Analyst:			
Start Date:	09 Aug-22 15:03	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Seawater		
Ending Date:	11 Aug-22 15:03	Species:	Macrocystis pyrifera	Brine:	Not Applicable		
Test Length:	48h	Taxon:	Ochrophyta	Source:	Ventura Dive	Age:	
Sample ID:	13-6101-5828	Code:	VCF0822.055klp	Project:			
Sample Date:	08 Aug-22 08:00	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	08 Aug-22 10:05	CAS (PC):		Station:	ME-SCR		
Sample Age:	31h (11.8 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.1506	1.14%

Dunnett Multiple Comparison Test									
Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	0.6273	2.362	0.1506	CDF	0.5902	Non-Significant Effect
		12.5	8	0.9409	2.362	0.1506	CDF	0.4465	Non-Significant Effect
		25	8	1.568	2.362	0.1506	CDF	0.2026	Non-Significant Effect
		50	8	0	2.362	0.1506	CDF	0.8333	Non-Significant Effect
		100	8	-0.3136	2.362	0.1506	CDF	0.9095	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.18	10	<<	Yes	Passes Criteria
PMSD	0.01143	<<	0.2	No	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	0.0510001	0.0102	5	1.003	0.4371	Non-Significant Effect	
Error	0.244	0.0101667	24				
Total	0.295		29				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	2.434	15.09	0.7865	Equal Variances	
	Levene Equality of Variance Test	1.243	3.895	0.3203	Equal Variances	
	Mod Levene Equality of Variance Test	1	4.248	0.4457	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.561	3.878	0.1506	Normal Distribution	
	D'Agostino Kurtosis Test	1.187	2.576	0.2352	Normal Distribution	
	D'Agostino Skewness Test	0.9269	2.576	0.3540	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	2.269	9.21	0.3217	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1101	0.1853	0.4548	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9376	0.9031	0.0786	Normal Distribution	

Mean Length Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	13.18	13.02	13.34	13.2	13	13.3	0.05831	0.99%	0.00%
6.25		5	13.14	13.03	13.25	13.2	13	13.2	0.03999	0.68%	0.30%
12.5		5	13.12	13.02	13.22	13.1	13	13.2	0.03742	0.64%	0.46%
25		5	13.08	12.92	13.24	13.1	12.9	13.2	0.05831	1.00%	0.76%
50		5	13.18	13.08	13.28	13.2	13.1	13.3	0.03741	0.63%	0.00%
100		5	13.2	13.11	13.29	13.2	13.1	13.3	0.03161	0.54%	-0.15%

Macrocystis Germination and Germ Tube Growth Test

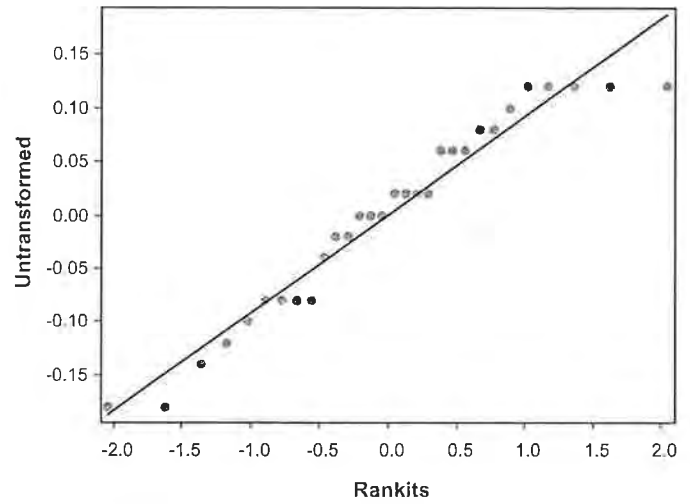
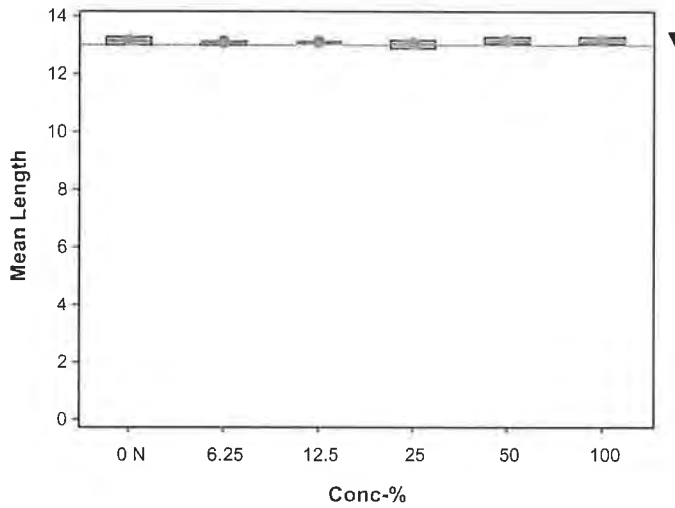
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-5568-4425 Endpoint: Mean Length CETIS Version: CETISv2.1.2
 Analyzed: 01 Sep-22 9:52 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 01 Sep-22 9:46 MD5 Hash: 602024769511D664F6EA5DE78AD62DC9 Editor ID: 008-463-000-3

Mean Length Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13	13.2	13.1	13.3	13.3
6.25		13	13.2	13.2	13.1	13.2
12.5		13.1	13	13.2	13.1	13.2
25		13	13.2	13.2	13.1	12.9
50		13.1	13.3	13.1	13.2	13.2
100		13.2	13.2	13.2	13.1	13.3

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:53 (p 1 of 4)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 06-8925-3503	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2			
Analyzed: 01 Sep-22 9:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 01 Sep-22 9:46	MD5 Hash: BE4EBFF63E658B0CB05AC39AB5A9885	Editor ID: 008-463-000-3			
Batch ID: 10-3481-6208	Test Type: Growth-Germination	Analyst:			
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 11 Aug-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive			
Sample ID: 13-6101-5828	Code: VCF0822.055klp	Project:			
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR			
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri				

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

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.91	0.7	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

Germination Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	5	0.9100	0.9100	0.9000	0.9300	1.35%	0.00%	455/500	0.9247	0.00%
6.25		5	0.9360	0.9400	0.9100	0.9600	2.22%	-2.86%	468/500	0.9247	0.00%
12.5		5	0.9280	0.9300	0.9100	0.9400	1.40%	-1.98%	464/500	0.9247	0.00%
25		5	0.9140	0.9100	0.9100	0.9300	0.98%	-0.44%	457/500	0.9180	0.72%
50		5	0.9220	0.9300	0.9000	0.9400	2.22%	-1.32%	461/500	0.9180	0.72%
100		5	0.9160	0.9100	0.9000	0.9300	1.46%	-0.66%	458/500	0.9160	0.94%

Germination Rate Detail						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9100	0.9000	0.9300	0.9100	0.9000
6.25		0.9100	0.9400	0.9600	0.9500	0.9200
12.5		0.9100	0.9400	0.9200	0.9400	0.9300
25		0.9300	0.9100	0.9100	0.9100	0.9100
50		0.9000	0.9000	0.9400	0.9300	0.9400
100		0.9300	0.9000	0.9100	0.9300	0.9100

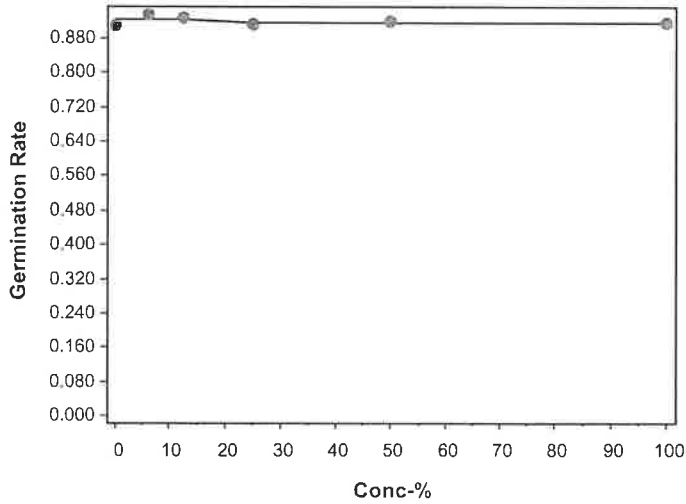
Germination Rate Binomials						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	91/100	90/100	93/100	91/100	90/100
6.25		91/100	94/100	96/100	95/100	92/100
12.5		91/100	94/100	92/100	94/100	93/100
25		93/100	91/100	91/100	91/100	91/100
50		90/100	90/100	94/100	93/100	94/100
100		93/100	90/100	91/100	93/100	91/100

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-8925-3503	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 01 Sep-22 9:46	MD5 Hash: BE4EBFF63E658B0CB05AC39AB5A9885	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 01 Sep-22 09:53 (p 3 of 4)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 05-0824-4118	Endpoint: Mean Length	CETIS Version: CETISv2.1.2			
Analyzed: 01 Sep-22 9:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 01 Sep-22 9:46	MD5 Hash: 602024769511D664F6EA5DE78AD62DC9	Editor ID: 008-463-000-3			
Batch ID: 10-3481-6208	Test Type: Growth-Germination	Analyst:			
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 11 Aug-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:			
Sample ID: 13-6101-5828	Code: VCF0822.055klp	Project:			
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR			
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	687392	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	13.18	10	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Length Summary			Calculated Variate						Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	5	13.18	13.2	13	13.3	0.99%	0.00%	13.18	0.00%
6.25		5	13.14	13.2	13	13.2	0.68%	0.30%	13.14	0.30%
12.5		5	13.12	13.1	13	13.2	0.64%	0.46%	13.14	0.30%
25		5	13.08	13.1	12.9	13.2	1.00%	0.76%	13.14	0.30%
50		5	13.18	13.2	13.1	13.3	0.63%	0.00%	13.14	0.30%
100		5	13.2	13.2	13.1	13.3	0.54%	-0.15%	13.14	0.30%

Mean Length Detail						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13	13.2	13.1	13.3	13.3
6.25		13	13.2	13.2	13.1	13.2
12.5		13.1	13	13.2	13.1	13.2
25		13	13.2	13.2	13.1	12.9
50		13.1	13.3	13.1	13.2	13.2
100		13.2	13.2	13.2	13.1	13.3

CETIS Analytical Report

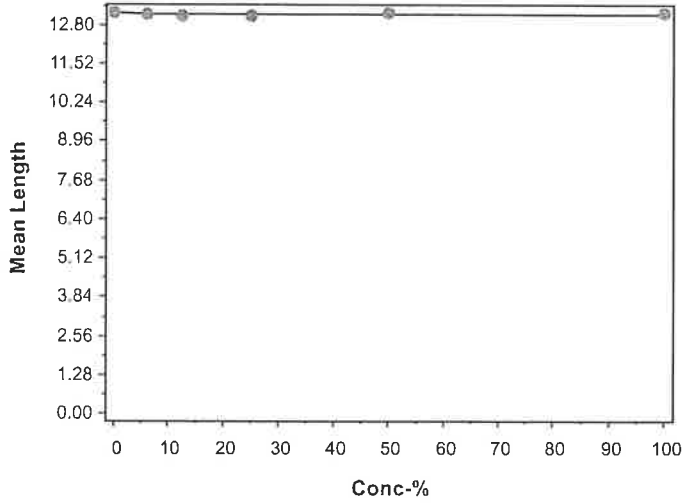
Report Date: 01 Sep-22 09:53 (p 4 of 4)
Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-0824-4118	Endpoint: Mean Length	CETIS Version: CETISv2.1.2
Analyzed: 01 Sep-22 9:52	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 01 Sep-22 9:46	MD5 Hash: 602024769511D664F6EA5DE78AD62DC9	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 01 Sep-22 09:53 (p 1 of 1)
 Test Code/ID: VCF0822.055klp / 06-3562-6025

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 10-3481-6208	Test Type: Growth-Germination	Analyst:
Start Date: 09 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 11 Aug-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 13-6101-5828	Code: VCF0822.055klp	Project:
Sample Date: 08 Aug-22 08:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 08 Aug-22 10:05	CAS (PC):	Station: ME-SCR
Sample Age: 31h (11.8 °C)	Client: Ventura County Watershed Protection Distri	

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
6.25		2	7.6	7.594	7.606	7.6	7.6	0	0	0.00%	0
12.5		2	7.15	5.244	9.056	7	7.3	0.1061	0.2121	2.97%	0
25		2	7.4	7.389	7.411	7.4	7.4	0	0	0.00%	0
50		2	7.2	7.188	7.212	7.2	7.2	0	0	0.00%	0
100		2	6	6	6	6	6	0	0	0.00%	0
Overall		12	7.208	6.811	7.606	6	7.9	0.1807	0.6259	8.68%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	8	8	8	8	8	0	0	0.00%	0
6.25		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
12.5		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
25		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
50		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
100		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
Overall		12	8.117	8.071	8.162	8	8.2	0.02072	0.07177	0.88%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
6.25		2	34	34	34	34	34	0	0	0.00%	0
12.5		2	34	34	34	34	34	0	0	0.00%	0
25		2	34	34	34	34	34	0	0	0.00%	0
50		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
Overall		12	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
6.25		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
12.5		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
25		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
50		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
100		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
Overall		12	15.8	15.8	15.8	15.8	15.8	0	0	0.00%	0 (0%)

Toxicity Test Data Sheet

VCF copy

DATE		CLIENT	CONC (%)	TEMP (Deg. C)		pH		D.O.		SALINITY (ppt)		
Initial	Final			UF	VM	UF	VM	UF	VM	UF	VM	
8.09.22	8.09.22	STD TOX	CON	15.8	15.8	8.0	8.0	7.9	7.9	34	34	
1500	1540	Kelp & UF	5.6	15.8	15.8	8.0	8.0	7.8	7.8	34	34	
			10	15.8	15.8	7.9	7.9	7.8	7.8	34	34	
	8.11.22	K	18	15.8	15.8	7.9	7.9	7.6	7.6	34	34	
	1500	VM	32	15.8	15.8	7.8	7.8	7.6	7.6	34	34	
			56	15.8	15.8	7.9	7.9	7.5	7.5	34	34	
			100	15.8	15.8	8.0	8.0	7.6	7.6	34	34	
			180	15.8	15.8	7.9	7.9	7.7	7.7	34	34	
			320	15.8	15.8	7.9	7.9	7.7	7.7	34	34	
			(.02) (VM)									
8.09.22	8.09.22	VCF	RW	15.8	15.8	8.0	8.0	7.9	7.9	34	34	
1503	1543	KLP & UF	6.25	15.8	15.8	8.1	8.1	7.6	7.6	34	34	
			12.5	15.8	15.8	8.1	8.1	7.3	7.3	34	34	
	8.11.22	K	(.055)	25	15.8	15.8	8.1	8.1	7.4	7.4	34	34
	1503	VM	50	15.8	15.8	8.2	8.2	7.2	7.2	34	34	
			100	15.8	15.8	8.2	8.2	6.0	6.0	34	34	
8.09.22	8.09.22	CSD	RW	15.8	15.8	8.1	8.1	7.8	7.8	34	34	
1506	1546	UF	.56	15.8	15.8	8.2	8.2	8.0	8.0	34	34	
		(.065)	1.0	15.8	15.8	8.2	8.2	8.0	8.0	34	34	
			1.8	15.8	15.8	8.0	8.0	7.8	7.8	34	34	
			3.2	15.8	15.8	8.0	8.0	7.7	7.7	34	34	
			5.6	15.8	15.8	8.0	8.0	7.9	7.9	34	34	
8.09.22	8.09.22	CMW	CON	15.8	15.8	8.0	8.0	7.9	7.9	34	34	
1509	1549	UF TST	1.37	15.8	15.8	8.1	8.1	7.9	7.9	34	34	
		(.066)										

LIGHT INTENSITIES BY QUADRANT					
START	276	LEFT REAR	265	FINISH	
START		RIGHT REAR	269	FINISH	291
START	293	LEFT FRONT	286	FINISH	
START		RIGHT FRONT	277	FINISH	286

PURPLE URCHIN FERTILIZATION TEST DATA SHEET

Test Start Date: 8/9/22 1500
 Test End Date: 8/9/22 1540
 Microscope: 1
 Urchin Source: Ventura Drw
 Analyst: JF

Company: STANDARD TOX.
 Sample Rec'd: 8/9
 Lab No.: NA
 Sample I.D.: URUF080922
 Dilution Water: con 34ppt

NOEC: _____

Test Cont. No.	Nominal Conc.	Number of FERTILIZED Larvae	Number of UNFERTILIZED Larvae	Proportion of Normal Larvae
1	32	77	23	
2	CON	91	9	
3	56	26	74	
4	32	79	21	
5	100	3	97	
6	56	29	71	
7	CON	93	7	
8	100	8	92	
9	CON	96	4	
10	100	3	97	
11	CON	94	6	
12	18	96	4	
13	18	98	2	
14	18	97	3	
15	32	79	21	
16	18	96	4	
17	56	26	74	
18	180	0	100	
19	180	0	100	
20	32	77	23	
21	100	3	97	
22	180	0	100	
23	180	0	100	
24	56	21	79	

PURPLE URCHIN FERTILIZATION TEST DATA SHEET

Test Start Date: 8/12/22 1503
 Test End Date: 8/12/22 1543
 Microscope: 1
 Urchin Source: Urchin Proc
 Analyst: [Signature]

Company: VCF
 Sample Rec'd: 8/12
 Lab No.: nt
 Sample I.D.: VCF0822_055
 Dilution Water: con 34ppt

NOEC: _____

Test Cont. No.	Nominal Conc.	Number of FERTILIZED Larvae	Number of UNFERTILIZED Larvae	Proportion of Normal Larvae
1	12.5	91	9	
2	CON	93	7	
3	25	95	5	
4	12.5	97	3	
5	50	96	4	
6	25	94	6	
7	CON	93	7	
8	50	95	5	
9	CON	93	7	
10	50	97	3	
11	CON	96	4	
12	6.25	94	6	
13	6.25	95	5	
14	6.25	93	7	
15	12.5	96	4	
16	6.25	95	5	
17	25	93	7	
18	100	96	4	
19	100	95	5	
20	12.5	93	7	
21	50	95	5	
22	100	97	3	
23	100	96	4	
24	25	96	4	

MACROCYSTIS TOXICITY TEST DATA SHEET

Test Start Date: 8/9/22 1500
 Test End Date: 8/11/22 1500
 Microscope: 1
 Micrometer Conversion Factor: 100
 Kelp Source: Verdeh W. Inc
 Date Collected: 8/9
 Analyst: [Signature]

Company: STANDARD TOX
 Sample Rec'd: 819
 Lab No.: NA
 Sample I.D.: KCP 380922
 Dilution Water: Can 3 Aprt

NOEC TUBE LENGTH: _____
 NOEC GERMINATION: _____

Test Cont. #	Nom. Conc. %	Spores Germ. #	Not Germ. #	Prop. Germ.	Length Measurements											Mean Length (um)
					Ocular Scale Units											
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	X	
1	32	91	9		14	13	13	12	13	14	14	13	13	14		13.3
2	10	90	10		12	14	13	14	12	14	13	13	14	13		13.2
3	CON	93	7		13	14	15	12	14	13	13	14	13	12		13.1
4	100	71	29		10	10	11	10	11	10	11	10	10	11		10.4
5	10	91	9		14	13	13	12	14	13	12	14	13	14		13.2
6	5.6	94	6		13	13	14	13	12	14	13	13	12	14		13.1
7	10	91	9		14	13	13	12	14	13	12	14	13	13		13.1
8	100	68	32		10	10	11	12	10	10	11	11	10	10		10.5
9	18	93	7		13	14	13	12	14	13	12	14	13	12		13.1
10	10	90	10		14	13	12	14	13	12	14	13	14	13		13.2
11	18	91	9		13	13	12	14	13	12	14	13	13	14		13.1
12	CON	90	10		14	13	12	14	13	12	14	13	13	12		13.0
13	10	91	9		14	13	12	14	13	12	14	13	14	13		13.2
14	18	90	10		13	12	14	13	12	14	13	12	14	13		13.0
15	CON	91	9		13	13	14	13	12	14	13	13	12	13		13.0
16	18	93	7		13	12	14	13	12	12	14	12	14	13		13.1
17	32	91	9		14	12	14	12	12	14	13	12	14	13		13.1
18	32	91	9		13	14	13	12	14	13	12	14	13	13		13.1
19	CON	90	10		13	13	13	12	14	13	12	12	14	13		12.9
20	32	94	6		12	13	13	14	13	12	14	13	13	12		12.9
21	100	66	34		10	9	10	10	11	11	10	10	11	11		10.3
22	5.6	91	9		14	13	12	14	13	12	14	14	13	13		13.2
23	CON	93	7		13	14	13	12	14	13	13	12	14	13		13.1
24	100	67	33		11	12	12	10	10	11	10	10	9	10		10.5
25	5.6	91	9		14	13	12	14	13	12	14	13	13	14		13.2
26	18	93	7		13	13	12	14	13	13	13	14	13	12		13.0
27	5.6	91	9		14	13	13	12	14	13	12	14	13	13		13.1
28	5.6	90	10		13	12	14	13	12	14	13	13	12	14		13.0
29	100	70	30		10	10	11	11	10	9	10	11	11	10		10.3
30	32	94	6		14	13	12	14	13	13	12	14	14	13		13.2
31	180	17	83		6	5	6	4	4	5	3	5	6	4		4.8
32	180	13	87		4	6	5	4	3	3	5	3	4	4		4.1
33	180	11	89		6	4	3	5	6	4	5	4	3	4		4.4
34	180	16	84		6	5	3	4	4	5	3	6	4	5		4.4
35	180	18	82		4	6	3	4	3	4	4	5	6	4		4.3
36	320	0	100		—————											
37	320	0	100		—————											
38	320	0	100		—————											
39	320	0	100		—————											

MACROCYSTIS TOXICITY TEST DATA SHEET

Test Start Date: 8/9/22 1503
 Test End Date: 8/11/22 1503
 Microscope: 1
 Micrometer Conversion Factor: NA
 Kelp Source: Vista New
 Date Collected: 8/9
 Analyst: [Signature]

Company: VCF
 Sample Rec'd: 8/9
 Lab No.: M
 Sample I.D.: VCF0822.055
 Dilution Water: CON 34ppM
 NOEC TUBE LENGTH: _____
 NOEC GERMINATION: _____

Test Cont. #	Nom. Conc. %	Spores Germ. #	Not Germ. #	Prop. Germ.	Length Measurements											Mean Length (um)
					Ocular Scale Units											
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	X	
1	50	90	10		14	13	12	12	14	13	12	14	14	13		13.1
2	12.5	91	9		13	13	14	12	14	13	13	12	14	13		13.1
3	CON	91	9		13	14	13	12	14	13	13	12	14			13.0
4	100	93	7		14	13	13	12	14	13	12	14	14	13		13.1
5	12.5	94	6		13	12	14	14	13	12	14	13	13	12		13.1
6	6.25	91	9		13	13	12	14	13	12	14	13	13	13		13.1
7	12.5	92	8		14	13	12	14	13	12	14	13	14	13		13.2
8	100	90	10		13	13	14	13	14	13	12	14	13	13		13.2
9	25	93	7		14	13	12	14	13	13	12	14	13	12		13.0
10	12.5	94	6		14	14	13	12	14	13	12	14	13	12		13.1
11	25	91	9		14	13	12	14	13	12	14	13	13	14		13.2
12	CON	90	10		13	12	14	13	14	13	12	14	13	14		13.2
13	12.5	93	7		14	13	12	14	13	12	14	14	13	13		13.2
14	25	91	9		13	14	13	12	14	13	12	14	14	13		13.2
15	CON	93	7		14	13	12	14	13	13	12	12	14	14		13.1
16	25	91	9		13	13	14	13	12	14	13	12	14	13		13.1
17	50	90	10		13	14	14	12	14	14	13	12	14	13		13.3
18	50	94	6		14	13	12	14	13	13	12	14	13	13		13.1
19	CON	91	9		13	14	14	12	12	14	13	12	14	14		13.3
20	50	93	7		14	13	12	14	13	12	14	14	13	13		13.1
21	100	91	9		14	13	12	14	13	13	12	14	14	13		13.2
22	6.25	94	6		13	13	14	13	12	14	14	13	13	13		13.2
23	CON	90	10		14	14	13	12	14	13	12	14	14	13		13.3
24	100	93	7		12	14	14	13	12	14	13	13	12	14		13.1
25	6.25	96	4		14	13	12	14	13	13	12	14	13	14		13.2
26	25	91	9		12	12	14	13	12	14	13	13	12	14		12.9
27	6.25	95	5		14	13	12	14	13	13	12	14	13	13		13.1
28	6.25	92	8		13	13	14	13	12	14	13	12	14	13		13.1
29	100	91	9		13	14	14	13	12	14	13	12	14	14		13.3
30	50	94	6		14	13	12	14	14	13	13	12	14	13		13.2

CHEMICAL ANALYSIS DATA SHEET- VCF 1

Start Date: 8/10/2022 1215

Lab#: VCFO822.053

End Date: 8/17/2022 1339

Date Rec'd: 8-8-22

YSI Used: B

Renewal Sample Used: B B B B B B B

DAY	8/10	8/11	1	8/12	2	8/13	3	8/14	4	8/15	5	8/16	6	8/17
Initials	TD	1138 M		TB	1053	TB	0814	TB	0904	1130 M		TB	0914	TB

DISSOLVED OXYGEN mg/L

CONTROL	7.3	7.1	7.1	7.0	7.4	7.0	7.6	7.0	7.4	7.3	7.0	7.6	7.2	7.1	7.7	7.3	7.0	7.7	7.1
6.25	7.5	7.0	7.1	7.7	7.0	7.4	7.1	7.0	7.3	7.2	7.0	7.6	7.1	7.1	7.7	7.3	7.0	7.7	7.0
12.5	7.5	7.0	7.1	7.6	7.0	7.4	7.1	7.0	7.3	7.2	7.0	7.6	7.1	7.1	7.7	7.3	7.0	7.6	6.9
25	7.4	7.0	7.1	7.5	7.1	7.0	7.3	7.1	7.0	7.2	7.1	7.0	7.6	7.1	7.7	7.4	7.0	7.7	6.8
50	7.3	7.0	7.1	7.4	7.1	7.0	7.3	7.1	7.0	7.2	7.1	7.0	7.6	7.1	7.7	7.4	7.0	7.5	6.7
100	7.2	7.0	7.1	7.4	7.1	7.0	7.3	7.1	7.0	7.2	7.1	7.0	7.6	7.1	7.7	7.4	7.0	7.6	6.7

TEMPERATURE °C

CONTROL	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.25	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.1	24.0
12.5	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.1	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.1	24.0
50	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.1	24.0
100	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.1	24.0	24.0	24.1	24.0

pH

CONTROL	7.9	8.0	8.0	7.9	8.0	7.8	8.0	8.0	7.8	8.0	7.9	7.8	8.0	8.0	8.0	8.0	8.0	8.1	8.1
6.25	7.7	8.0	8.0	7.8	7.9	7.7	8.0	8.0	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.8	8.0	8.1
12.5	7.7	7.8	7.8	7.8	7.9	7.7	8.0	8.0	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.8	8.0	8.1
25	7.7	7.8	7.8	7.8	7.9	7.7	8.0	8.0	7.7	8.0	7.8	7.7	8.0	8.0	8.0	7.9	7.8	8.0	8.1
50	7.7	7.7	7.7	7.7	7.9	7.7	8.0	8.0	7.7	8.0	7.8	7.7	8.0	8.0	8.0	7.9	7.7	8.0	8.1
100	7.7	7.7	7.7	7.7	7.9	7.7	8.0	8.0	7.7	8.0	7.8	7.7	8.0	8.0	8.0	7.9	7.7	7.8	8.1

CONDUCTIVITY umohs

CONTROL	364	368		369	367		370		370		374		380
6.25	436	438		440	440		443		445		444		450
12.5	517	522		520	527		522		528		536		570
25	729	738		733	734		730		734		751		755
50	1079	1082		1083	1080		1083		1085		1086		1090
100	1860	1861		1862	1870		1864		1860		1857		1860

ALKALINITY

CONTROL	60			60			60		60		62		62
	WN			WN			WN		WN		WN		WN
	323			323			323		323		323		323

HARDNESS

CONTROL	95			95			95		95		96		96
	WN			WN			WN		WN		WN		WN
	440			440			440		440		440		440

Residual Chlorine 1st Sample 0.21 2nd Sample _____ 3rd Sample _____

Handwritten signature/initials

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1

Lab #: VCF 08 22. 053

Sample I.D.:

Date & Time Start: 8/10/22

Date & Time End: 8/17/22

Conc.	Rep.#	INITIAL	1 ¹⁰	2 ¹⁰	3 ¹⁰	4 ¹⁰	5 ¹⁰	6 ¹⁰	FINAL ¹⁰
CONTROL	1	15	15	15	15	15	15	15	10
	2	15	15	15	15	15	15	14	14
	3	10	15	15	15	15	15	15	15
	4	10	15	15	15	15	15	15	15
6.25%	1	10	15	15	15	15	15	15	15
	2	10	15	15	15	15	15	14	14
	3	10	15	15	15	15	15	15	15
	4	10	15	15	15	15	15	15	15
12.5%	1	10	15	15	15	15	15	15	15
	2	10	15	15	15	15	15	15	14
	3	10	15	15	15	15	15	15	14
	4	10	15	15	15	15	15	15	14
25%	1	10	15	15	15	15	15	15	15
	2	10	15	15	15	15	15	15	15
	3	10	15	15	15	15	15	15	15
	4	10	15	15	15	15	15	14	14
50%	1	10	15	15	15	15	15	15	15
	2	10	15	15	15	15	15	15	15
	3	10	15	15	15	15	15	15	15
	4	10	15	15	15	15	15	14	14
100%	1	10	15	15	15	15	15	15	15
	2	10	15	15	15	15	15	15	15
	3	10	15	15	15	15	15	15	15
	4	10	15	15	15	15	13	13	13

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
HB 1	CONTROL	1		1.14191	1.14702	.00511	
2		2		1.14284	1.14790	.00506	
3		3		1.15034	1.16142	.00508	
4		4		1.16467	1.16988	.00516	
HB 5	6.25%	1		1.17681	1.18212	.00531	
6		2		1.12952	1.13469	.00517	
7		3		1.13164	1.13670	.00506	
8		4		1.13350	1.13861	.00511	
HB 9	12.5%	1		1.12365	1.12890	.00525	
10		2		1.14519	1.15022	.00503	
11		3		1.12416	1.12930	.00514	
12		4		1.12462	1.12973	.00511	
HB 13	25%	1		1.14752	1.15269	.00517	
14		2		1.15930	1.16532	.00602	
15		3		1.14169	1.14677	.00508	
16		4		1.13412	1.13934	.00522	
HB 17	50%	1		1.12133	1.12657	.00524	
18		2		1.12311	1.12829	.00518	
19		3		1.13924	1.14454	.00533	
20		4		1.13294	1.13714	.00420	
HB 21	100%	1		1.12330	1.12847	.00517	
22		2		1.16884	1.17399	.00518	
23		3		1.15756	1.16294	.00538	
24		4		1.11813	1.12479	.00366	

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 1

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/10/22

Lab #: VCF 08.22.053

End Date: 8/17/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	TD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	TD	2	2	1	3	2	2	1	4	✓	2	
	5	TD	5	3	3	3	4	5	3	2	3	2	
	6	TD	6	4	6	7	3	6	6	7	5	6	
	7	TD	10	10	11	10	7	9	9	6	10	9	
	Total			23	19	21	23	26	23	19	19	18	19
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	3	2	1	1	3	2	✓	4	2	
	5	-	3	2	4	5	5	3	4	2	3	2	
	6	-	6	7	5	5	4	6	4	5	5	7	
	7	-	10	9	10	4	10	12	10	9	9	6	
	Total	-		21	21	21	15	21	24	20	21	21	19
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	1	3	2	3	2	2	1	1	
	5	-	5	3	2	4	4	4	5	6	3	4	
	6	-	6	6	4	7	5	5	6	4	9	6	
	7	-	7	7	9	8	12	10	18	9	13	10	
	Total	-		20	18	16	20	23	22	23	21	26	21
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	1	3	3	2	4	2	2	1	
	5	-	3	2	2	✓	3	2	4	2	2	4	
	6	-	5	6	6	3	7	4	7	7	5	6	
	7	-	10	9	9	13	10	12	18	13	12	18	
	Total	-		20	19	18	19	23	25	25	29	25	23
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	3	2	2	1	1	3	2	2	4	
	5	-	3	4	1	7	7	5	2	5	3	3	
	6	-	7	8	6	6	6	4	7	8	6	6	
	7	-	13	10	12	9	9	7	13	10	9	12	
	Total	-		29	25	24	21	23	17	30	25	20	25
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	3	3	2	1	✓	4	3	3	2	
	5	-	5	2	2	2	5	4	5	2	5	5	
	6	-	7	6	7	9	6	5	5	4	6	5	
	7	-	13	12	10	10	8	7	9	13	12	13	
	Total	-		27	28	22	28	20	16	29	27	26	25

Neonates Data (see back)

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QC: and

A79

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF | Lab #: VCF0822.053

Start date and time: 8/10/22/1500 Sample ID:

End date and time: 8/14/22/1430 Date Rec'd: 8-8-22

YSI Used: B B B B B

Day	0	1	2	3	4
Analyst	TB	W	TB	TB	TB
Time	1500	1500	11:19	1500	1430

Dissolved Oxygen

	0	1	2	3	4
Control	7.3	7.1	7.0	7.0	7.0
6.25%	7.5	7.1	7.4	7.1	7.0
12.5%	7.5	7.1	7.4	7.1	7.0
25%	7.4	7.1	7.3	7.1	7.0
50%	7.3	7.1	7.3	7.1	7.0
100%	7.3	7.1	7.3	7.1	7.0

Temperature

	0	1	2	3	4
Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

	0	1	2	3	4
Control	7.9	8.0	8.0	8.0	8.0
6.25%	7.7	8.0	8.0	8.0	8.0
12.5%	7.7	7.8	8.0	8.0	8.0
25%	7.7	7.8	8.0	8.0	8.0
50%	7.7	7.7	8.0	8.0	8.0
100%	7.7	7.7	8.0	8.0	8.0

Conductivity

	0	1	2	3	4
Control	3104		3109		370
6.25%	436		440		443
12.5%	517		512		522
25%	729		730		730
50%	1079		1082		1083
100%	1860		1861		1864

Alkalinity

	0	1	2	3	4
Control	W		W		W
	W	323	323		323

Hardness

	0	1	2	3	4
Control	95		95		95
	W	440	440		440

QC: EN PAS

Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 1

Lab #: VCF 0812.053

Sample ID: _____

Start Date: 8/10/22

End Date: 8/14/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	M	5	6	5	6
	1	M	5	6	5	6
	2	TB	5	5	5	5
	3	TB	5	5	5	5
	4	TB	5	5	5	5
6.25	0	-	5	6	5	6
	1	-	5	6	5	6
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
12.5	0	-	5	6	5	6
	1	-	5	6	5	6
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
25	0	-	5	6	5	6
	1	-	5	6	5	6
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
50	0	-	5	6	5	6
	1	-	5	6	5	6
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
100	0	-	5	6	5	6
	1	-	5	6	5	6
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5

QC: ent

Chiro

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF | Lab #: VCF 082.053

Start date and time: 8/10/22 1510 Sample ID:

End date and time: 8/14/22 1440 Date Rec'd: 8-8-22

YSI Used: B B B B B

Day	0	1	2	3	4
Analyst	TB	K	TB	TB	TB
Time	1510	1505	1400	1502	1440

Dissolved Oxygen

Control	7.3	7.1	7.0	7.1	7.0
6.25%	7.5	7.1	7.4	7.1	7.0
12.5%	7.5	7.1	7.4	7.1	7.0
25%	7.4	7.1	7.3	7.1	7.0
50%	7.3	7.1	7.3	7.1	7.0
100%	7.2	7.1	7.3	7.1	7.0

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	7.9	8.0	8.0	8.0	8.0
6.25%	7.7	8.0	8.0	8.0	8.0
12.5%	7.7	7.8	8.0	8.0	8.0
25%	7.7	7.8	8.0	8.0	8.0
50%	7.7	7.7	8.0	8.0	8.0
100%	7.7	7.7	8.0	8.0	8.0

Conductivity

	TB 3164	TB 3169		
Control	464	440		370
6.25%	436	440		443
12.5%	517	520		522
25%	729	733		730
50%	1079	1083		1083
100%	1860	1862		1864

Alkalinity

Control	60	60		60
WN	323	323		323

Hardness

Control	95	95		95
WN	440	440		440

QC: EM TASS

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 1

Lab #: _____

Sample ID: _____

Date Time & Start: 8/12/22 8/14/22

Conc.	Rep.#	INITIAL	1h	2h	3h	FINAL
CONTROL	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
6.25	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
12.5	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
25	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
50	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
100	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0

QC = 100%

CHEMICAL ANALYSIS DATA SHEET- VCF 2

Start Date: 8/10/2022 1220

Lab#: VCFO822.054

End Date: 8/17/2022 1347

Date Rec'd: 8-8-22

YSI Used: B
 Renewal Sample Used: B B B B B B B

DAY	8/10	8/11	1	8/12	2	8/13	3	8/14	4	8/15	5	8/16	6	8/17
Initials	TB	1149 M		TB	1113	TO	0829	TB	0922	1145 M		TO	0930	TB

DISSOLVED OXYGEN mg/L	
CONTROL	7.3 7.1 7.1 7.6 7.4 7.0 7.0 7.0 7.4 7.3 7.0 7.6 7.2 7.1 7.7 7.3 7.0 7.7 7.1
625	7.2 7.1 7.1 7.7 7.0 7.0 7.5 7.1 7.0 7.3 7.2 7.0 7.5 7.1 7.1 7.7 7.2 7.1 7.8 7.0
125	7.2 7.1 7.1 7.6 7.2 7.0 7.4 7.1 7.0 7.3 7.0 7.0 7.5 7.1 7.0 7.6 7.2 7.1 7.7 7.3
25	7.3 7.1 7.0 7.7 7.4 7.0 7.3 7.1 7.0 7.2 7.2 7.0 7.5 7.1 7.0 7.7 7.2 7.0 7.7 7.1
50	7.3 7.1 7.0 7.8 7.1 7.0 7.3 7.0 7.0 7.2 7.2 7.0 7.5 7.1 7.0 7.7 7.1 7.0 7.8 7.1
100	7.4 7.1 7.0 7.7 7.1 7.0 7.3 7.0 7.0 7.1 7.2 7.0 7.5 7.1 7.1 7.7 7.1 7.0 7.8 7.1

TEMPERATURE °C	
CONTROL	24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0
625	24.1 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0
125	24.1 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0
25	24.1 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0
50	24.1 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0
100	24.1 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0 24.0

pH	
CONTROL	7.9 8.0 8.0 7.9 8.0 7.8 8.0 8.0 7.8 8.0 7.9 7.8 8.0 8.0 8.0 8.0 8.0 8.0 8.1 8.1
625	8.0 8.0 8.0 7.8 7.9 7.7 8.0 8.0 7.8 8.0 7.9 7.7 8.0 8.0 8.0 8.0 7.9 7.7 8.0 8.0
125	8.0 8.0 8.0 7.9 7.8 7.7 8.0 8.0 7.8 8.0 7.9 7.7 8.0 8.0 8.0 8.0 7.9 7.7 8.0 8.0
25	7.9 8.0 8.0 7.9 7.8 7.7 8.0 8.0 7.8 8.0 7.9 7.7 8.0 7.9 8.0 8.0 7.9 7.7 8.0 8.0
50	7.9 7.9 8.0 8.0 7.8 7.7 8.0 8.0 7.8 8.0 7.9 7.7 8.0 7.9 8.0 8.0 7.9 7.7 8.0 7.9
100	7.9 7.9 8.0 7.9 7.8 7.7 8.0 8.0 7.8 8.0 7.9 7.7 8.0 7.9 8.0 8.0 7.9 7.7 7.8 7.9

CONDUCTIVITY umohs	
CONTROL	364 368 369 367 370 370 374 380
625	440 442 443 442 443 445 450 455
125	464 468 470 473 482 485 486 487
25	573 577 573 572 573 576 582 588
50	793 795 794 793 794 799 793 798
100	1216 1218 1219 1220 1219 1220 1222 1220

ALKALINITY	
CONTROL	60 60 60 60 60 60 62 62
	190 190 190 190 190 190 190 190

HARDNESS	
CONTROL	95 95 95 95 95 95 96 96
	435 435 435 435 435 435 435 435

Residual Chlorine 1st Sample 201 2nd Sample _____ 3rd Sample _____

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2

Lab #: VCF 08 22. 054

Sample I.D.:

Date & Time Start: 8/10/22

Date & Time End: 8/17/22

Conc.	Rep.#	INITIAL	1	2	3	4	5	6	FINAL
CONTROL	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
6.25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
12.5%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
50%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
100%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
HC 1	CONTROL	1		1.14656	1.15166	.00510	
2			1.14518	1.15027	.00514		
3			1.14766	1.15092	.003210		
4			1.13546	1.14052	.00506		
HC 5	6.25%	1		1.14496	1.15002	.00506	
6			1.14052	1.14569	.00517		
7			1.14040	1.14493	.00453		
8			1.13202	1.13728	.005210		
HC 9	12.5%	1		1.12939	1.13442	.00503	
10			1.14271	1.14799	.00528		
11			1.13124	1.13649	.00525		
12			1.11876	1.12302	.00486		
HC 13	25%	1		1.12019	1.12537	.00518	
14			1.12097	1.12839	.00512		
15			1.11866	1.12382	.00516		
16			1.11970	1.12379	.00409		
HC 17	50%	1		1.14630	1.15147	.00517	
18			1.13123	1.13614	.00491		
19			1.14979	1.15486	.00507		
20			1.14596	1.15102	.00506		
HC 21	100%	1		1.14537	1.14819	.00282	
22			1.14539	1.15066	.00527		
23			1.14049	1.14513	.00464		
24			1.15076	1.15583	.00507		

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 2

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/10/22

Lab #: VCF 0822.054

End Date: 8/17/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	10	2	1	3	3	2	4	2	2	1	4	
	5	10	3	3	2	5	5	7	5	2	4	6	
	6	10	6	4	7	9	9	6	6	5	7	3	
	7	10	10	12	10	9	9	13	10	14	12	10	
	Total			21	20	23	24	21	30	23	23	24	23
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	4	2	2	3	2	2	4	2	1	4	
	5	-	6	7	7	7	5	6	2	3	7	7	
	6	-	6	5	5	7	5	6	4	6	4	7	
	7	-	11	10	13	12	12	10	14	10	9	9	
	Total	-		27	24	24	29	24	24	24	21	21	27
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	3	2	1	1	7	4	2	2	
	5	-	5	4	4	5	3	2	6	7	7	7	
	6	-	7	7	6	6	5	2	7	6	6	5	
	7	-	12	10	9	9	12	10	13	10	10	14	
	Total	-		24	23	22	22	25	24	27	27	25	28
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	3	2	2	1	4	3	2	2	4	
	5	-	7	7	5	5	4	5	6	7	7	3	
	6	-	10	7	9	7	4	13	10	10	6	9	
	7	-	12	10	13	10	9	9	14	10	12	9	
	Total	-		31	27	29	24	18	31	33	29	27	25
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	1	3	2	2	4	2	3	3	
	5	-	5	7	4	5	4	5	6	7	5	5	
	6	-	7	8	6	9	7	6	10	8	7	9	
	7	-	13	10	9	12	10	9	14	7	12	13	
	Total	-		28	27	20	29	23	22	28	24	27	30
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	3	2	1	1	3	3	2	4	
	5	-	7	7	5	5	4	5	2	7	4	5	
	6	-	10	12	9	10	12	16	7	11	10	7	
	7	-	12	10	9	9	13	16	12	12	10	9	
	Total	-		31	31	22	26	30	27	29	33	26	25

Neonates Data (see back)

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QC: em 8/13/22
Attachment A Appendix I

H79

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2	Lab #: VCF0822.054				
Start date and time: 8/10/22 1503	Sample ID:				
End date and time: 8/14/22 1435	Date Rec'd: 8-8-22				
YSI Used: B B B B B					
Day	0 8/10	1 8/11	2 8/12	3 8/13	4 8/14
Analyst	TD	TD	TD	TD	TD
Time	1503	1500	11:29	1500	1435

Dissolved Oxygen

Control	7.3	7.1	7.0	7.2	7.6
6.25%	7.2	7.1	7.4	7.1	7.5
12.5%	7.2	7.1	7.4	7.1	7.5
25%	7.3	7.1	7.3	7.1	7.5
50%	7.3	7.1	7.3	7.0	7.5
100%	7.4	7.1	7.3	7.0	7.5

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	7.9	8.0	8.0	8.0	8.0
6.25%	8.0	8.0	8.0	8.0	8.0
12.5%	8.0	8.0	8.0	8.0	8.0
25%	7.9	8.0	8.0	8.0	8.0
50%	7.9	8.0	8.0	8.0	8.0
100%	7.9	8.0	8.0	8.0	8.0

Conductivity

Control	364		369		370
6.25%	440		440	TD	443
12.5%	464		520	470	482
25%	573		733	573 ^{TD}	578
50%	793		1083	794 ^{TD}	799
100%	1216		1219		1219

Alkalinity

Control	W		W		W
	190		190		190

Hardness

Control	95		95		95
	435		435		435

QC: en 113

Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 2

Lab #: VCF 0822.054

Sample ID: _____

Start Date: 8/10/22

End Date: 8/14/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	m	5	7	6	6
	1	re	5	6	6	7
	2	TD	5	5	5	5
	3	TD	5	5	5	5
	4	TD	5	5	5	5
6.25	0	-	5	6	6	6
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
12.5	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
25	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
50	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
100	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5

QC: en d

Chiro

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2

Lab #: VCF0822.054

Start date and time: 8/10/22/1520 Sample ID:

End date and time: 8/14/22/1452 Date Rec'd: 8/8/22

YSI Used: B B B B B

Day	0	1	2	3	4
Analyst	TD	M	TD	TD	TD
Time	1520	1517	14:13	1516	1452

Dissolved Oxygen

Control	7.3	7.1	7.6	7.2	7.6
6.25%	7.2	7.1	7.5	7.1	7.5
12.5%	7.2	7.1	7.4	7.1	7.5
25%	7.3	7.1	7.3	7.1	7.5
50%	7.3	7.1	7.3	7.0	7.5
100%	7.4	7.1	7.3	7.0	7.5

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	7.9	8.0	8.0	8.0	8.0
6.25%	8.0	8.0	8.0	8.0	8.0
12.5%	8.0	8.0	8.0	8.0	8.0
25%	7.9	8.0	8.0	8.0	8.0
50%	7.9	8.0	8.0	8.0	8.0
100%	7.9	8.0	8.0	8.0	8.0

Conductivity

Control	364		369		370
6.25%	440		443		443
12.5%	464		470		482
25%	573		573		573
50%	793		794		794
100%	1216		1219		1219

Alkalinity

Control	60		60		60
W	190		190		190

Hardness

Control	95		95		95
W	435		435		435

QC: em fars

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF ²

Lab #: VCF0822-054

Sample ID: _____

Date Time & Start: 8/10/22

8/15/22

Conc.	Rep.#	INITIALS	1 ~	2 ~	3 ~	FINAL ~
CONTROL	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S
6.25	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S
12.5	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S
25	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S
50	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S
100	1	S	S	A	A	S
	2	S	S	A	A	S
	3	S	S	A	A	S
	4	S	S	A	A	S

CHEMICAL ANALYSIS DATA SHEET- VCF 84

Start Date: 8/11/22 152K

Lab#: VCFO 822.073

End Date: 8/18/22 150K

Date Rec'd: 8/10

YSI Used:

Renewal Sample Used: B B B B B A A

DAY	8/11	8/12	8/13	8/14	8/15	8/16	8/17	8/18
Initials	M TO	1150	To 0942	To 1021	1255 20	0921 2	1150 2	M

DISSOLVED OXYGEN mg/L																					
CONTROL	7.6	7.4	7.0	7.6	7.2	7.0	7.4	7.3	7.0	7.0	7.2	7.1	7.7	7.3	7.0	7.7	7.1	7.0	7.0	7.1	
6.25	7.8	7.4	7.2	7.4	7.2	7.0	7.6	7.2	7.0	7.6	7.1	7.1	7.5	7.3	7.1	7.8	7.0	7.0	7.0	7.4	7.0
12.5	7.7	7.3	7.0	7.4	7.2	7.0	7.0	7.0	7.0	7.0	7.1	7.0	7.7	7.2	7.1	7.7	7.0	7.0	7.0	7.4	7.1
25	7.0	7.3	7.1	7.3	7.2	7.0	7.8	7.0	7.0	7.5	7.0	7.0	7.7	7.2	7.1	7.7	7.0	7.0	7.0	7.3	7.0
50	7.5	7.2	7.1	7.3	7.2	7.0	7.5	7.0	7.0	7.5	7.1	7.0	7.0	7.1	7.0	7.6	7.0	7.0	7.0	7.3	7.0
100	7.9	7.2	7.1	7.2	7.2	7.0	7.4	7.0	7.0	7.5	7.1	7.0	7.0	7.1	7.0	7.7	7.0	7.0	7.0	7.2	7.0

TEMPERATURE °C																					
CONTROL	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
12.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
50	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
100	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0

pH																					
CONTROL	7.9	8.0	7.8	8.0	8.0	7.8	8.0	7.9	7.8	8.0	8.0	8.0	8.0	8.0	8.0	8.1	8.1	8.1	7.9	7.9	7.9
6.25	7.9	7.9	7.7	8.0	7.9	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.9	8.0	8.1	8.0	8.1	7.9	7.9	7.9
12.5	8.0	7.9	7.7	7.9	7.9	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0	8.1	7.9	8.0	8.0
25	8.1	7.8	7.7	7.9	7.9	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0	8.1	7.9	8.0	8.0
50	8.1	7.8	7.7	7.9	7.9	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0	8.1	7.9	8.0	8.0
100	8.0	7.8	7.7	7.9	7.9	7.7	8.0	7.8	7.7	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0	8.0	7.9	8.0	8.0

CONDUCTIVITY umohs																					
CONTROL	368	369	367	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370	370
6.25	598	592	592	596	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598	598
12.5	772	770	780	773	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778	778
25	1108	1109	1110	1110	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115	1115
50	1876	1872	1872	1876	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878	1878
100	3290	3291	3293	3294	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297	3297

ALKALINITY																					
CONTROL	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
WV	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358

HARDNESS																					
CONTROL	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
WV	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615	615

Residual Chlorine 1st Sample 0.01 2nd Sample _____ 3rd Sample _____

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 4

Sample I.D.: _____

Lab #: VCF 08 22. 073

Date & Time Start: 8/11/22

Date & Time End: 8/18/22

Conc.	Rep.#	INITIAL <u>N</u>	<u>10</u>	<u>2</u>	<u>10</u>	<u>4N</u>	<u>5N</u>	<u>6M</u>	FINAL <u>N</u>
CONTROL	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
6.25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
12.5%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
50%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
100%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
HG 1	CONTROL	1		.17863	.18377	.00514	
2		2		.16677	.17786	.00509	
3		3		.13766	.14287	.00521	
4		4		.15119	.15639	.00520	
HG 5	6.25%	1		.14443	.14956	.00513	
6		2		.13281	.13796	.00515	
7		3		.18050	.18569	.00519	
8		4		.14162	.14679	.00517	
HG 9	12.5%	1		.13846	.14357	.00511	
10		2		.14452	.14969	.00517	
11		3		.13755	.14267	.00512	
12		4		.13156	.13669	.00513	
HG 13	25%	1		.12249	.12756	.00507	
14		2		.13796	.14312	.00516	
15		3		.14074	.14582	.00508	
16		4		.14786	.15297	.00511	
HG 17	50%	1		.17677	.18187	.00510	
18		2		.18481	.18996	.00515	
19		3		.14874	.15387	.00510	
20		4		.13933	.14456	.00523	
HG 21	100%	1		.13852	.14369	.00517	
22		2		.11837	.12347	.00510	
23		3		.11959	.12467	.00508	
24		4		.12521	.13089	.00508	

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF **BY**

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/11/22

Lab #: VCF 08 22. 073

End Date: 8/18/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	TD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	M	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	5	M	7	7	5	6	2	3	4	1	✓	✓	✓
	6	M	8	8	7	10	8	7	7	7	5	✓	✓
	7	M	12	11	10	10	14	8	7	8	10	✓	✓
	Total			28	27	24	26	25	18	18	19	20	22
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	2	2	2	2	2	1	2	2	✓
	5	-	7	6	7	6	4	5	5	5	7	7	✓
	6	-	7	8	8	7	8	7	7	7	7	6	✓
	7	-	12	8	10	13	12	12	11	16	15	10	✓
	Total	-		28	24	27	28	24	26	25	24	31	25
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	7	2	3	2	2	2	2	2	1	2	✓
	5	-	7	3	6	3	6	4	3	6	7	6	✓
	6	-	7	9	7	6	7	6	7	7	6	4	✓
	7	-	10	7	2	3	9	10	11	3	10	10	✓
	Total	-		31	21	18	14	24	21	23	18	24	22
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	3	2	3	3	2	2	3	3	2	2	✓
	5	-	3	6	6	✓	6	7	7	5	5	6	✓
	6	-	7	7	5	6	5	7	7	7	3	6	✓
	7	-	11	10	10	10	11	7	11	10	7	11	✓
	Total	-		24	25	24	19	24	23	28	25	17	25
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	3	3	3	2	3	2	3	2	2	3	✓
	5	-	6	5	3	6	2	3	3	6	4	2	✓
	6	-	7	6	7	6	7	8	7	7	8	8	✓
	7	-	8	12	10	10	11	11	10	11	10	10	✓
	Total	-		24	24	23	24	23	24	23	26	24	23
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	2	1	2	2	2	2	3	3	✓
	5	-	5	5	5	5	5	5	3	7	6	4	✓
	6	-	6	6	7	7	7	7	7	5	5	6	✓
	7	-	10	10	9	8	3	8	10	10	12	10	✓
	Total	-		23	23	23	21	17	21	21	24	24	23

SALTCON

Chronic *Ceriodaphnia dubia* survival and reproduction -

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/11/22

Lab #: _____

End Date: 8/18/22

Conc.	Day#	Initial	# YOUNG / REPLICATE											
			1	2	3	4	5	6	7	8	9	10		
SALT CON	3	TD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Total			9	8	7	4	2	5	4	6	7	11	
	3	-												
	4	-												
	5	-												
	6	-												
	7	-												
		-												
Total		-												
	3	-												
	4	-												
	5	-												
	6	-												
	7	-												
		-												
Total		-												
	3	-												
	4	-												
	5	-												
	6	-												
	7	-												
		-												
Total		-												

CHEMICAL ANALYSIS DATA SHEET

SALT H₂O
FORVCF 4

Start Date: 8/11/22 1520

Lab #: _____

End Date: 8/18/22 1510

Date Rec'd: _____

YSI Used: B

Renewal Sample Used:

B B B B B B B

DAY	8/11/0	8/12/3	8/13/2	8/14/3	8/15/4	8/16/5	8/17/6	8/18/7
Initials	M	TD 1159	TD 0952	TD 1032	1015 M	0942 du	1002 M	M

DISSOLVED OXYGEN (mg/L)

SALT

Control	74	7.5	7.3	7.0	7.8	7.2	7.1	7.3	7.4	7.6	7.7	7.3	7.0
100%													

TEMPERATURE (°C)

SALT

Control	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
100%													

pH

SALT

Control	8.1	8.1	8.0	8.0	8.0	8.1	8.2	8.1	8.1	8.2	8.1	8.1	7.9	8.0
100%														

CONDUCTIVITY (uS/cm)

SALT

Control	4028	4029	4032	4043	4040	4032	4038	4045
100%								

ALKALINITY

Control								
100%								

HARDNESS

Control								
100%								

Residual Chlorine 1st Sample: _____ 2nd Sample: _____ 3rd Sample: _____

H₂O

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF **BY** Lab #: VCF **1822-073**
 Start date and time: **8/11/22 1530** Sample ID:
 End date and time: **8/19/22 1535** Date Rec'd: **8/10/22**
 YSI Used: **B B B B B**

Day	08/11	1 8/12	2 8/13	3 8/14	4 8/15
Analyst	W	TD	TD	TD	W
Time	1530	1200	1300	1027	1535

Dissolved Oxygen

Control	7.6	7.2	7.2	7.0	7.2
6.25%	7.8	7.4	7.6	7.6	7.1
12.5%	7.7	7.4	7.6	7.0	7.1
25%	7.6	7.3	7.5	7.5	7.0
50%	7.5	7.3	7.5	7.5	7.1
100%	7.4	7.3	7.4	7.5	7.1

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	7.9	8.0	8.0	8.0	8.0
6.25%	7.9	7.9	8.0	8.0	8.0
12.5%	8.0	7.9	8.0	8.0	8.0
25%	8.1	7.8	8.0	8.0	8.0
50%	8.1	7.8	8.0	8.0	8.0
100%	8.0	7.8	8.0	8.0	8.0

Conductivity

Control	368		367		370
6.25%	598		592		598
12.5%	772		780		778
25%	1108		1110		1115
50%	1876		1872		1864
100%	3290		3293		3298

Alkalinity

Control	358		357		358
---------	-----	--	-----	--	-----

Hardness

Control	95		95		95
---------	----	--	----	--	----

QC: on PASS

Acute *Hyalella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 34

Lab #: VCF _____

Sample ID: _____

Start Date: 8/11/

End Date: 8/15/20

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	M	✓	✓	✓	✓
	1	TD	✓	✓	✓	✓
	2	TD	✓	✓	✓	✓
	3	TD	✓	✓	✓	✓
	4	M	✓	✓	✓	✓
6.25	0	-	✓	✓	✓	✓
	1	-	✓	✓	✓	✓
	2	-	✓	✓	✓	✓
	3	-	✓	✓	✓	✓
	4	-	✓	✓	✓	✓
12.5	0	-	✓	✓	✓	✓
	1	-	✓	✓	✓	✓
	2	-	✓	✓	✓	✓
	3	-	✓	✓	✓	✓
	4	-	✓	✓	✓	✓
25	0	-	✓	✓	✓	✓
	1	-	✓	✓	✓	✓
	2	-	✓	✓	✓	✓
	3	-	✓	✓	✓	✓
	4	-	✓	✓	✓	✓
50	0	-	✓	✓	✓	✓
	1	-	✓	✓	✓	✓
	2	-	✓	✓	✓	✓
	3	-	✓	✓	✓	✓
	4	-	✓	✓	✓	✓
100	0	-	✓	✓	✓	✓
	1	-	✓	✓	✓	✓
	2	-	✓	✓	✓	✓
	3	-	✓	✓	✓	✓
	4	-	✓	✓	✓	✓

QC: EM

Chiro

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 84 Lab #: VCF 0822-073
 Start date and time: 8/11/22 1530 Sample ID:
 End date and time: 8/12/22 1547 Date Rec'd:

YSI Used: B B B B B

Day	0 <u>8/11</u>	1 <u>8/11</u>	2 <u>8/11</u>	3 <u>8/11</u>	4 <u>8/11</u>
Analyst	<u>W</u>	<u>TD</u>	<u>TD</u>	<u>TD</u>	<u>W</u>
Time	<u>1530</u>	<u>1210</u>	<u>1330</u>	<u>1029</u>	<u>1547</u>

Dissolved Oxygen

Control	<u>7.6</u>	<u>7.2</u>	<u>7.2</u>	<u>7.0</u>	<u>7.2</u>
6.25%	<u>7.5</u>	<u>7.4</u>	<u>7.6</u>	<u>7.6</u>	<u>7.1</u>
12.5%	<u>7.7</u>	<u>7.4</u>	<u>7.6</u>	<u>7.6</u>	<u>7.1</u>
25%	<u>7.6</u>	<u>7.3</u>	<u>7.5</u>	<u>7.5</u>	<u>7.0</u>
50%	<u>7.5</u>	<u>7.3</u>	<u>7.5</u>	<u>7.5</u>	<u>7.1</u>
100%	<u>7.4</u>	<u>7.3</u>	<u>7.4</u>	<u>7.5</u>	<u>7.1</u>

Temperature

Control	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>
6.25%	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>
12.5%	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>
25%	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>
50%	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>
100%	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>	<u>22.0</u>

pH

Control	<u>7.5</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
6.25%	<u>7.9</u>	<u>7.9</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
12.5%	<u>8.0</u>	<u>7.9</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
25%	<u>8.1</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
50%	<u>8.1</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
100%	<u>8.0</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>

Conductivity

Control	<u>368</u>		<u>367</u>		<u>370</u>
6.25%	<u>598</u>		<u>592</u>		<u>598</u>
12.5%	<u>772</u>		<u>780</u>		<u>778</u>
25%	<u>1108</u>		<u>1110</u>		<u>1115</u>
50%	<u>1876</u>		<u>1872</u>		<u>1869</u>
100%	<u>3290</u>		<u>3293</u>		<u>3298</u>

Alkalinity

Control	<u>60</u>		<u>60</u>		<u>60</u>
<u>W</u>	<u>358</u>		<u>358</u>		<u>358</u>

Hardness

Control	<u>95</u>		<u>95</u>		<u>95</u>
<u>W</u>	<u>615</u>		<u>615</u>		<u>615</u>

QC: SM-1153

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF *BY*

Lab #: _____

Sample ID: _____

Date Time & Start: 8/11/22 *8/11/22*

Conc.	Rep.#	INITIALS	1 <i>r</i>	2 <i>r</i>	3 <i>r</i>	FINAL <i>r</i>
CONTROL	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
6.25	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
12.5	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
25	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
50	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
100	1	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	2	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	3	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
	4	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>



Chain of Custody Record
Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season (Contract AE20-007)
Most Sensitive Species Testing - Toxicity - ABC Laboratories

Side 1 of 1

Sampling Date: 8/8/22
 Sampling Team: K. HAHS, W.B. CAREY

Project Number: ~~2021/22-3 (Wet)~~ MSS - DRY - 1

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - <i>Pimephales promelas</i> (fathead minnow)	Chronic toxicity - <i>Ceriodaphnia dubia</i> (daphnid)	Chronic toxicity - <i>Hyalella azteca</i> (Amphipod)	Chronic toxicity - <i>Chironomus dilutus</i> (midge)	Chronic toxicity - <i>Atherinops affinis</i> (topsmelt)	Chronic toxicity - <i>Macrocystis pyrifera</i> (giant kelp)	Chronic toxicity - <i>Strongylocentrotus purpuratus</i> (purple sea urchin)	Number of 5-Gallon Buckets	NOTES	
ME-CC	8/8/22 0850	X	X	X	X				3	Note 1, Note 2, Note 3	
ME-VR2	↓ 6940	X	X	X	X				3	Note 1, Note 2, Note 3	
ME-SCR	↓ 0800					X	X	X	3	Note 1, Note 2, Note 3	
		CC = VR2 = SCR									
		15.8°C = 7.8°C = 11.8°C									
		CO ₂ = LO ₂ = LO ₂									
		LO ₂ = LO ₂ = LO ₂									

053
054
055

Relinquished Printed Name KELLY HAHS
 Signature [Signature]
 Affiliation VCSWPD Date/Time 8/8/22 10:05

Received Printed Name ELIZABETH MATURINI
 Signature [Signature]
 Affiliation ABC LABS Date/Time 8-8-22 10:05

Other Notes: Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100%.
Note 2: Please contact Kelly HaHS 805-658-4375 if lethal or sublethal effect > 50%. TIE may be needed.
Note 3: Notify District within 24 hours if significant toxicity is observed.

All times PDT



Chain of Custody Record
Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Dry Season (Contract AE20-007)
Most Sensitive Species Testing - Toxicity - ABC Laboratories

Side 1 of 1

Sampling Date: 8/10/22

Project Number: MSS-DRY-1A

Sampling Team: W.B. CAREY, K. HAHS

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - <i>Pimephales promelas</i> (fathead minnow)	Chronic toxicity - <i>Ceriodaphnia dubia</i> (daphnid)	Chronic toxicity - <i>Hyaella azteca</i> (Amphipod)	Chronic toxicity - <i>Chironomus dilutus</i> (midge)	Chronic toxicity - <i>Atherinops affinis</i> (topsmelt)	Chronic toxicity - <i>Macrocystis pyrifera</i> (giant kelp)	Chronic toxicity - <i>Strongylocentrotus purpuratus</i> (purple sea urchin)	Number of 5-Gallon Buckets	NOTES
MO-TUE						X	X	X	3	Note 1, Note 2, Note 3
RW-LC1	8/10/22 0935	X	X	X	X				3	Note 1, Note 2, Note 3
						X	X	X	3	Note 1, Note 2, Note 3

11.5 °C
 <0.1
 <0.1

JK

Relinquished Printed Name KELLY HAHS

Signature [Signature]

Affiliation VCWPD Date/Time 8/10/22 / 11:13

Received Printed Name ELIZABETH. MATUJIN

Signature [Signature]

Affiliation ABC LABS Date/Time 8-10-22 / 11:13

Other Notes: Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100%.
Note 2: Please contact Kelly Hahs 805-658-4375 if lethal or sublethal effect > 50%. TIE may be needed.
Note 3: Notify District within 24 hours if significant toxicity is observed.

All times P.D.T.



Toxicity Report for Ventura County Watershed Protection District

Most Sensitive Species Testing

PROJECT: MSS-DRY-2
CONTRACT: AE20-007
CLIENT: Ms. Kelly Hahs
VCWPD
800 South Victoria Avenue, L#1670
Ventura, CA 93003-1670
SAMPLE I.D.: ME-CC, ME-VR2, RW-LC1, ME-SCR, MO-HUE
DATE RECEIVED: 8/29/2022
DATE REPORTED: 9/23/2022 Preliminary Results, 10/6/2022 Final Report
ABC LAB NO.: VCF0822.209, .210, .211, .212, .213

29 North Olive Street Ventura, California 93001 (805) 643-5621

INTRODUCTION

Toxicity tests using fathead (*P. promelas*), Ceriodaphnia (*C. dubia*), midge (*C. dilutus*), and Hyalella (*H. azteca*) were performed on freshwater samples ME-CC, ME-VR2, and RW-LC1. Toxicity tests using purple urchin (*S. purpuratus*), giant kelp (*M. pyrifera*), and Topsmelt (*A. affinis*) were performed on marine sample ME-SCR and MO-HUE to evaluate the quality of samples for Ventura County Watershed Protection District. The samples were collected on August 29th, 2022 and delivered on day of collection. Testing was conducted at Aquatic Bioassay and Consulting Labs, Inc. in Ventura California from August 29th, through September 29th, 2022.

MATERIALS AND METHODS

Test Material

Test material consisted of 5 grab samples collected by Ventura County Watershed Protection District (VCWPD) sample water sites. Sample collection was performed by VCWPD personnel under the direction of Ms. Kelly Hahs. The samples were collected in 5-gallon low-density polyethylene buckets and were delivered to Aquatic Bioassay immediately after sampling. Sample temperature was recorded upon acceptance at Aquatic Bioassay Laboratories and is included in the report for each station.

Samples were stored at 4°C. Upon arrival at Aquatic Bioassay, an aliquot of each sample was drawn and water quality parameters of pH, dissolved oxygen (DO), conductivity, temperature, salinity, alkalinity, and hardness were measured and recorded.

Bioassay Testing

The study was performed in accordance with the United States Environmental Protection Agency (USEPA) protocols:

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002, US EPA-821-R-02-013.

Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, October 2002, US EPA-821-R-02-014.

Summary of results for 100% sample concentration:

Sample ID	Test	Endpoint	Control	100% Sample	Statistically Different From Control	TST Result	*Percent Effect
ME-CC	Chronic Fathead	Survival (%)	100.00	100.00	No	Pass	0.00
		Biomass (mg)	0.3407	0.3472	No	Pass	-1.91
ME-CC	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-	24.6	27.8	No	Pass	-13.01
ME-CC	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
ME-CC	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
ME-VR2**	Chronic Fathead	Survival (%)	100.00	100.00	No	Pass	0.00
		Biomass (mg)	0.3493	0.3545	No	Pass	0.00
ME-VR2	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-Neonates	25.3	28.0	No	Pass	-10.67
ME-VR2	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
ME-VR2	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
RW-LC1	Chronic Fathead	Survival (%)	100.00	100.00	No	Pass	0.00
		Biomass (mg)	0.3407	0.3430	No	Pass	-0.68

*Percent Effect at IWC = (Mean Control Response – Mean IWC Response) * 100 / Mean Control Response.

** ME-VR2 – Highest percent was in 50% concentration.

Summary of results for 100% sample concentration: (Cont.)

Sample ID	Test	Endpoint	Control	100% Sample	Statistically Different From Control	TST Result	*Percent Effect
RW-LC1	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #- Neonates	25.3	23.4	No	Pass	7.51
RW-LC1	Acute Hyalella	Survival (%)	100.00	100.00	No	Pass	0.00
RW-LC1	Acute Chironomus	Survival (%)	100.00	100.00	No	Pass	0.00
ME-SCR	Chronic Topsmelt	Survival (%)	100.00	92.00	No	Pass	8.00
		Biomass (mg)	1.422	1.424	No	Pass	-0.17
ME-SCR	Chronic Kelp	Germination (%)	92.80	92.40	No	Pass	0.43
		Tube Length	13.22	13.16	No	Pass	0.45
ME-SCR	Chronic Urchin	Fertilization (%)	93.50	93.50	No	Pass	0.00
MO-HUE	Chronic Topsmelt	Survival (%)	100.00	92.00	No	Pass	8.00
		Biomass (mg)	1.422	1.422	No	Pass	0.00
MO-HUE	Chronic Kelp	Germination (%)	91.80	92.40	No	Pass	-0.65
		Tube Length	13.18	13.02	No	Pass	1.21
MO-HUE	Chronic Urchin	Fertilization (%)	95.00	95.00	No	Pass	0.00

*Percent Effect at IWC = (Mean Control Response – Mean IWC Response) * 100 / Mean Control Response.

Quality Assurance

All samples were received in good condition at the appropriate temperatures, and all tests were initiated within 72 hours of sample collection. The negative controls in all tests except Topsmelt met the minimum test acceptability criterion of 80 percent mean survival. Variability among replicates was minimal, and the ability to detect a statistical difference was deemed appropriate.

Survival counts were recorded daily to ensure tests were progressing as expected. Counts were conducted daily on the control replicates. The temperatures in samples were within the recommended range for the entire test duration.

Reference Toxicant Test

A concurrent reference toxicant test using copper chloride was conducted to assess the health of the test organisms. Mean control survival met the test acceptability criterion. The median lethal concentration (LC50) calculated for this test was within two standard deviations of the internal control chart mean, indicating test organism sensitivity was typical. Reference toxicant test results are summarized in the report.

Results and Discussion

Mean survival and statistical differences from control for the tests, error bars, results summaries including individual replicate data, statistical summaries, and raw datasheets are located in in the appendix. Appropriate chain-of-custody (COC) procedures were followed during all phases of this study, and copies of the COC forms are provided in the appendix.

Results of the species sensitivity screen are as follows: ME-CC exhibited no positive result for any of the freshwater tests performed thus the results are inconclusive. ME-VR2 most sensitive species is fathead minnow with percent effect of 0.00 in survival and 2.77 for biomass at 50 percent concentration. RW-LC1 most sensitive species is chronic Ceriodaphnia with a percent effect of 0.00 for survival and 7.51 for reproduction. ME-SCR most sensitive species is chronic topsmelt with percent effect of 8.00 for survival and -0.17 for biomass. MO-HUE most sensitive species is chronic topsmelt with percent effect of 8.00 for survival and 0.00 for biomass. The most sensitive species for each site is highlighted in the table above.

Data Analysis and Reporting

The response observed in this test includes survival of the test organism. Two statistical methods were employed to determine whether there was an effect between the control and test sample: 1) A standard t-test approach following the statistical analysis decision tree in EPA 2002; and 2) A more recent EPA-recommended Test of Significant Toxicity (TST) approach (EPA 2010).

References:

United States Environmental Protection Agency, 1995. Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/R-95/136.

United States Environmental Protection Agency, 2002. Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/821/R-02-014.

United States Environmental Protection Agency, 2002. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA/821/R-02/012.

United States Environmental Protection Agency, 2010. National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. Office of Wastewater Management. EPA 833-R-10-003.



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:


CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-CC
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.209

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

BIOMASS	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 21 Sep-22 15:42 (p 1 of 2)

Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
02-1673-4919	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1
14-5358-4269	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	4.73%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
12-6181-9109	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
04-5540-4345	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
02-1673-4919	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
12-6181-9109	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
04-5540-4345	Mean Dry Biomass-mg	Control Resp	0.3407	0.25	<<	Yes	Passes Criteria	
14-5358-4269	Mean Dry Biomass-mg	Control Resp	0.3407	0.25	<<	Yes	Passes Criteria	
14-5358-4269	Mean Dry Biomass-mg	PMSD	0.04731	0.12	0.3	Yes	Below Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3407	0.3313	0.35	0.3353	0.3487	0.002944	0.005888	1.73%	0.00%
6.25		4	0.3498	0.3215	0.3781	0.3387	0.376	0.008892	0.01778	5.08%	-2.69%
12.5		4	0.3435	0.337	0.35	0.3407	0.3493	0.002044	0.004087	1.19%	-0.83%
25		4	0.3435	0.3373	0.3497	0.3387	0.3467	0.001951	0.003902	1.14%	-0.83%
50		4	0.3408	0.3303	0.3513	0.336	0.35	0.003304	0.006608	1.94%	-0.05%
100		4	0.3472	0.3304	0.364	0.3353	0.3607	0.00528	0.01056	3.04%	-1.91%

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CETIS Summary Report

Report Date: 21 Sep-22 15:42 (p 2 of 2)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

Mean Dry Biomass-mg Detail

MD5: DAD6F7FDEFC5D9636813704F3A78C4E1

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.376	0.346	0.3387	0.3387
12.5		0.3493	0.3433	0.3407	0.3407
25		0.3387	0.3467	0.342	0.3467
50		0.336	0.35	0.3413	0.336
100		0.344	0.3607	0.3487	0.3353

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

CETIS Analytical Report

Report Date: 21 Sep-22 15:42 (p 1 of 4)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 02-1673-4919	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 12:22	Analysis: Nonparametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 12:17	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable			
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:			
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC			
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

Test Acceptability Criteria

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

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
6.25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
12.5		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
50		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
100		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-1673-4919 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:22 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 12:17 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

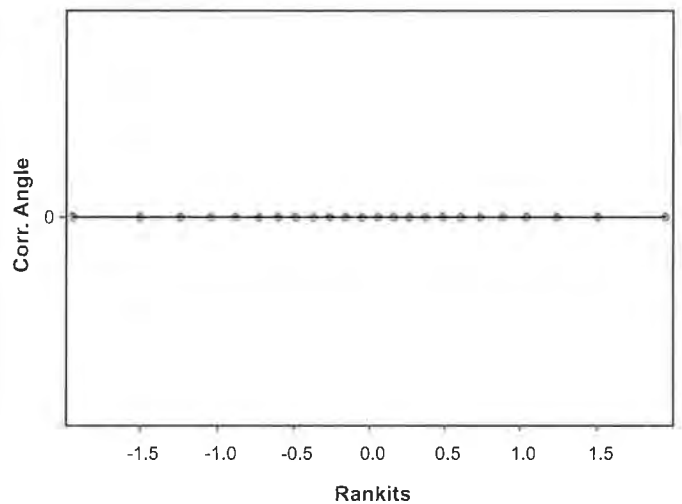
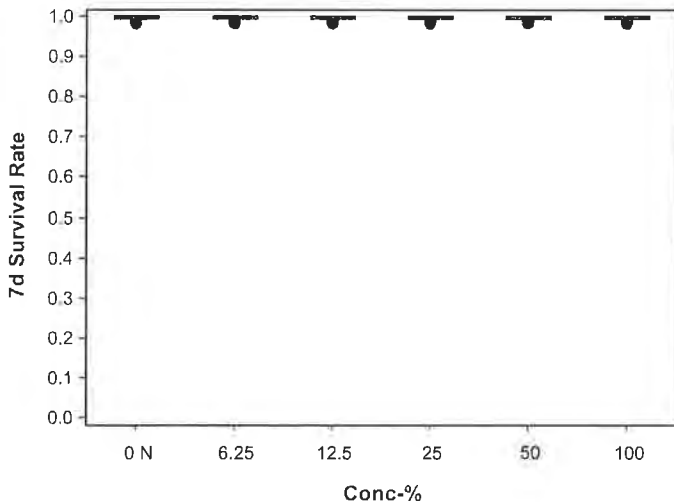
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.4410	1.4410
6.25		1.4410	1.4410	1.4410	1.4410
12.5		1.4410	1.4410	1.4410	1.4410
25		1.4410	1.4410	1.4410	1.4410
50		1.4410	1.4410	1.4410	1.4410
100		1.4410	1.4410	1.4410	1.4410

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Graphics



Attachment A Appendix I

CETIS Analytical Report

Report Date: 21 Sep-22 15:42 (p 3 of 4)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 14-5358-4269	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 12:22	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 12:17	MD5 Hash: DAD6F7FDEF5D9636813704F3A78C4E1	Editor ID: 008-463-000-3			
Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable			
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:			
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC			
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.01612	4.73%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-1.369	2.407	0.01612	CDF	0.9939	Non-Significant Effect
		12.5	6	-0.4231	2.407	0.01612	CDF	0.9282	Non-Significant Effect
		25	6	-0.4231	2.407	0.01612	CDF	0.9282	Non-Significant Effect
		50	6	-0.02489	2.407	0.01612	CDF	0.8406	Non-Significant Effect
		100	6	-0.9707	2.407	0.01612	CDF	0.9813	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.3407	0.25	<<	Yes	Passes Criteria
PMSD	0.04731	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0002613	5.226E-05	5	0.5827	0.7129	Non-Significant Effect
Error	0.0016141	8.967E-05	18			
Total	0.0018754		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	9.682	15.09	0.0848	Equal Variances
	Levene Equality of Variance Test	2.311	4.248	0.0869	Equal Variances
	Mod Levene Equality of Variance Test	0.7925	4.248	0.5689	Equal Variances
Distribution	Anderson-Darling A2 Test	0.8497	3.878	0.0287	Normal Distribution
	D'Agostino Kurtosis Test	2.305	2.576	0.0212	Normal Distribution
	D'Agostino Skewness Test	2.661	2.576	0.0078	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	12.39	9.21	0.0020	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.1444	0.2056	0.2166	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8963	0.884	0.0180	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3407	0.3313	0.35	0.3393	0.3353	0.3487	0.002944	1.73%	0.00%
6.25		4	0.3498	0.3215	0.3781	0.3411	0.3387	0.376	0.008892	5.08%	-2.69%
12.5		4	0.3435	0.337	0.35	0.3416	0.3407	0.3493	0.002044	1.19%	-0.83%
25		4	0.3435	0.3373	0.3497	0.3451	0.3387	0.3467	0.001951	1.14%	-0.83%
50		4	0.3408	0.3303	0.3513	0.3378	0.336	0.35	0.003304	1.94%	-0.05%
100		4	0.3472	0.3304	0.364	0.3463	0.3353	0.3607	0.00528	3.04%	-1.91%

Fathead Minnow 7-d Larval Survival and Growth Test

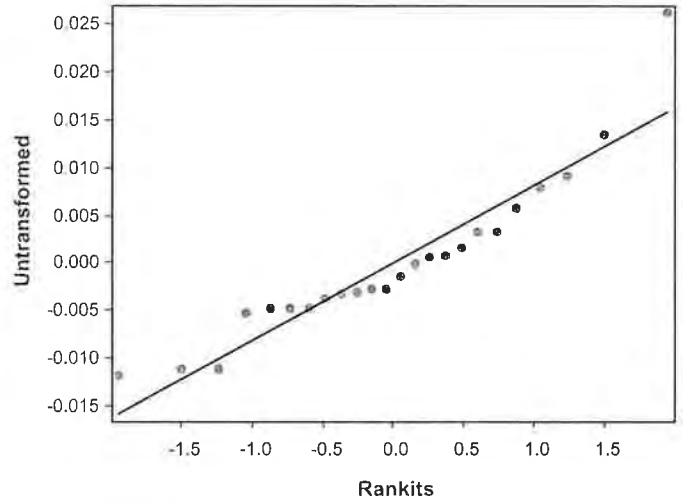
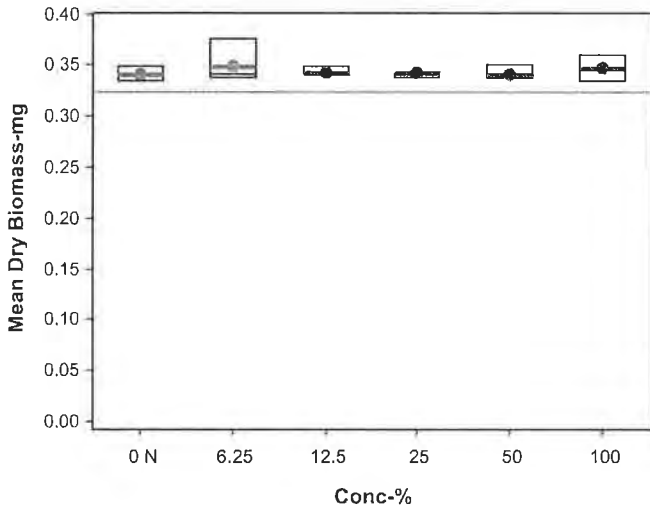
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-5358-4269 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:22 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 12:17 MD5 Hash: DAD6F7FDEFC5D9636813704F3A78C4E1 Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.376	0.346	0.3387	0.3387
12.5		0.3493	0.3433	0.3407	0.3407
25		0.3387	0.3467	0.342	0.3467
50		0.336	0.35	0.3413	0.336
100		0.344	0.3607	0.3487	0.3353

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 15:42 (p 1 of 4)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-6181-9109	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:17	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

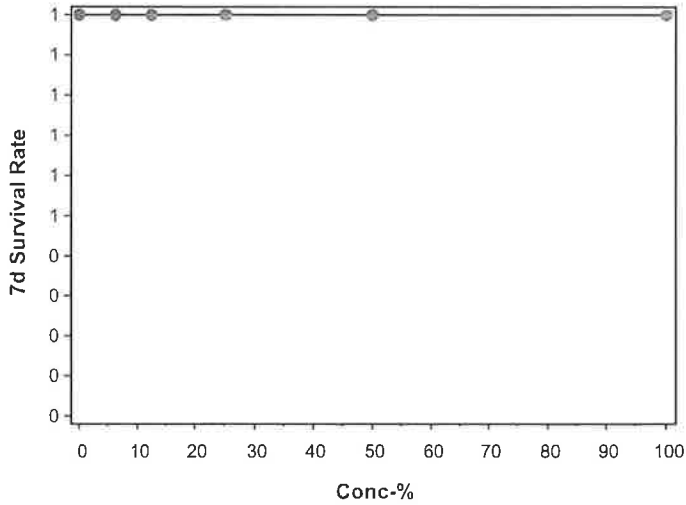
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-6181-9109	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:17	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 15:42 (p 3 of 4)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-5540-4345	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:17	MD5 Hash: DAD6F7FDEFC5D9636813704F3A78C4E1	Editor ID: 008-463-000-3
Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	901622	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3407	0.25	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.3407	0.3393	0.3353	0.3487	1.73%	0.00%	0.3452	0.00%
6.25		4	0.3498	0.3411	0.3387	0.376	5.08%	-2.69%	0.3452	0.00%
12.5		4	0.3435	0.3416	0.3407	0.3493	1.19%	-0.83%	0.3437	0.43%
25		4	0.3435	0.3451	0.3387	0.3467	1.14%	-0.83%	0.3437	0.43%
50		4	0.3408	0.3378	0.336	0.35	1.94%	-0.05%	0.3437	0.43%
100		4	0.3472	0.3463	0.3353	0.3607	3.04%	-1.91%	0.3437	0.43%

Mean Dry Biomass-mg Detail

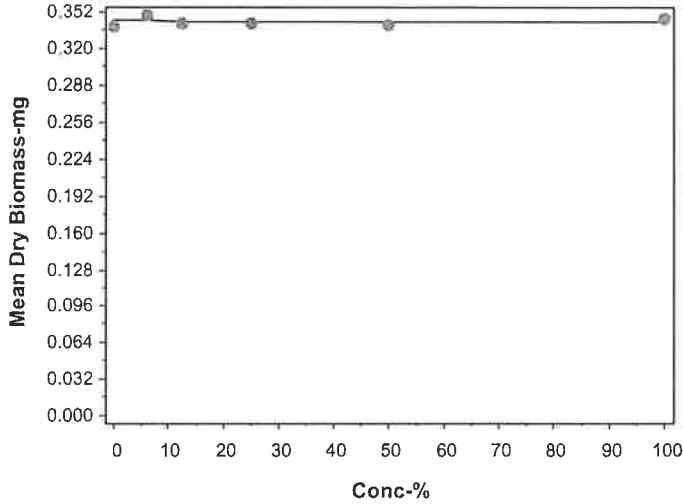
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.376	0.346	0.3387	0.3387
12.5		0.3493	0.3433	0.3407	0.3407
25		0.3387	0.3467	0.342	0.3467
50		0.336	0.35	0.3413	0.336
100		0.344	0.3607	0.3487	0.3353

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-5540-4345 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:22 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 16 Sep-22 12:17 MD5 Hash: DAD6F7FDEFC5D9636813704F3A78C4E1 Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 21 Sep-22 15:42 (p 1 of 2)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 13-6830-7892	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 00-6688-9128	Code: VCF0822.209fml	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	300	300	300	300	300	0	0	0.00%	0
Overall		16	180.5	114.7	246.3	61	300	30.85	123.4	68.38%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	485.2	482.5	488	479	489	0.4159	3.327	0.69%	0
12.5		8	568.6	562.6	574.6	553	577	0.8988	7.19	1.26%	0
25		8	738.9	734.1	743.7	726	745	0.721	5.768	0.78%	0
50		8	1136	1132	1140	1126	1140	0.5901	4.721	0.42%	0
100		8	1919	1908	1930	1901	1944	1.59	12.72	0.66%	0
Overall		48	871.3	716.6	1026	379	1944	76.9	532.7	61.14%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.637	7.397	7.878	7	7.9	0.03594	0.2875	3.76%	0
12.5		8	7.637	7.397	7.878	7	7.9	0.03594	0.2875	3.76%	0
25		8	7.625	7.398	7.852	7	7.9	0.03391	0.2712	3.56%	0
50		8	7.65	7.418	7.882	7	7.9	0.03472	0.2777	3.63%	0
100		8	7.637	7.414	7.861	7	7.8	0.03337	0.2669	3.49%	0
Overall		48	7.648	7.572	7.724	7	7.9	0.03778	0.2617	3.42%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95	95	95	95	95	0	0	0.00%	0
100		8	400	400	400	400	400	0	0	0.00%	0
Overall		16	247.5	163.6	331.4	95	400	39.38	157.5	63.64%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.175	8.116	8.234	8.1	8.3	0.00884	0.07072	0.87%	0
6.25		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
12.5		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
25		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
50		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
100		8	8.112	8.03	8.195	8	8.2	0.01239	0.09911	1.22%	0
Overall		48	8.108	8.083	8.134	8	8.3	0.01257	0.08711	1.07%	0 (0%)

CETIS Measurement Report

Report Date: 21 Sep-22 15:42 (p 2 of 2)
 Test Code/ID: VCF0822.209fml / 09-2635-5596

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
50		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
100		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
Overall		48	24.01	24	24.02	24	24.1	0.004456	0.03087	0.13%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

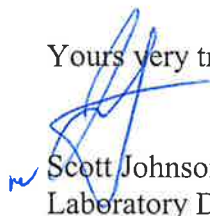
CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.209

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

REPRODUCTION	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 21 Sep-22 15:43 (p 1 of 2)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 01-1096-1293	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 07-8298-6604	Code: VCF0822.209cer	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
19-7273-7768	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
05-4086-2497	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	11.4%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
19-0567-6084	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
00-6389-4124	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
19-0567-6084	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
19-7273-7768	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
00-6389-4124	Reproduction	Control Resp	24.6	15	<<	Yes	Passes Criteria	
05-4086-2497	Reproduction	Control Resp	24.6	15	<<	Yes	Passes Criteria	
05-4086-2497	Reproduction	PMSD	0.1141	0.13	0.47	Yes	Below Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	24.6	22.07	27.13	18	29	1.118	3.534	14.37%	0.00%
6.25		10	26.2	24.99	27.41	24	29	0.5333	1.687	6.44%	-6.50%
12.5		10	28.4	26.37	30.43	24	32	0.8969	2.836	9.99%	-15.45%
25		10	25.7	23.88	27.52	23	30	0.8035	2.541	9.89%	-4.47%
50		10	27.7	26.35	29.05	24	30	0.5972	1.889	6.82%	-12.60%
100		10	27.8	25.35	30.25	21	33	1.083	3.425	12.32%	-13.01%

CETIS Summary Report

Report Date: 21 Sep-22 15:43 (p 2 of 2)
Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 521A0DF2AE1E59D72392DBABE0C7AEFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

MD5: B1A37EE208E451B7B4791B1B3130EF58

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	25	27	28	21	27	29	25	21	18	25
6.25		27	27	28	25	29	26	25	24	24	27
12.5		32	32	28	26	29	26	26	31	24	30
25		29	28	26	24	24	26	23	30	24	23
50		29	24	29	27	30	29	29	26	28	26
100		21	27	25	27	29	27	27	31	31	33

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 21 Sep-22 15:43 (p 1 of 2)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 05-4086-2497	Endpoint: Reproduction	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 12:36	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 12:31	MD5 Hash: B1A37EE208E451B7B4791B1B3130EF58	Editor ID: 008-463-000-3			
Batch ID: 01-1096-1293	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 06 Sep-22 13:54	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 07-8298-6604	Code: VCF0822.209cer	Project:			
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC			
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	2.808	11.41%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	-1.304	2.289	2.808	CDF	0.9939	Non-Significant Effect
		12.5	18	-3.098	2.289	2.808	CDF	1.0000	Non-Significant Effect
		25	18	-0.8968	2.289	2.808	CDF	0.9789	Non-Significant Effect
		50	18	-2.527	2.289	2.808	CDF	0.9999	Non-Significant Effect
		100	18	-2.609	2.289	2.808	CDF	1.0000	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	24.6	15	<<	Yes	Passes Criteria
PMSD	0.1141	0.13	0.47	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	107.533	21.5067	5	2.859	0.0232	Significant Effect
Error	406.2	7.52222	54			
Total	513.733		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	7.359	15.09	0.1953	Equal Variances
	Levene Equality of Variance Test	1.375	3.377	0.2481	Equal Variances
	Mod Levene Equality of Variance Test	0.8731	3.377	0.5053	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2829	3.878	0.6641	Normal Distribution
	D'Agostino Kurtosis Test	0.08516	2.576	0.9321	Normal Distribution
	D'Agostino Skewness Test	1.074	2.576	0.2826	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.162	9.21	0.5595	Normal Distribution
	Kolmogorov-Smirnov D Test	0.07885	0.1331	0.4345	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9818	0.9459	0.5073	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	24.6	22.07	27.13	25	18	29	1.118	14.37%	0.00%
6.25		10	26.2	24.99	27.41	26.75	24	29	0.5333	6.44%	-6.50%
12.5		10	28.4	26.37	30.43	28.5	24	32	0.8969	9.99%	-15.45%
25		10	25.7	23.88	27.52	24.8	23	30	0.8035	9.89%	-4.47%
50		10	27.7	26.35	29.05	28.8	24	30	0.5972	6.82%	-12.60%
100		10	27.8	25.35	30.25	27	21	33	1.083	12.32%	-13.01%

CETIS Analytical Report

Report Date: 21 Sep-22 15:43 (p 2 of 2)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

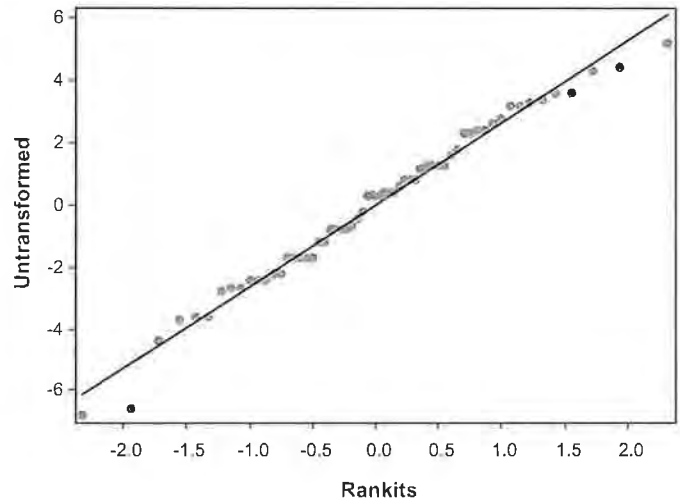
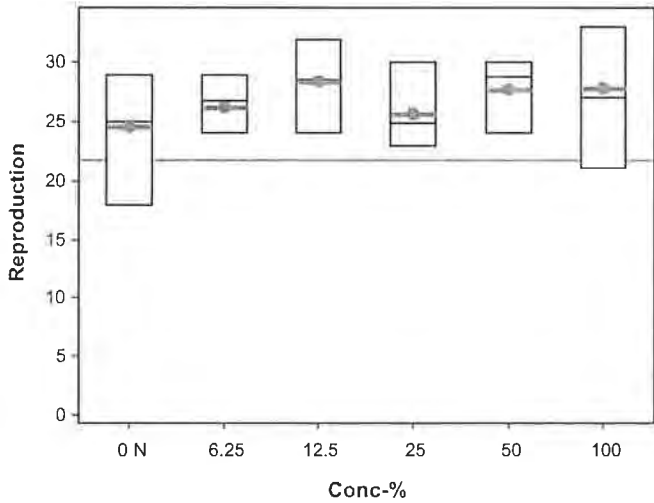
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-4086-2497 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:36 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 12:31 MD5 Hash: B1A37EE208E451B7B4791B1B3130EF58 Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	25	27	28	21	27	29	25	21	18	25
6.25		27	27	28	25	29	26	25	24	24	27
12.5		32	32	28	26	29	26	26	31	24	30
25		29	28	26	24	24	26	23	30	24	23
50		29	24	29	27	30	29	29	26	28	26
100		21	27	25	27	29	27	27	31	31	33

Graphics



Attachment A Appendix I

CETIS Analytical Report

Report Date: 21 Sep-22 15:43 (p 1 of 4)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

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

Analysis ID: 19-0567-6084	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:36	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:31	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 01-1096-1293	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 07-8298-6604	Code: VCF0822.209cer	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

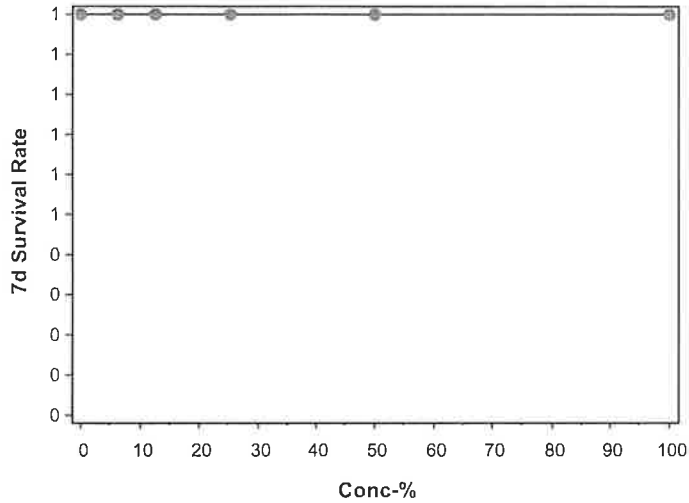
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-0567-6084	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:36	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:31	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3

Graphics



Attachment A Appendix I *P*

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-6389-4124 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:36 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 16 Sep-22 12:31 MD5 Hash: B1A37EE208E451B7B4791B1B3130EF58 Editor ID: 008-463-000-3

Batch ID: 01-1096-1293 Test Type: Reproduction-Survival (7d) Analyst:
 Start Date: 30 Aug-22 14:53 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water
 Ending Date: 06 Sep-22 13:54 Species: Ceriodaphnia dubia Brine: Not Applicable
 Test Length: 6d 23h Taxon: Branchiopoda Source: Aquatic Biosystems, CO Age: <24

Sample ID: 07-8298-6604 Code: VCF0822.209cer Project:
 Sample Date: 29 Aug-22 07:30 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-CC
 Sample Age: 31h (13.5 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2008524	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	24.6	15	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	24.6	25	18	29	14.37%	0.00%	26.73	0.00%
6.25		10	26.2	26.75	24	29	6.44%	-6.50%	26.73	0.00%
12.5		10	28.4	28.5	24	32	9.99%	-15.45%	26.73	0.00%
25		10	25.7	24.8	23	30	9.89%	-4.47%	26.73	0.00%
50		10	27.7	28.8	24	30	6.82%	-12.60%	26.73	0.00%
100		10	27.8	27	21	33	12.32%	-13.01%	26.73	0.00%

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	25	27	28	21	27	29	25	21	18	25
6.25		27	27	28	25	29	26	25	24	24	27
12.5		32	32	28	26	29	26	26	31	24	30
25		29	28	26	24	24	26	23	30	24	23
50		29	24	29	27	30	29	29	26	28	26
100		21	27	25	27	29	27	27	31	31	33

Ceriodaphnia 7-d Survival and Reproduction Test

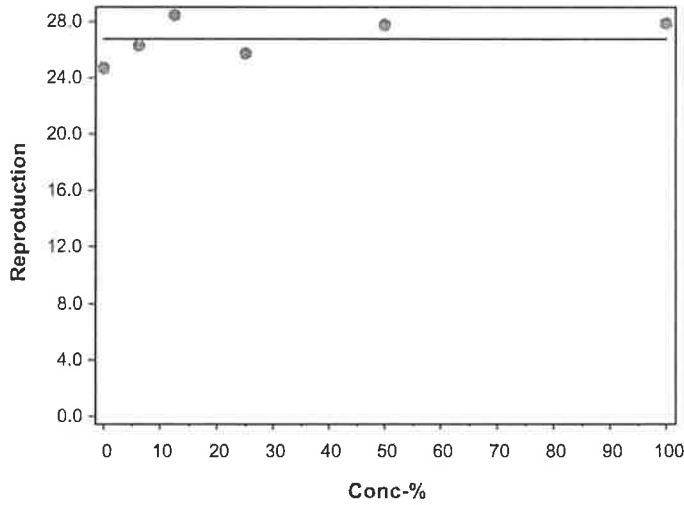
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-6389-4124
Analyzed: 16 Sep-22 12:36
Edit Date: 16 Sep-22 12:31

Endpoint: Reproduction
Analysis: Linear Interpolation (ICPIN)
MD5 Hash: B1A37EE208E451B7B4791B1B3130EF58

CETIS Version: CETISv2.1.2
Status Level: 1
Editor ID: 008-463-000-3

Graphics



Attachment A Appendix I

CETIS Analytical Report

Report Date: 21 Sep-22 15:43 (p 1 of 2)

Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-7273-7768	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:36	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 16 Sep-22 12:31	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 01-1096-1293	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 07-8298-6604	Code: VCF0822.209cer	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

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

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 21 Sep-22 15:43 (p 2 of 2)
Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

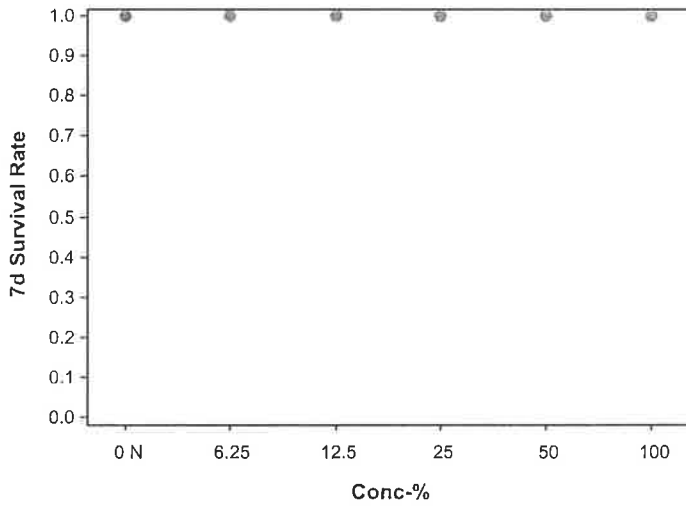
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-7273-7768 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:36 Analysis: STP 2xK Contingency Tables Status Level: 1
Edit Date: 16 Sep-22 12:31 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Measurement Report

Report Date: 21 Sep-22 15:43 (p 1 of 2)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 01-1096-1293	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:53	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:54	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 07-8298-6604	Code: VCF0822.209cer	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 31h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	300	300	300	300	300	0	0	0.00%	0
Overall		16	180.5	114.7	246.3	61	300	30.85	123.4	68.38%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	485.2	482.5	488	479	489	0.4159	3.327	0.69%	0
12.5		8	568.6	562.6	574.6	553	577	0.8988	7.19	1.26%	0
25		8	738.9	734.1	743.7	726	745	0.721	5.768	0.78%	0
50		8	1136	1132	1140	1126	1140	0.5901	4.721	0.42%	0
100		8	1919	1908	1930	1901	1944	1.59	12.72	0.66%	0
Overall		48	871.3	716.6	1026	379	1944	76.9	532.7	61.14%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.637	7.397	7.878	7	7.9	0.03594	0.2875	3.76%	0
12.5		8	7.637	7.397	7.878	7	7.9	0.03594	0.2875	3.76%	0
25		8	7.625	7.398	7.852	7	7.9	0.03391	0.2712	3.56%	0
50		8	7.65	7.418	7.882	7	7.9	0.03472	0.2777	3.63%	0
100		8	7.637	7.414	7.861	7	7.8	0.03337	0.2669	3.49%	0
Overall		48	7.648	7.572	7.724	7	7.9	0.03778	0.2617	3.42%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95	95	95	95	95	0	0	0.00%	0
100		8	400	400	400	400	400	0	0	0.00%	0
Overall		16	247.5	163.6	331.4	95	400	39.38	157.5	63.64%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.175	8.116	8.234	8.1	8.3	0.00884	0.07072	0.87%	0
6.25		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
12.5		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
25		8	8.088	8.018	8.157	8	8.2	0.01043	0.08346	1.03%	0
50		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
100		8	8.112	8.03	8.195	8	8.2	0.01239	0.09911	1.22%	0
Overall		48	8.108	8.083	8.134	8	8.3	0.01257	0.08711	1.07%	0 (0%)

CETIS Measurement Report

Report Date: 21 Sep-22 15:43 (p 2 of 2)
 Test Code/ID: VCF0822.209cer / 12-1825-8975

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
50		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
100		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
Overall		48	24.01	24	24.02	24	24.1	0.004456	0.03087	0.13%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.209


ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 21 Sep-22 15:45 (p 1 of 1)
 Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 05-0631-5368	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 12:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 13:10	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 08-5357-8032	Code: VCF0822.209ahya	Project:
Sample Date: 13 Sep-22 13:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: ---	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
09-3523-6378	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
18-8619-6083	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Handwritten signature and 'PASS' stamp

CETIS Analytical Report

Report Date: 21 Sep-22 15:45 (p 1 of 2)
 Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-3523-6378 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:39 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 12:37 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 05-0631-5368 Test Type: Survival (96h) Analyst:
 Start Date: 30 Aug-22 12:20 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 03 Sep-22 13:10 Species: Hyalella azteca Brine: Not Applicable
 Test Length: 4d 1h Taxon: Malacostraca Source: Aquatic Biosystems, CO Age:

Sample ID: 08-5357-8032 Code: VCF0822.209ahya Project:
 Sample Date: 13 Sep-22 13:00 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-CC
 Sample Age: --- Client: Ventura County Watershed Protection Distri

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Attachment A Appendix 1 

CETIS Analytical Report

Report Date: 21 Sep-22 15:45 (p 2 of 2)
 Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-3523-6378 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:39 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 12:37 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

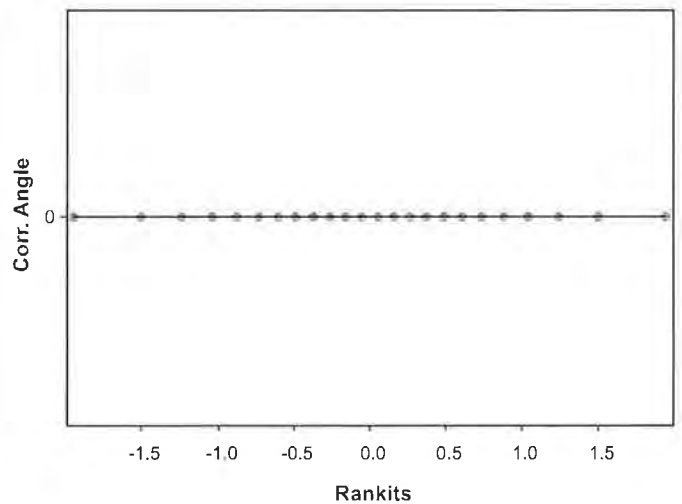
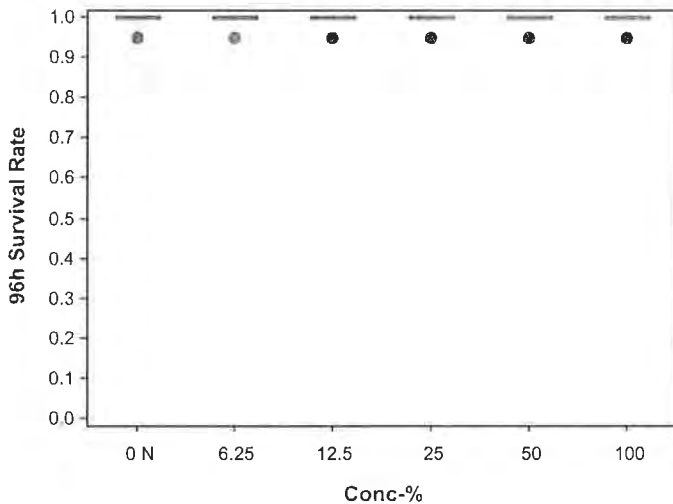
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 15:45 (p 1 of 2)

Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-8619-6083 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 12:39 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 16 Sep-22 12:37 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 05-0631-5368 Test Type: Survival (96h) Analyst:
 Start Date: 30 Aug-22 12:20 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 03 Sep-22 13:10 Species: Hyalella azteca Brine: Not Applicable
 Test Length: 4d 1h Taxon: Malacostraca Source: Aquatic Biosystems, CO Age:

Sample ID: 08-5357-8032 Code: VCF0822.209ahya Project:
 Sample Date: 13 Sep-22 13:00 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-CC
 Sample Age: --- Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

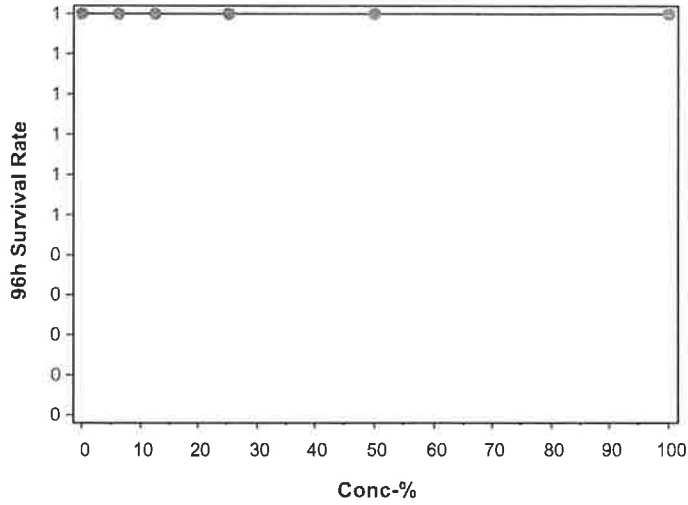
Report Date: 21 Sep-22 15:45 (p 2 of 2)
Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-8619-6083	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 12:39	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 12:37	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 21 Sep-22 15:45 (p 1 of 2)

Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 05-0631-5368	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 12:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 13:10	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 08-5357-8032	Code: VCF0822.209ahya	Project:
Sample Date: 13 Sep-22 13:00	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: ---	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	300	300	300	300	300	0	0	0.00%	0
Overall		6	180.5	43.12	317.9	61	300	53.44	130.9	72.52%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	482	474.5	489.5	479	485	1	3	0.62%	0
12.5		3	564.7	539.3	590	553	572	3.405	10.21	1.81%	0
25		3	735.3	715.3	755.4	726	740	2.694	8.083	1.10%	0
50		3	1133	1118	1147	1126	1137	1.953	5.859	0.52%	0
100		3	1909	1889	1929	1901	1917	2.674	8.021	0.42%	0
Overall		18	867.4	599	1136	379	1917	127.2	539.8	62.23%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.7	7.27	8.13	7.6	7.9	0.05773	0.1732	2.25%	0
12.5		3	7.7	7.27	8.13	7.6	7.9	0.05773	0.1732	2.25%	0
25		3	7.733	7.354	8.113	7.6	7.9	0.05092	0.1527	1.98%	0
50		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
100		3	7.733	7.59	7.877	7.7	7.8	0.01925	0.05774	0.75%	0
Overall		18	7.733	7.672	7.795	7.6	7.9	0.02915	0.1237	1.60%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	400	400	400	400	400	0	0	0.00%	0
Overall		6	247.5	72.19	422.8	95	400	68.2	167.1	67.50%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.2	7.952	8.448	8.1	8.3	0.03333	0.1	1.22%	0
6.25		3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
12.5		3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.2	8.197	8.203	8.2	8.2	0	0	0.00%	0
Overall		18	8.15	8.111	8.189	8	8.3	0.01852	0.07859	0.96%	0 (0%)

CETIS Measurement Report

Report Date: 21 Sep-22 15:45 (p 2 of 2)
Test Code/ID: VCF0822.209ahya / 04-0743-9510

Hyaella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)





September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.209

ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 21 Sep-22 15:50 (p 1 of 1)
 Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-2001-0765	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:15	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:10	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-1523-7825	Code: VCF0822.209achi	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 32h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
17-2731-4170	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
11-0451-6121	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

PASS

CETIS Analytical Report

Report Date: 21 Sep-22 15:50 (p 1 of 2)
 Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-2731-4170	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:14	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 13:04	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 18-2001-0765	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:15	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:10	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-1523-7825	Code: VCF0822.209achi	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 32h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-2731-4170 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 13:14 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 13:04 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

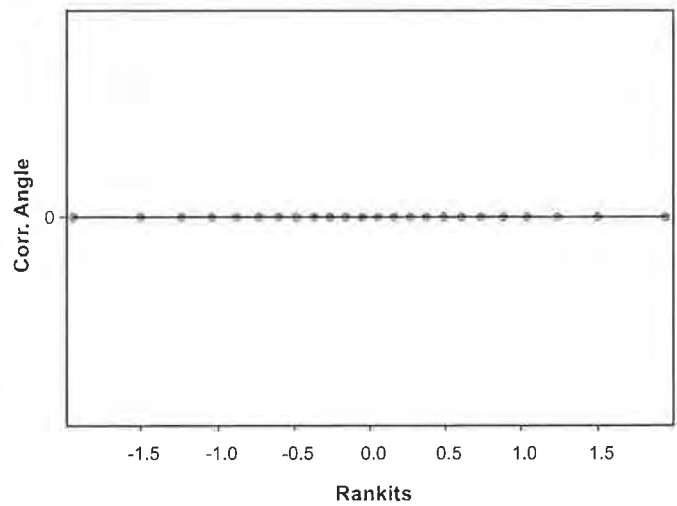
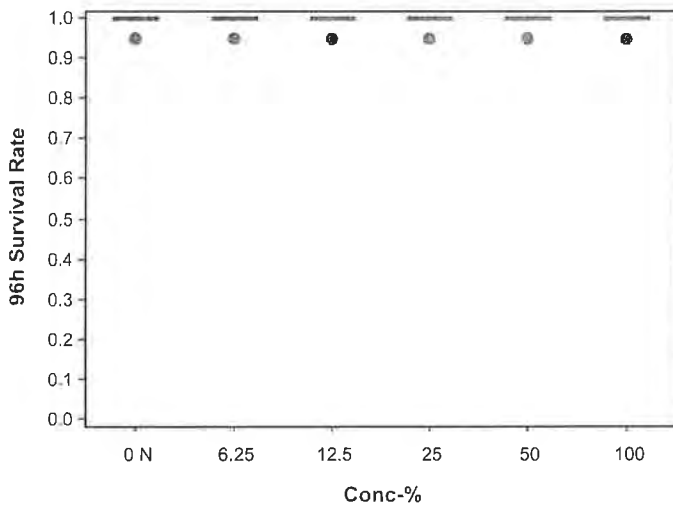
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 15:50 (p 1 of 2)

Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-0451-6121 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 13:14 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 16 Sep-22 13:04 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 18-2001-0765 Test Type: Survival (96h) Analyst:
 Start Date: 30 Aug-22 15:15 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 03 Sep-22 14:10 Species: Chironomus dilutus Brine: Not Applicable
 Test Length: 95h Taxon: Insecta Source: Aquatic Biosystems, CO Age:

Sample ID: 01-1523-7825 Code: VCF0822.209achi Project:
 Sample Date: 29 Aug-22 07:30 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-CC
 Sample Age: 32h (13.5 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Attachment A Appendix I 

CETIS Analytical Report

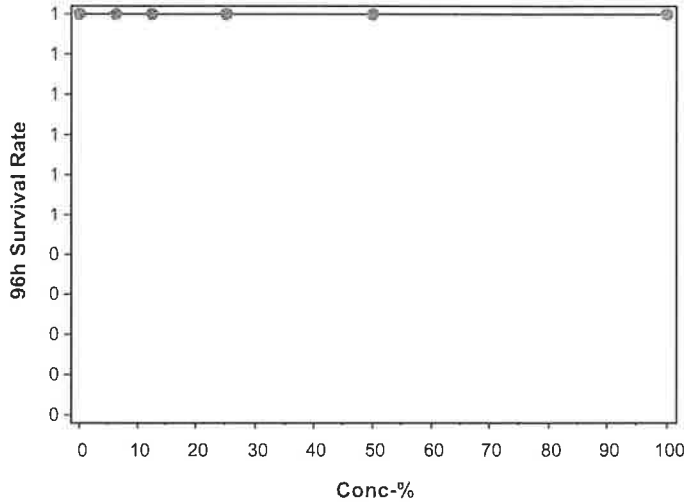
Report Date: 21 Sep-22 15:50 (p 2 of 2)
Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-0451-6121	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:14	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 13:04	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 21 Sep-22 15:50 (p 1 of 2)

Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-2001-0765	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:15	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:10	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-1523-7825	Code: VCF0822.209achi	Project:
Sample Date: 29 Aug-22 07:30	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-CC
Sample Age: 32h (13.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	300	300	300	300	300	0	0	0.00%	0
Overall		6	180.5	43.12	317.9	61	300	53.44	130.9	72.52%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	482	474.5	489.5	479	485	1	3	0.62%	0
12.5		3	564.7	539.3	590	553	572	3.405	10.21	1.81%	0
25		3	735.3	715.3	755.4	726	740	2.694	8.083	1.10%	0
50		3	1133	1118	1147	1126	1137	1.953	5.859	0.52%	0
100		3	1909	1889	1929	1901	1917	2.674	8.021	0.42%	0
Overall		18	867.4	599	1136	379	1917	127.2	539.8	62.23%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.7	7.27	8.13	7.6	7.9	0.05773	0.1732	2.25%	0
12.5		3	7.7	7.27	8.13	7.6	7.9	0.05773	0.1732	2.25%	0
25		3	7.733	7.354	8.113	7.6	7.9	0.05092	0.1527	1.98%	0
50		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
100		3	7.733	7.59	7.877	7.7	7.8	0.01925	0.05774	0.75%	0
Overall		18	7.733	7.672	7.795	7.6	7.9	0.02915	0.1237	1.60%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	400	400	400	400	400	0	0	0.00%	0
Overall		6	247.5	72.19	422.8	95	400	68.2	167.1	67.50%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.233	8.09	8.377	8.2	8.3	0.01924	0.05773	0.70%	0
6.25		3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
12.5		3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.2	8.197	8.203	8.2	8.2	0	0	0.00%	0
Overall		18	8.156	8.117	8.195	8	8.3	0.01847	0.07838	0.96%	0 (0%)

CETIS Measurement Report

Report Date: 21 Sep-22 15:50 (p 2 of 2)
Test Code/ID: VCF0822.209achi / 06-6728-5278

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:


CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-VR2
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.210

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

BIOMASS	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 21 Sep-22 16:02 (p 1 of 2)
 Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
16-4663-0302	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1
15-5574-8078	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	5.61%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
13-7303-1550	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
02-3342-7099	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
13-7303-1550	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
16-4663-0302	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
02-3342-7099	Mean Dry Biomass-mg	Control Resp	0.3493	0.25	<<	Yes	Passes Criteria	
15-5574-8078	Mean Dry Biomass-mg	Control Resp	0.3493	0.25	<<	Yes	Passes Criteria	
15-5574-8078	Mean Dry Biomass-mg	PMSD	0.05607	0.12	0.3	Yes	Below Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3493	0.3267	0.372	0.336	0.3687	0.007113	0.01423	4.07%	0.00%
6.25		4	0.355	0.3377	0.3723	0.3393	0.364	0.005433	0.01087	3.06%	-1.62%
12.5		4	0.3542	0.3265	0.3818	0.3387	0.3787	0.008698	0.0174	4.91%	-1.38%
25		4	0.3517	0.3389	0.3644	0.3433	0.362	0.004005	0.008009	2.28%	-0.67%
50		4	0.3397	0.3324	0.3469	0.3333	0.344	0.002269	0.004538	1.34%	2.77%
100		4	0.3545	0.3397	0.3693	0.3467	0.368	0.004654	0.009308	2.63%	-1.48%

PASS

CETIS Summary Report

Report Date: 21 Sep-22 16:02 (p 2 of 2)
 Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

Mean Dry Biomass-mg Detail

MD5: 8D03621E41CFF00CA46F37C02FAC225B

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.342	0.336	0.3507	0.3687
6.25		0.3393	0.364	0.3567	0.36
12.5		0.3787	0.3533	0.3387	0.346
25		0.3533	0.348	0.362	0.3433
50		0.3413	0.344	0.34	0.3333
100		0.352	0.3467	0.368	0.3513

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-4663-0302	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:22	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 13:17	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

Test Acceptability Criteria

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

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
6.25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
12.5		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
50		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
100		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-4663-0302 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 13:22 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 13:17 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

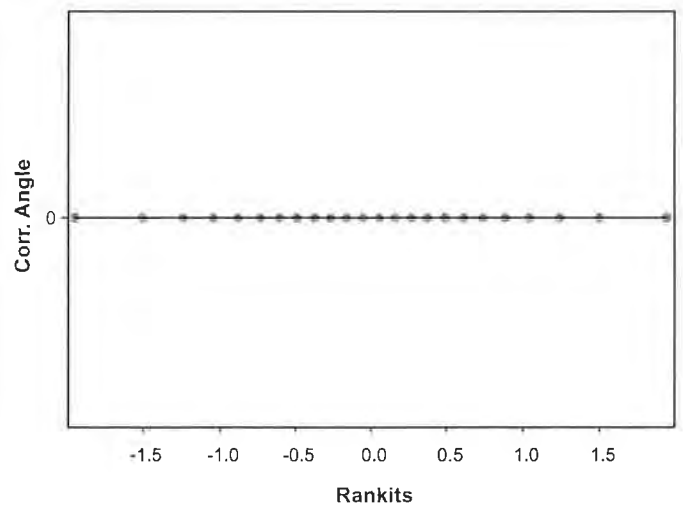
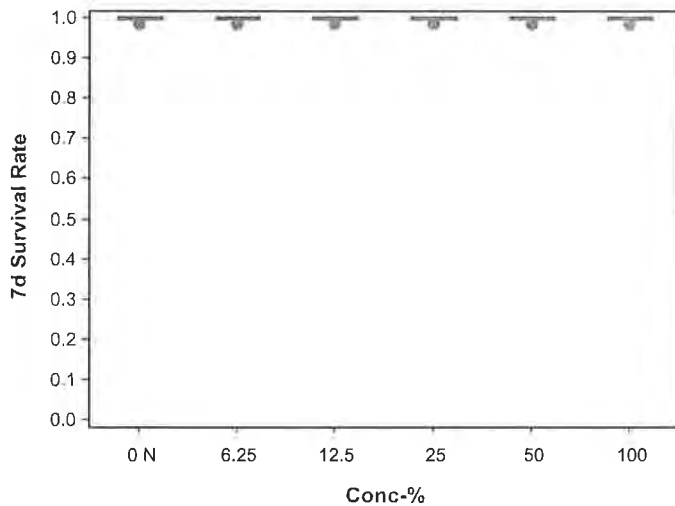
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.4410	1.4410
6.25		1.4410	1.4410	1.4410	1.4410
12.5		1.4410	1.4410	1.4410	1.4410
25		1.4410	1.4410	1.4410	1.4410
50		1.4410	1.4410	1.4410	1.4410
100		1.4410	1.4410	1.4410	1.4410

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 16:02 (p 3 of 4)
Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-5574-8078	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:22	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 13:17	MD5 Hash: 8D03621E41CFF00CA46F37C02FAC225B	Editor ID: 008-463-000-3
Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.01959	5.61%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-0.6964	2.407	0.01959	CDF	0.9621	Non-Significant Effect
		12.5	6	-0.594	2.407	0.01959	CDF	0.9515	Non-Significant Effect
		25	6	-0.2868	2.407	0.01959	CDF	0.9039	Non-Significant Effect
		50	6	1.188	2.407	0.01959	CDF	0.3419	Non-Significant Effect
		100	6	-0.635	2.407	0.01959	CDF	0.9560	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.3493	0.25	<<	Yes	Passes Criteria
PMSD	0.05607	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0006779	0.0001356	5	1.024	0.4329	Non-Significant Effect
Error	0.0023833	0.0001324	18			
Total	0.0030613		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.976	15.09	0.4188	Equal Variances
	Levene Equality of Variance Test	1.006	4.248	0.4424	Equal Variances
	Mod Levene Equality of Variance Test	0.6968	4.248	0.6327	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3671	3.878	0.4365	Normal Distribution
	D'Agostino Kurtosis Test	0.6128	2.576	0.5400	Normal Distribution
	D'Agostino Skewness Test	1.38	2.576	0.1676	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	2.28	9.21	0.3198	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1433	0.2056	0.2258	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9593	0.884	0.4246	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3493	0.3267	0.372	0.3463	0.336	0.3687	0.007113	4.07%	0.00%
6.25		4	0.355	0.3377	0.3723	0.3583	0.3393	0.364	0.005433	3.06%	-1.62%
12.5		4	0.3542	0.3265	0.3818	0.3497	0.3387	0.3787	0.008698	4.91%	-1.38%
25		4	0.3517	0.3389	0.3644	0.3507	0.3433	0.362	0.004005	2.28%	-0.67%
50		4	0.3397	0.3324	0.3469	0.3407	0.3333	0.344	0.002269	1.34%	2.77%
100		4	0.3545	0.3397	0.3693	0.3517	0.3467	0.368	0.004654	2.63%	-1.48%

Fathead Minnow 7-d Larval Survival and Growth Test

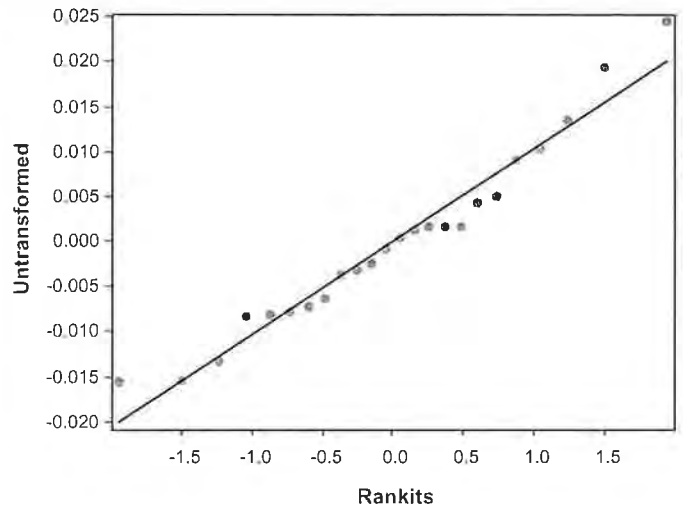
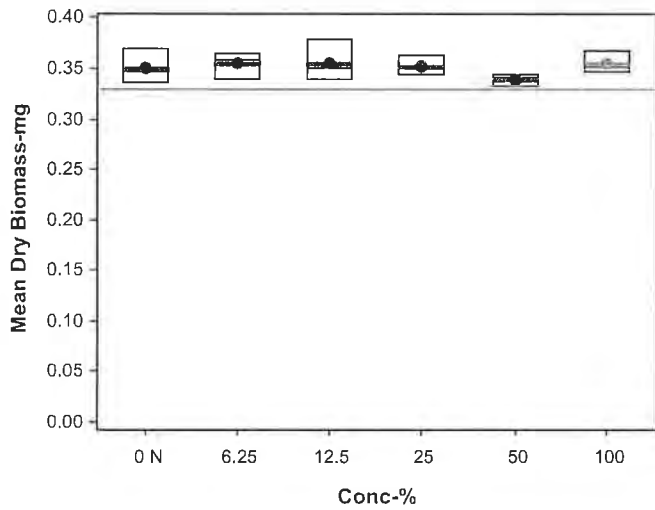
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-5574-8078 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 13:22 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 13:17 MD5 Hash: 8D03621E41CFF00CA46F37C02FAC225B Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.342	0.336	0.3507	0.3687
6.25		0.3393	0.364	0.3567	0.36
12.5		0.3787	0.3533	0.3387	0.346
25		0.3533	0.348	0.362	0.3433
50		0.3413	0.344	0.34	0.3333
100		0.352	0.3467	0.368	0.3513

Graphics



Attachment A Appendix I 

CETIS Analytical Report

Report Date: 21 Sep-22 16:02 (p 1 of 4)

Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-7303-1550	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 13:17	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24

Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Fathead Minnow 7-d Larval Survival and Growth Test

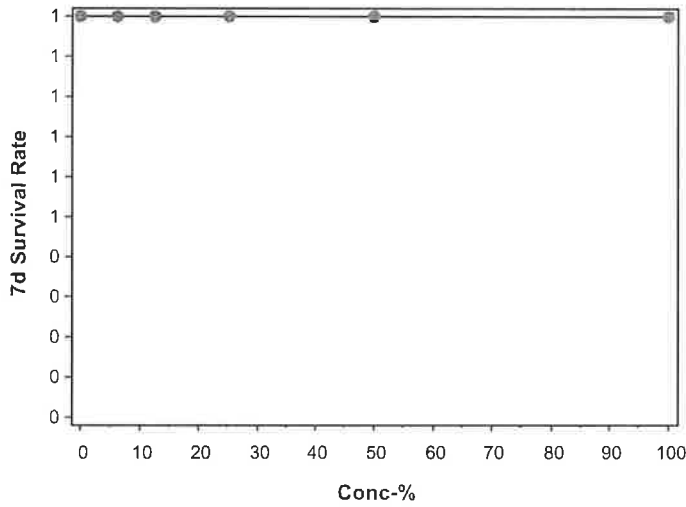
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-7303-1550
Analyzed: 16 Sep-22 13:22
Edit Date: 16 Sep-22 13:17

Endpoint: 7d Survival Rate
Analysis: Linear Interpolation (ICPIN)
MD5 Hash: 68E117461239090AA7E1427F0F536296

CETIS Version: CETISv2.1.2
Status Level: 1
Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 21 Sep-22 16:02 (p 3 of 4)
 Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-3342-7099	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:22	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 13:17	MD5 Hash: 8D03621E41CFF00CA46F37C02FAC225B	Editor ID: 008-463-000-3
Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1290328	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3493	0.25	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.3493	0.3463	0.336	0.3687	4.07%	0.00%	0.3528	0.00%
6.25		4	0.355	0.3583	0.3393	0.364	3.06%	-1.62%	0.3528	0.00%
12.5		4	0.3542	0.3497	0.3387	0.3787	4.91%	-1.38%	0.3528	0.00%
25		4	0.3517	0.3507	0.3433	0.362	2.28%	-0.67%	0.3517	0.31%
50		4	0.3397	0.3407	0.3333	0.344	1.34%	2.77%	0.3471	1.62%
100		4	0.3545	0.3517	0.3467	0.368	2.63%	-1.48%	0.3471	1.62%

Mean Dry Biomass-mg Detail

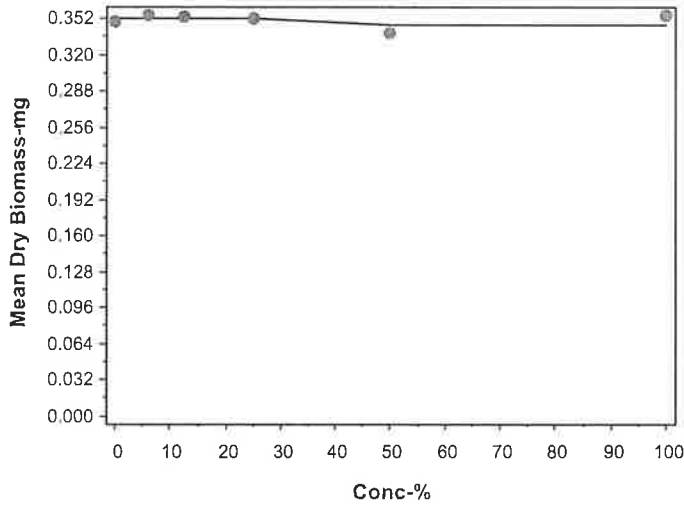
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.342	0.336	0.3507	0.3687
6.25		0.3393	0.364	0.3567	0.36
12.5		0.3787	0.3533	0.3387	0.346
25		0.3533	0.348	0.362	0.3433
50		0.3413	0.344	0.34	0.3333
100		0.352	0.3467	0.368	0.3513

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-3342-7099 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 13:22 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 16 Sep-22 13:17 MD5 Hash: 8D03621E41CFF00CA46F37C02FAC225B Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 21 Sep-22 16:02 (p 1 of 2)
 Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 02-0143-7720	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:47	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 13:59	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 04-5981-8364	Code: VCF0822.210fml	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	165	165	165	165	165	0	0	0.00%	0
Overall		16	113	84.38	141.6	61	165	13.43	53.71	47.53%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	460.2	455	465.5	455	470	0.7899	6.319	1.37%	0
12.5		8	481.4	478.7	484.1	476	487	0.4005	3.204	0.67%	0
25		8	616.1	610.2	622	605	625	0.885	7.08	1.15%	0
50		8	852.2	849.8	854.7	847	855	0.3705	2.964	0.35%	0
100		8	1283	1276	1289	1267	1290	0.9738	7.791	0.61%	0
Overall		48	678.8	588	769.7	379	1290	45.16	312.8	46.09%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.663	7.426	7.899	7	7.9	0.03532	0.2825	3.69%	0
12.5		8	7.675	7.431	7.919	7	7.9	0.03644	0.2915	3.80%	0
25		8	7.65	7.414	7.886	7	7.9	0.03536	0.2828	3.70%	0
50		8	7.637	7.428	7.847	7.1	7.9	0.03129	0.2504	3.28%	0
100		8	7.625	7.39	7.86	7	7.9	0.0352	0.2816	3.69%	0
Overall		48	7.658	7.582	7.734	7	7.9	0.03776	0.2616	3.42%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95	95	95	95	95	0	0	0.00%	0
100		8	360	360	360	360	360	0	0	0.00%	0
Overall		16	227.5	154.6	300.4	95	360	34.21	136.8	60.15%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.163	8.119	8.206	8.1	8.2	0.006471	0.05177	0.63%	0
6.25		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
12.5		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
25		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
50		8	8.125	8.066	8.184	8	8.2	0.00884	0.07072	0.87%	0
100		8	8.125	8.051	8.199	8	8.2	0.01108	0.08865	1.09%	0
Overall		48	8.125	8.106	8.144	8	8.2	0.009648	0.06684	0.82%	0 (0%)

CETIS Measurement Report

Report Date: 21 Sep-22 16:02 (p 2 of 2)
Test Code/ID: VCF0822.210fml / 10-6749-0141

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24	24	24	24	24	0	0	0.00%	0
50		8	24	24	24	24	24	0	0	0.00%	0
100		8	24	24	24	24	24	0	0	0.00%	0
Overall		48	24	24	24	24	24	0	0	0.00%	0 (0%)





September 22, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

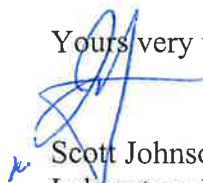
CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-VR2
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.210

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL NOEC = 100.00 %
TU_c = 1.00
EC25 = >100.00 %
EC50 = >100.00 %

REPRODUCTION NOEC = 100.00 %
TU_c = 1.00
IC25 = >100.00 %
IC50 = >100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:23 (p 1 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:					
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water					
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable					
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO	Age: <24				
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:					
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2					
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri						

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
01-4317-1224	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
06-4322-6900	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	12.3%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
19-5553-2947	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
16-3576-9468	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
01-4317-1224	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
19-5553-2947	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
06-4322-6900	Reproduction	Control Resp	25.3	15	<<	Yes	Passes Criteria
16-3576-9468	Reproduction	Control Resp	25.3	15	<<	Yes	Passes Criteria
06-4322-6900	Reproduction	PMSD	0.1229	0.13	0.47	Yes	Below Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	25.3	23.58	27.02	22	30	0.7608	2.406	9.51%	0.00%
6.25		10	27.2	25.27	29.13	23	32	0.8537	2.7	9.93%	-7.51%
12.5		10	26.6	24.66	28.54	24	31	0.8589	2.716	10.21%	-5.14%
25		10	28.2	25.53	30.87	22	34	1.181	3.736	13.25%	-11.46%
50		10	28.6	25.94	31.26	21	34	1.176	3.718	13.00%	-13.04%
100		10	28	26.09	29.91	24	32	0.8433	2.667	9.52%	-10.67%

CETIS Summary Report

Report Date: 22 Sep-22 10:23 (p 2 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 521A0DF2AE1E59D72392DBABE0C7AEFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

MD5: 496C5226E1BA631A31A67A63CB37819C

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		25	31	26	27	26	28	28	26	23	32
12.5		30	25	27	25	31	25	25	30	24	24
25		32	30	24	22	26	29	26	31	34	28
50		29	30	26	34	28	21	33	30	26	29
100		28	29	31	26	31	24	27	26	26	32

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 22 Sep-22 10:23 (p 1 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 06-4322-6900	Endpoint: Reproduction	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 14:45	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 14:39	MD5 Hash: 496C5226E1BA631A31A67A63CB37819C	Editor ID: 008-463-000-3			
Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:			
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2			
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.109	12.29%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	-1.399	2.289	3.109	CDF	0.9955	Non-Significant Effect
		12.5	18	-0.9571	2.289	3.109	CDF	0.9822	Non-Significant Effect
		25	18	-2.135	2.289	3.109	CDF	0.9997	Non-Significant Effect
		50	18	-2.43	2.289	3.109	CDF	0.9999	Non-Significant Effect
		100	18	-1.988	2.289	3.109	CDF	0.9995	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	25.3	15	<<	Yes	Passes Criteria
PMSD	0.1229	0.13	0.47	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	74.8833	14.9767	5	1.624	0.1695	Non-Significant Effect
Error	498.1	9.22407	54			
Total	572.983		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.16	15.09	0.6753	Equal Variances
	Levene Equality of Variance Test	0.5619	3.377	0.7287	Equal Variances
	Mod Levene Equality of Variance Test	0.4601	3.377	0.8041	Equal Variances
Distribution	Anderson-Darling A2 Test	0.6159	3.878	0.1099	Normal Distribution
	D'Agostino Kurtosis Test	0.2222	2.576	0.8242	Normal Distribution
	D'Agostino Skewness Test	0.002906	2.576	0.9977	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.04937	9.21	0.9756	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1102	0.1331	0.0673	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9751	0.9459	0.2568	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	25.3	23.58	27.02	24.25	22	30	0.7608	9.51%	0.00%
6.25		10	27.2	25.27	29.13	26.25	23	32	0.8537	9.93%	-7.51%
12.5		10	26.6	24.66	28.54	25	24	31	0.8589	10.21%	-5.14%
25		10	28.2	25.53	30.87	28.5	22	34	1.181	13.25%	-11.46%
50		10	28.6	25.94	31.26	29	21	34	1.176	13.00%	-13.04%
100		10	28	26.09	29.91	27.5	24	32	0.8433	9.52%	-10.67%

Ceriodaphnia 7-d Survival and Reproduction Test

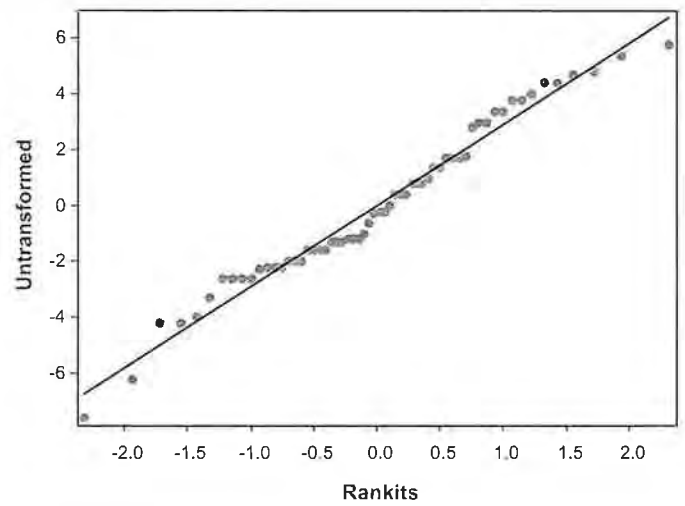
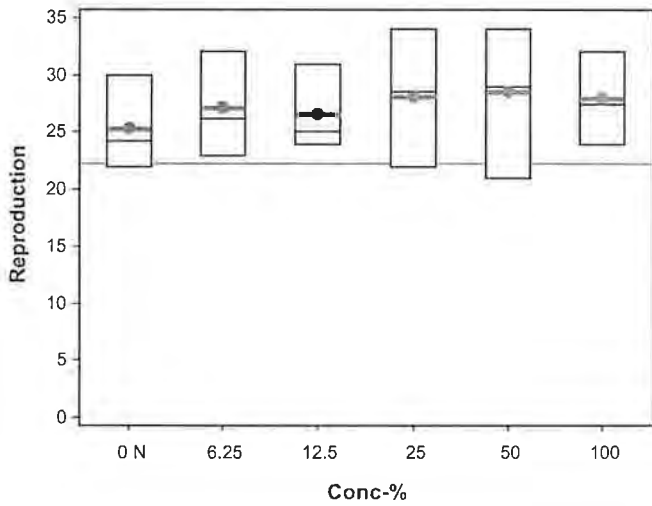
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-4322-6900 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 14:45 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 14:39 MD5 Hash: 496C5226E1BA631A31A67A63CB37819C Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		25	31	26	27	26	28	28	26	23	32
12.5		30	25	27	25	31	25	25	30	24	24
25		32	30	24	22	26	29	26	31	34	28
50		29	30	26	34	28	21	33	30	26	29
100		28	29	31	26	31	24	27	26	26	32

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:23 (p 1 of 4)

Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-5553-2947	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 14:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 14:39	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

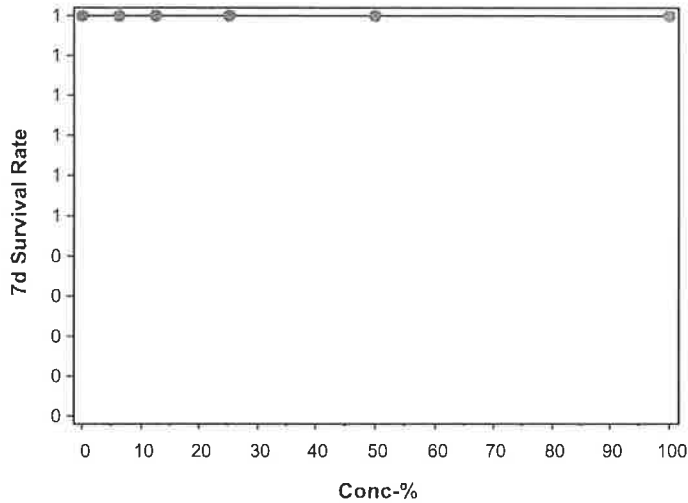
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-5553-2947	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 14:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 14:39	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:23 (p 3 of 4)

Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-3576-9468	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 14:46	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 14:39	MD5 Hash: 496C5226E1BA631A31A67A63CB37819C	Editor ID: 008-463-000-3
Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1972488	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	25.3	15	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	25.3	24.25	22	30	9.51%	0.00%	27.32	0.00%
6.25		10	27.2	26.25	23	32	9.93%	-7.51%	27.32	0.00%
12.5		10	26.6	25	24	31	10.21%	-5.14%	27.32	0.00%
25		10	28.2	28.5	22	34	13.25%	-11.46%	27.32	0.00%
50		10	28.6	29	21	34	13.00%	-13.04%	27.32	0.00%
100		10	28	27.5	24	32	9.52%	-10.67%	27.32	0.00%

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		25	31	26	27	26	28	28	26	23	32
12.5		30	25	27	25	31	25	25	30	24	24
25		32	30	24	22	26	29	26	31	34	28
50		29	30	26	34	28	21	33	30	26	29
100		28	29	31	26	31	24	27	26	26	32

Ceriodaphnia 7-d Survival and Reproduction Test

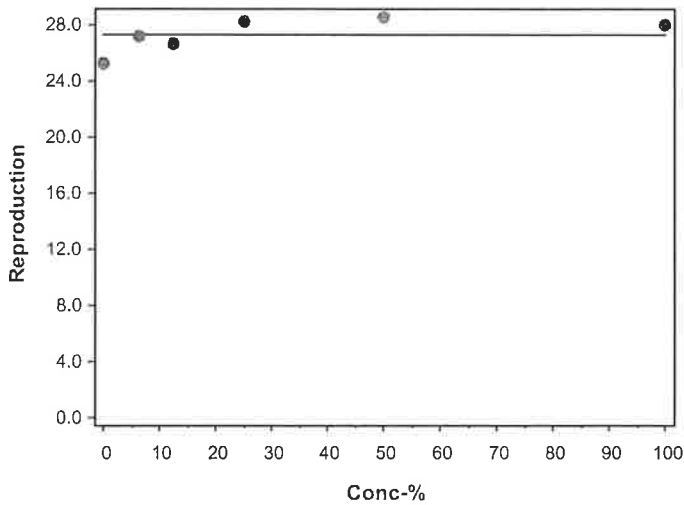
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-3576-9468
Analyzed: 16 Sep-22 14:46
Edit Date: 16 Sep-22 14:39

Endpoint: Reproduction
Analysis: Linear Interpolation (ICPIN)
MD5 Hash: 496C5226E1BA631A31A67A63CB37819C

CETIS Version: CETISv2.1.2
Status Level: 1
Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:23 (p 1 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-4317-1224	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 14:45	Analysis: STP 2xK Contingency Tables	Status Level: 1
Edit Date: 16 Sep-22 14:39	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3
Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test

Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

Test Acceptability Criteria

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

7d Survival Rate Frequencies

Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

CETIS Analytical Report

Report Date: 22 Sep-22 10:23 (p 2 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

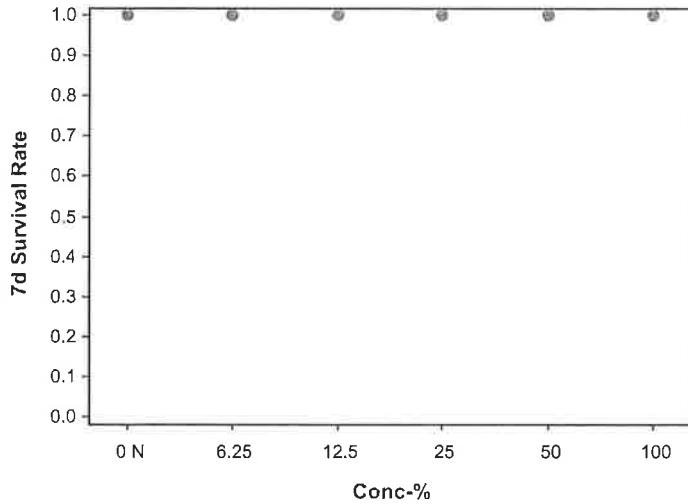
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-4317-1224 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 14:45 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 16 Sep-22 14:39 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:23 (p 1 of 2)
 Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 18-0383-6262	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 13 Sep-22 15:08	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 30 Dec-99	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: ---	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 11-8120-6270	Code: VCF0822.210cer	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 15d 5h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	165	165	165	165	165	0	0	0.00%	0
Overall		16	113	84.38	141.6	61	165	13.43	53.71	47.53%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	460.2	455	465.5	455	470	0.7899	6.319	1.37%	0
12.5		8	481.4	478.7	484.1	476	487	0.4005	3.204	0.67%	0
25		8	616.5	610.1	622.9	605	628	0.959	7.672	1.24%	0
50		8	852.2	849.8	854.7	847	855	0.3705	2.964	0.35%	0
100		8	1283	1276	1289	1267	1290	0.9738	7.791	0.61%	0
Overall		48	678.9	588.1	769.7	379	1290	45.15	312.8	46.08%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.663	7.426	7.899	7	7.9	0.03532	0.2825	3.69%	0
12.5		8	7.675	7.431	7.919	7	7.9	0.03644	0.2915	3.80%	0
25		8	7.65	7.414	7.886	7	7.9	0.03536	0.2828	3.70%	0
50		8	7.637	7.428	7.847	7.1	7.9	0.03129	0.2504	3.28%	0
100		8	7.625	7.39	7.86	7	7.9	0.0352	0.2816	3.69%	0
Overall		48	7.658	7.582	7.734	7	7.9	0.03776	0.2616	3.42%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95	95	95	95	95	0	0	0.00%	0
100		8	360	360	360	360	360	0	0	0.00%	0
Overall		16	227.5	154.6	300.4	95	360	34.21	136.8	60.15%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.163	8.119	8.206	8.1	8.2	0.006471	0.05177	0.63%	0
6.25		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
12.5		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
25		8	8.113	8.059	8.166	8	8.2	0.008013	0.0641	0.79%	0
50		8	8.125	8.066	8.184	8	8.2	0.00884	0.07072	0.87%	0
100		8	8.125	8.051	8.199	8	8.2	0.01108	0.08865	1.09%	0
Overall		48	8.125	8.106	8.144	8	8.2	0.009648	0.06684	0.82%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:23 (p 2 of 2)
Test Code/ID: VCF0822.210cer / 21-4088-7711

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24	24	24	24	24	0	0	0.00%	0
50		8	24	24	24	24	24	0	0	0.00%	0
100		8	24	24	24	24	24	0	0	0.00%	0
Overall		48	24	24	24	24	24	0	0	0.00%	0 (0%)





September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.210


ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TU_a = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:25 (p 1 of 1)
 Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-8006-3008	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 12:22	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 13:16	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:
Sample ID: 01-0762-0966	Code: VCF0822.210ahya	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 13:16	CAS (PC):	Station: ME-VR2
Sample Age: 26h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
13-0251-0463	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
11-6246-1415	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

Report Date: 22 Sep-22 10:24 (p 1 of 2)
 Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 13-0251-0463	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2					
Analyzed: 16 Sep-22 15:02	Analysis: Nonparametric-Control vs Treatments	Status Level: 1					
Edit Date: 16 Sep-22 15:01	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3					
Batch ID: 06-8006-3008	Test Type: Survival (96h)	Analyst:					
Start Date: 30 Aug-22 12:22	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water					
Ending Date: 03 Sep-22 13:16	Species: Hyalella azteca	Brine: Not Applicable					
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO	Age:				
Sample ID: 01-0762-0966	Code: VCF0822.210ahya	Project:					
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 03 Sep-22 13:16	CAS (PC):	Station: ME-VR2					
Sample Age: 26h (16.5 °C)	Client: Ventura County Watershed Protection Distri						

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test									
Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test				Indeterminate	
Distribution	Shapiro-Wilk W Normality Test				Indeterminate	

96h Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-0251-0463 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:02 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:01 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

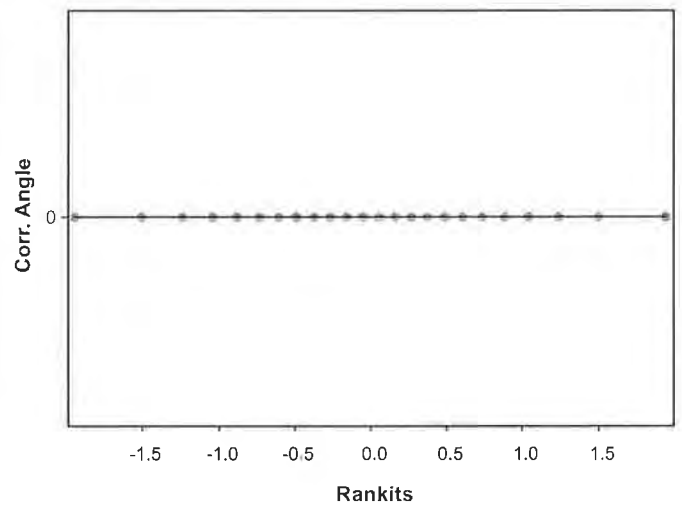
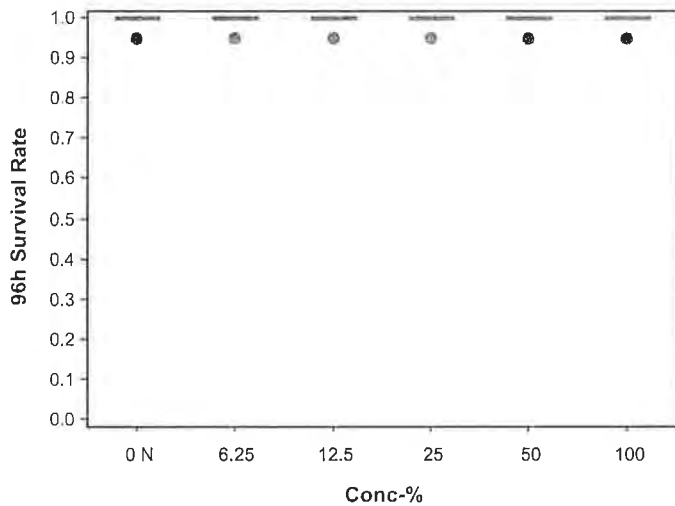
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:25 (p 1 of 2)
 Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	11-6246-1415	Endpoint:	96h Survival Rate	CETIS Version:	CETISv2.1.2		
Analyzed:	16 Sep-22 15:02	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1		
Edit Date:	16 Sep-22 15:01	MD5 Hash:	68E117461239090AA7E1427F0F536296	Editor ID:	008-463-000-3		
Batch ID:	06-8006-3008	Test Type:	Survival (96h)	Analyst:			
Start Date:	30 Aug-22 12:22	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Laboratory Water		
Ending Date:	03 Sep-22 13:16	Species:	Hyalella azteca	Brine:	Not Applicable		
Test Length:	4d 1h	Taxon:	Malacostraca	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	01-0762-0966	Code:	VCF0822.210ahya	Project:			
Sample Date:	29 Aug-22 10:05	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	03 Sep-22 13:16	CAS (PC):		Station:	ME-VR2		
Sample Age:	26h (16.5 °C)	Client:	Ventura County Watershed Protection Distri				

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

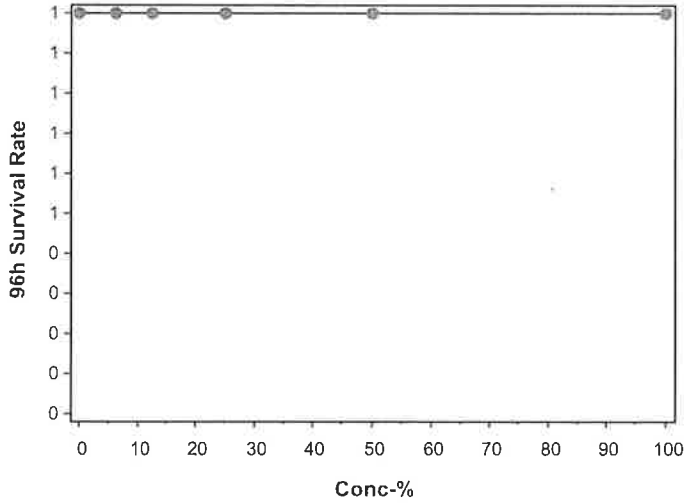
Report Date: 22 Sep-22 10:25 (p 2 of 2)
Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-6246-1415	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:02	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:01	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:25 (p 1 of 2)

Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-8006-3008	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 12:22	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 13:16	Species: Hyalella azteca	Brine: Not Applicable
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO
		Age:
Sample ID: 01-0762-0966	Code: VCF0822.210ahya	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 13:16	CAS (PC):	Station: ME-VR2
Sample Age: 26h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	165	165	165	165	165	0	0	0.00%	0
Overall		6	113	53.22	172.8	61	165	23.26	56.96	50.41%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	463.3	444.4	482.3	455	470	2.546	7.638	1.65%	0
12.5		3	481.7	468	495.3	476	487	1.836	5.508	1.14%	0
25		3	614.7	598.7	630.6	610	622	2.143	6.429	1.05%	0
50		3	852.3	845.2	859.5	849	854	0.9623	2.887	0.34%	0
100		3	1277	1255	1300	1267	1283	2.988	8.963	0.70%	0
Overall		18	678.3	521	835.6	379	1283	74.56	316.3	46.64%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.733	7.59	7.877	7.7	7.8	0.01925	0.05774	0.75%	0
12.5		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
25		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
50		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
100		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
Overall		18	7.744	7.696	7.793	7.6	7.9	0.02318	0.09835	1.27%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	360	360	360	360	360	0	0	0.00%	0
Overall		6	227.5	75.18	379.8	95	360	59.26	145.1	63.80%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
6.25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
12.5		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
Overall		18	8.15	8.124	8.176	8.1	8.2	0.01213	0.05145	0.63%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:25 (p 2 of 2)
Test Code/ID: VCF0822.210ahya / 03-1318-3228

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)





September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.210

ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:26 (p 1 of 1)
 Test Code/ID: VCF0822.210achi / 03-6655-3338

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 12-6113-6738	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:18	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:16	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 00-1096-4648	Code: VCF0822.210achi	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
16-2716-0107	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
18-4844-3399	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

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PAS

CETIS Analytical Report

Report Date: 22 Sep-22 10:26 (p 1 of 2)
 Test Code/ID: VCF0822.210achi / 03-6655-3338

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 16-2716-0107	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 15:04	Analysis: Nonparametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 12-6113-6738	Test Type: Survival (96h)	Analyst:			
Start Date: 30 Aug-22 15:18	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 03 Sep-22 14:16	Species: Chironomus dilutus	Brine: Not Applicable			
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:			
Sample ID: 00-1096-4648	Code: VCF0822.210achi	Project:			
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2			
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-2716-0107 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:04 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:03 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

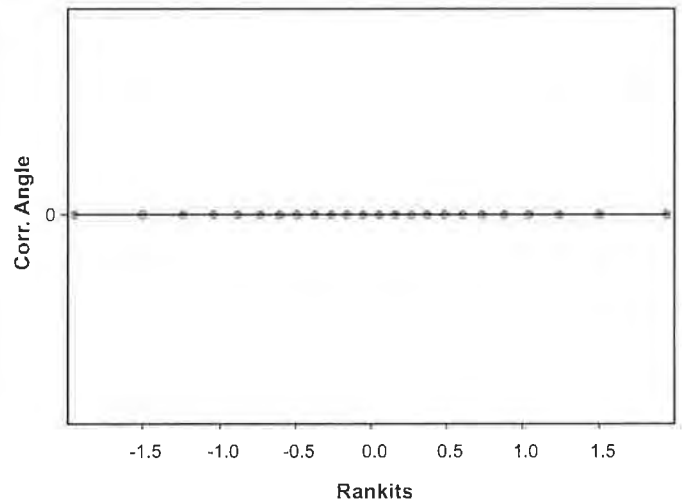
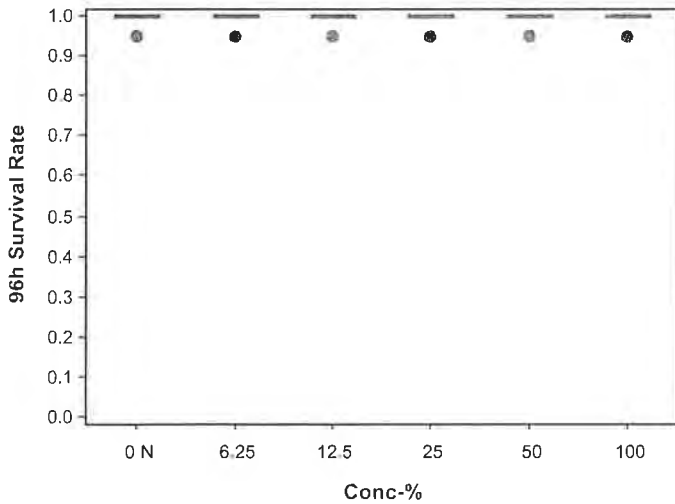
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:26 (p 1 of 2)

Test Code/ID: VCF0822.210achi / 03-6655-3338

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-4844-3399	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:05	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Batch ID: 12-6113-6738	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:18	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:16	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:

Sample ID: 00-1096-4648	Code: VCF0822.210achi	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

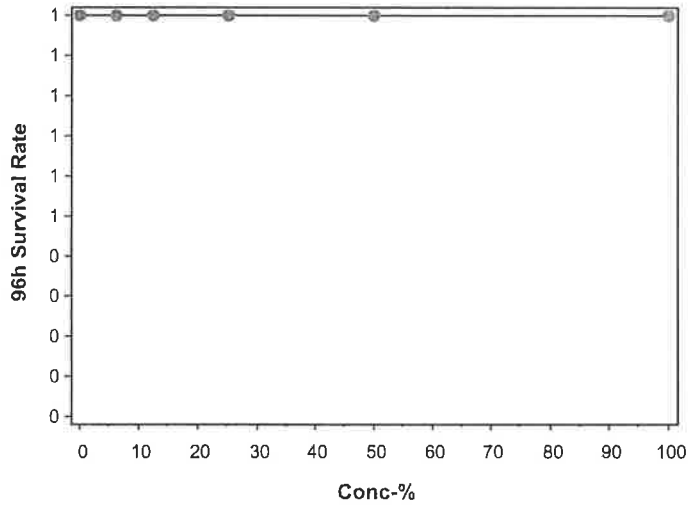
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-4844-3399	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:05	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:03	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:26 (p 1 of 2)
 Test Code/ID: VCF0822.210achi / 03-6655-3338

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 12-6113-6738	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:18	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:16	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 00-1096-4648	Code: VCF0822.210achi	Project:
Sample Date: 29 Aug-22 10:05	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-VR2
Sample Age: 29h (16.5 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	165	165	165	165	165	0	0	0.00%	0
Overall		6	113	53.22	172.8	61	165	23.26	56.96	50.41%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	463.3	444.4	482.3	455	470	2.546	7.638	1.65%	0
12.5		3	481.7	468	495.3	476	487	1.836	5.508	1.14%	0
25		3	614.7	598.7	630.6	610	622	2.143	6.429	1.05%	0
50		3	852.3	845.2	859.5	849	854	0.9623	2.887	0.34%	0
100		3	1277	1255	1300	1267	1283	2.988	8.963	0.70%	0
Overall		18	678.3	521	835.6	379	1283	74.56	316.3	46.64%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.733	7.59	7.877	7.7	7.8	0.01925	0.05774	0.75%	0
12.5		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
25		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
50		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
100		3	7.733	7.446	8.02	7.6	7.8	0.03849	0.1155	1.49%	0
Overall		18	7.744	7.696	7.793	7.6	7.9	0.02318	0.09835	1.27%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	360	360	360	360	360	0	0	0.00%	0
Overall		6	227.5	75.18	379.8	95	360	59.26	145.1	63.80%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
6.25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
12.5		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
Overall		18	8.15	8.124	8.176	8.1	8.2	0.01213	0.05145	0.63%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:26 (p 2 of 2)
Test Code/ID: VCF0822.210achi / 03-6655-3338

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)

 P



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*" EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:


CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: RW-LC1
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.213

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL NOEC = 100.00 %
 TU_c = 1.00
 EC25 = >100.00 %
 EC50 = >100.00 %

BIOMASS NOEC = 100.00 %
 TU_c = 1.00
 IC25 = >100.00 %
 IC50 = >100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:30 (p 1 of 2)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-3364-1400	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-7531-4361	Code: VCF0822.213fml	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
20-4387-5023	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1
04-3097-6413	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	4.66%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
00-8247-8600	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
00-9588-8710	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
00-8247-8600	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
20-4387-5023	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
00-9588-8710	Mean Dry Biomass-mg	Control Resp	0.3407	0.25	<<	Yes	Passes Criteria	
04-3097-6413	Mean Dry Biomass-mg	Control Resp	0.3407	0.25	<<	Yes	Passes Criteria	
04-3097-6413	Mean Dry Biomass-mg	PMSD	0.04663	0.12	0.3	Yes	Below Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3407	0.3313	0.35	0.3353	0.3487	0.002944	0.005888	1.73%	0.00%
6.25		4	0.3378	0.3314	0.3442	0.334	0.3433	0.002007	0.004014	1.19%	0.83%
12.5		4	0.349	0.325	0.373	0.336	0.3707	0.00755	0.0151	4.33%	-2.45%
25		4	0.3447	0.3231	0.3662	0.3347	0.3647	0.006771	0.01354	3.93%	-1.17%
50		4	0.3478	0.3369	0.3588	0.3407	0.3547	0.003436	0.006872	1.98%	-2.10%
100		4	0.343	0.3372	0.3488	0.3387	0.3473	0.001816	0.003631	1.06%	-0.68%

CETIS Summary Report

Report Date: 22 Sep-22 10:30 (p 2 of 2)

Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

Mean Dry Biomass-mg Detail

MD5: 49C7374BDC0A1FAB482D217DECB5AA66

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.336	0.3433	0.334	0.338
12.5		0.3427	0.336	0.3707	0.3467
25		0.3347	0.34	0.3393	0.3647
50		0.3547	0.3433	0.3407	0.3527
100		0.3387	0.344	0.342	0.3473

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

CETIS Analytical Report

Report Date: 22 Sep-22 10:30 (p 1 of 4)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-4387-5023	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:12	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:05	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 06-3364-1400	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-7531-4361	Code: VCF0822.213fml	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

Test Acceptability Criteria

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

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
6.25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
12.5		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
25		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
50		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
100		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 22 Sep-22 10:30 (p 2 of 4)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-4387-5023 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:12 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:05 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

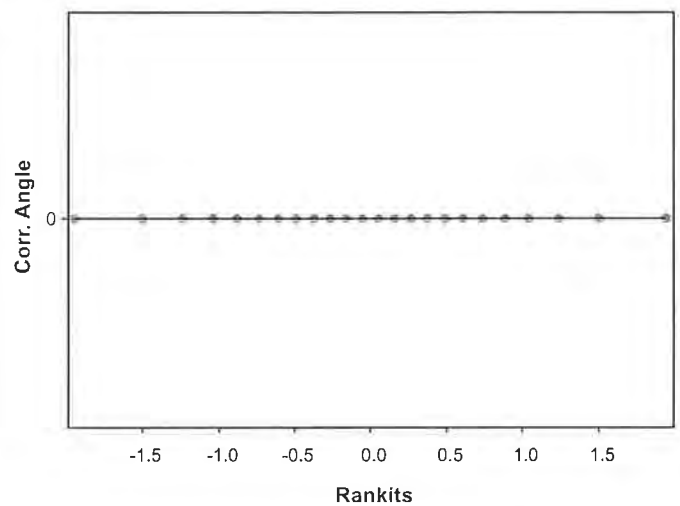
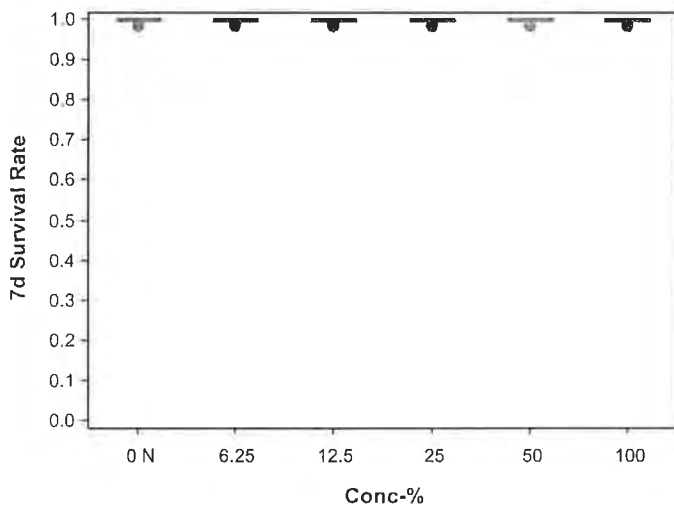
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.4410	1.4410
6.25		1.4410	1.4410	1.4410	1.4410
12.5		1.4410	1.4410	1.4410	1.4410
25		1.4410	1.4410	1.4410	1.4410
50		1.4410	1.4410	1.4410	1.4410
100		1.4410	1.4410	1.4410	1.4410

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:30 (p 3 of 4)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-3097-6413	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:12	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:05	MD5 Hash: 49C7374BDC0A1FAB482D217DECB5AA6	Editor ID: 008-463-000-3
Batch ID: 06-3364-1400	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-7531-4361	Code: VCF0822.213fml	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.01588	4.66%

Dunnnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	0.4293	2.407	0.01588	CDF	0.6778	Non-Significant Effect
		12.5	6	-1.263	2.407	0.01588	CDF	0.9917	Non-Significant Effect
		25	6	-0.6061	2.407	0.01588	CDF	0.9529	Non-Significant Effect
		50	6	-1.086	2.407	0.01588	CDF	0.9864	Non-Significant Effect
		100	6	-0.3536	2.407	0.01588	CDF	0.9165	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.3407	0.25	<<	Yes	Passes Criteria
PMSD	0.04663	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0003604	7.209E-05	5	0.8277	0.5464	Non-Significant Effect
Error	0.0015678	8.71E-05	18			
Total	0.0019282		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	9.035	15.09	0.1077	Equal Variances
	Levene Equality of Variance Test	2.136	4.248	0.1077	Equal Variances
	Mod Levene Equality of Variance Test	0.6384	4.248	0.6734	Equal Variances
Distribution	Anderson-Darling A2 Test	1.002	3.878	0.0123	Normal Distribution
	D'Agostino Kurtosis Test	1.722	2.576	0.0851	Normal Distribution
	D'Agostino Skewness Test	2.495	2.576	0.0126	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	9.191	9.21	0.0101	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1601	0.2056	0.1124	Normal Distribution
	Shapiro-Wilk W Normality Test	0.8938	0.884	0.0159	Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.3407	0.3313	0.35	0.3393	0.3353	0.3487	0.002944	1.73%	0.00%
6.25		4	0.3378	0.3314	0.3442	0.337	0.334	0.3433	0.002007	1.19%	0.83%
12.5		4	0.349	0.325	0.373	0.3447	0.336	0.3707	0.00755	4.33%	-2.45%
25		4	0.3447	0.3231	0.3662	0.3397	0.3347	0.3647	0.006771	3.93%	-1.17%
50		4	0.3478	0.3369	0.3588	0.348	0.3407	0.3547	0.003436	1.98%	-2.10%
100		4	0.343	0.3372	0.3488	0.343	0.3387	0.3473	0.001815	1.06%	-0.68%

Fathead Minnow 7-d Larval Survival and Growth Test

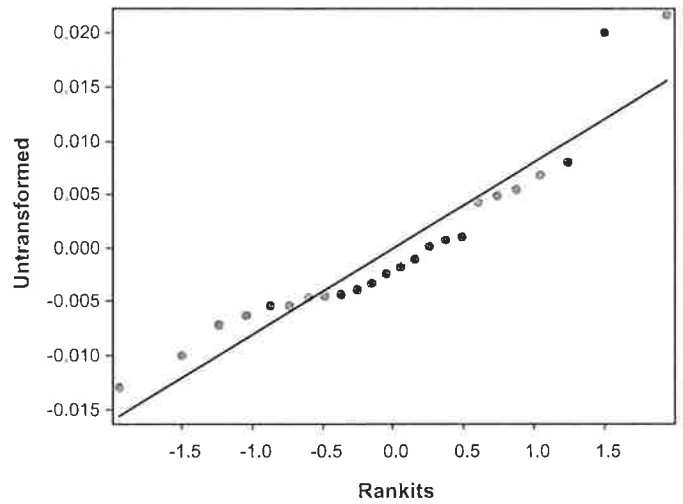
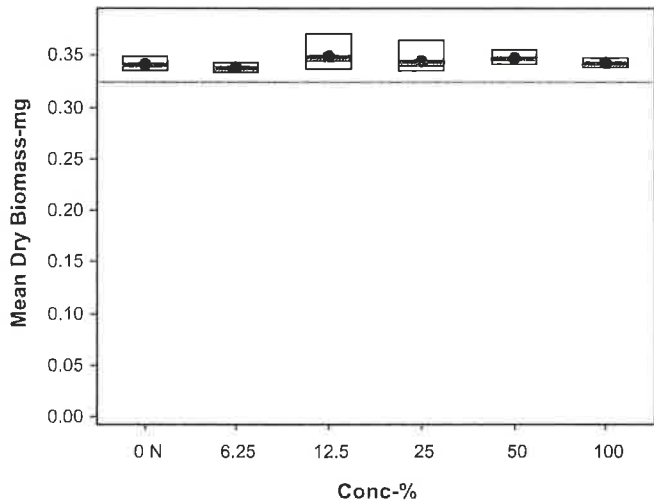
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-3097-6413 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:12 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:05 MD5 Hash: 49C7374BDC0A1FAB482D217DECB5AA6 Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.336	0.3433	0.334	0.338
12.5		0.3427	0.336	0.3707	0.3467
25		0.3347	0.34	0.3393	0.3647
50		0.3547	0.3433	0.3407	0.3527
100		0.3387	0.344	0.342	0.3473

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:30 (p 1 of 4)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-8247-8600 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:12 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 16 Sep-22 15:05 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

Batch ID: 06-3364-1400 Test Type: Growth-Survival (7d) Analyst:
 Start Date: 30 Aug-22 14:34 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water
 Ending Date: 06 Sep-22 14:04 Species: Pimephales promelas Brine: Not Applicable
 Test Length: 6d 23h Taxon: Actinopterygii Source: Aquatic Biosystems, CO Age: <24

Sample ID: 19-7531-4361 Code: VCF0822.213fml Project:
 Sample Date: 29 Aug-22 08:20 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: RW-LC1
 Sample Age: 30h (11 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

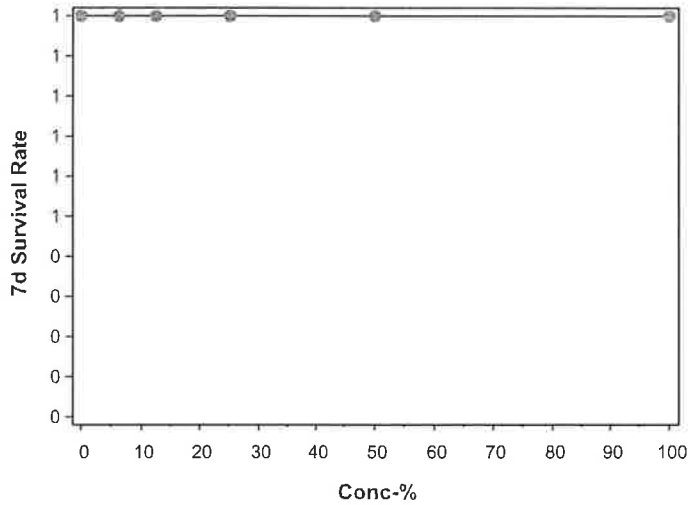
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	15/15	15/15	15/15	15/15
6.25		15/15	15/15	15/15	15/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	15/15	15/15

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-8247-8600	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:05	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:30 (p 3 of 4)

Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-9588-8710	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:05	MD5 Hash: 49C7374BDC0A1FAB482D217DECB5AA6	Editor ID: 008-463-000-3
Batch ID: 06-3364-1400	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-7531-4361	Code: VCF0822.213fml	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	228094	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3407	0.25	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	4	0.3407	0.3393	0.3353	0.3487	1.73%	0.00%	0.344	0.00%
6.25		4	0.3378	0.337	0.334	0.3433	1.19%	0.83%	0.344	0.00%
12.5		4	0.349	0.3447	0.336	0.3707	4.33%	-2.45%	0.344	0.00%
25		4	0.3447	0.3397	0.3347	0.3647	3.93%	-1.17%	0.344	0.00%
50		4	0.3478	0.348	0.3407	0.3547	1.98%	-2.10%	0.344	0.00%
100		4	0.343	0.343	0.3387	0.3473	1.06%	-0.68%	0.343	0.29%

Mean Dry Biomass-mg Detail

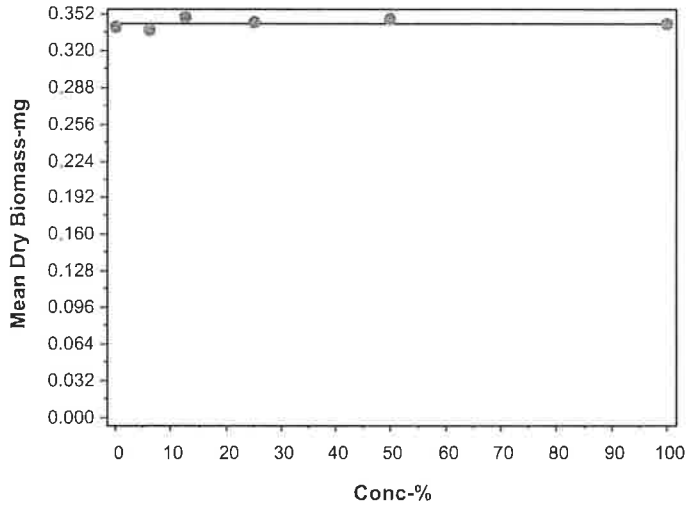
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3413	0.3487	0.3373	0.3353
6.25		0.336	0.3433	0.334	0.338
12.5		0.3427	0.336	0.3707	0.3467
25		0.3347	0.34	0.3393	0.3647
50		0.3547	0.3433	0.3407	0.3527
100		0.3387	0.344	0.342	0.3473

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-9588-8710 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:12 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 16 Sep-22 15:05 MD5 Hash: 49C7374BDC0A1FAB482D217DECB5AA6 Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:30 (p 1 of 2)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 06-3364-1400	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 19-7531-4361	Code: VCF0822.213fml	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	239	239	239	239	239	0	0	0.00%	0
Overall		16	150	101	199	61	239	22.98	91.92	61.28%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	695.2	692.7	697.8	691	699	0.3882	3.105	0.45%	0
12.5		8	784.4	781	787.7	776	788	0.5042	4.033	0.51%	0
25		8	1192	1189	1196	1183	1196	0.5151	4.121	0.35%	0
50		8	1958	1951	1965	1940	1968	1.069	8.548	0.44%	0
100		8	3375	3369	3381	3364	3383	0.9099	7.279	0.22%	0
Overall		48	1398	1100	1695	379	3383	147.9	1025	73.34%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.688	7.441	7.934	7	7.9	0.03686	0.2949	3.84%	0
12.5		8	7.675	7.431	7.919	7	7.9	0.03644	0.2915	3.80%	0
25		8	7.675	7.467	7.883	7.1	7.9	0.03116	0.2493	3.25%	0
50		8	7.687	7.476	7.899	7.1	7.9	0.03165	0.2532	3.29%	0
100		8	7.687	7.476	7.899	7.1	7.9	0.03165	0.2532	3.29%	0
Overall		48	7.685	7.612	7.759	7	7.9	0.03659	0.2535	3.30%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	95	95	95	95	95	0	0	0.00%	0
100		8	550	550	550	550	550	0	0	0.00%	0
Overall		16	322.5	197.3	447.7	95	550	58.74	235	72.86%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.175	8.116	8.234	8.1	8.3	0.00884	0.07072	0.87%	0
6.25		8	8.138	8.061	8.214	8	8.3	0.01145	0.09162	1.13%	0
12.5		8	8.125	8.051	8.199	8	8.3	0.01108	0.08865	1.09%	0
25		8	8.075	8.001	8.149	8	8.2	0.01108	0.08865	1.10%	0
50		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
100		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
Overall		48	8.119	8.093	8.145	8	8.3	0.01286	0.0891	1.10%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:30 (p 2 of 2)
 Test Code/ID: VCF0822.213fml / 09-9845-8234

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24	24	24	24	24	0	0	0.00%	0
50		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
100		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
Overall		48	24	24	24.01	24	24.1	0.002915	0.02019	0.08%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*" EPA-821-R-02-013. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: RW-LC1
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.213

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

REPRODUCTION	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:32 (p 1 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
09-7590-8513	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
08-5057-0409	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	10.6%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
15-1629-1197	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
07-8664-5905	Reproduction	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Overlap	Decision
				Lower	Upper			
09-7590-8513	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
15-1629-1197	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
07-8664-5905	Reproduction	Control Resp	25.3	15	<<	Yes	Passes Criteria	
08-5057-0409	Reproduction	Control Resp	25.3	15	<<	Yes	Passes Criteria	
08-5057-0409	Reproduction	PMSD	0.1061	0.13	0.47	Yes	Below Criteria	

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	25.3	23.58	27.02	22	30	0.7608	2.406	9.51%	0.00%
6.25		10	28.1	26.21	29.99	24	33	0.836	2.644	9.41%	-11.07%
12.5		10	27.2	25.7	28.7	24	31	0.6633	2.098	7.71%	-7.51%
25		10	27.4	25.74	29.06	25	32	0.7333	2.319	8.46%	-8.30%
50		10	25.7	24.01	27.39	22	29	0.7461	2.359	9.18%	-1.58%
100		10	23.4	20.81	25.99	17	29	1.147	3.627	15.50%	7.51%

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CETIS Summary Report

Report Date: 22 Sep-22 10:32 (p 2 of 2)

Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: 521A0DF2AE1E59D72392DBABE0C7AEFC

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

MD5: 34A61DCCF759F0E080AA903C7C244028

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		28	25	29	28	26	30	24	33	30	28
12.5		27	29	24	27	27	27	24	31	28	28
25		26	25	29	25	28	30	26	26	32	27
50		25	26	23	22	27	25	29	24	29	27
100		17	24	23	19	22	23	25	29	24	28

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CETIS Analytical Report

Report Date: 22 Sep-22 10:31 (p 1 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

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

Analysis ID: 08-5057-0409	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:30	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:28	MD5 Hash: 34A61DCCF759F0E080AA903C7C244028	Editor ID: 008-463-000-3
Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	2.685	10.61%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	-2.387	2.289	2.685	CDF	0.9999	Non-Significant Effect
		12.5	18	-1.62	2.289	2.685	CDF	0.9979	Non-Significant Effect
		25	18	-1.79	2.289	2.685	CDF	0.9989	Non-Significant Effect
		50	18	-0.341	2.289	2.685	CDF	0.9152	Non-Significant Effect
		100	18	1.62	2.289	2.685	CDF	0.1798	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	25.3	15	<<	Yes	Passes Criteria
PMSD	0.1061	0.13	0.47	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	149.483	29.8967	5	4.346	0.0021	Significant Effect
Error	371.5	6.87963	54			
Total	520.983		59			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.568	15.09	0.6131	Equal Variances
	Levene Equality of Variance Test	0.547	3.377	0.7399	Equal Variances
	Mod Levene Equality of Variance Test	0.508	3.377	0.7690	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3307	3.878	0.5259	Normal Distribution
	D'Agostino Kurtosis Test	0.1995	2.576	0.8419	Normal Distribution
	D'Agostino Skewness Test	0.3567	2.576	0.7213	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.167	9.21	0.9199	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08256	0.1331	0.3644	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9858	0.9459	0.7106	Normal Distribution

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	25.3	23.58	27.02	24.25	22	30	0.7608	9.51%	0.00%
6.25		10	28.1	26.21	29.99	28	24	33	0.836	9.41%	-11.07%
12.5		10	27.2	25.7	28.7	27	24	31	0.6633	7.71%	-7.51%
25		10	27.4	25.74	29.06	26.25	25	32	0.7333	8.46%	-8.30%
50		10	25.7	24.01	27.39	25.33	22	29	0.7461	9.18%	-1.58%
100		10	23.4	20.81	25.99	23.5	17	29	1.147	15.50%	7.51%

CETIS Analytical Report

Report Date: 22 Sep-22 10:31 (p 2 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test

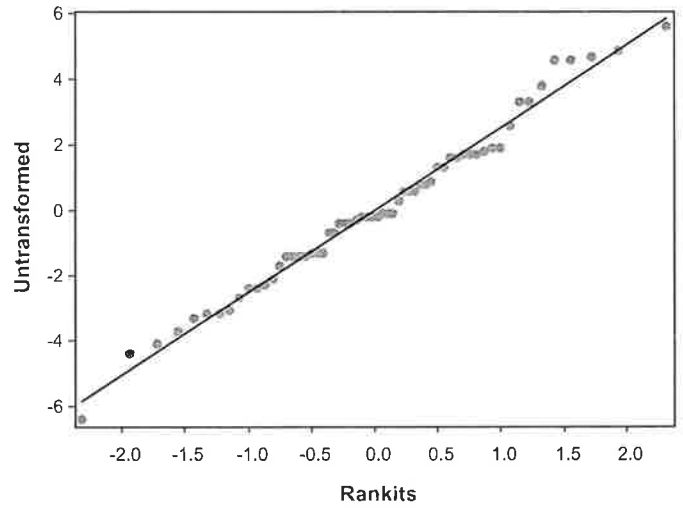
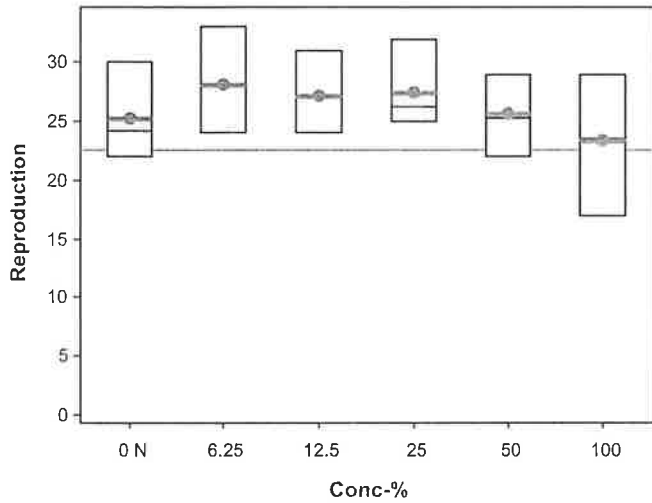
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 08-5057-0409 Endpoint: Reproduction CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:30 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:28 MD5 Hash: 34A61DCCF759F0E080AA903C7C244028 Editor ID: 008-463-000-3

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		28	25	29	28	26	30	24	33	30	28
12.5		27	29	24	27	27	27	24	31	28	28
25		26	25	29	25	28	30	26	26	32	27
50		25	26	23	22	27	25	29	24	29	27
100		17	24	23	19	22	23	25	29	24	28

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CETIS Analytical Report

Report Date: 22 Sep-22 10:31 (p 1 of 4)

Test Code/ID: VCF0822.213cer / 15-9698-7127

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

Analysis ID: 15-1629-1197	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:30	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:28	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3

Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24

Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	10/10	1.0000	0.00%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

7d Survival Rate Binomials

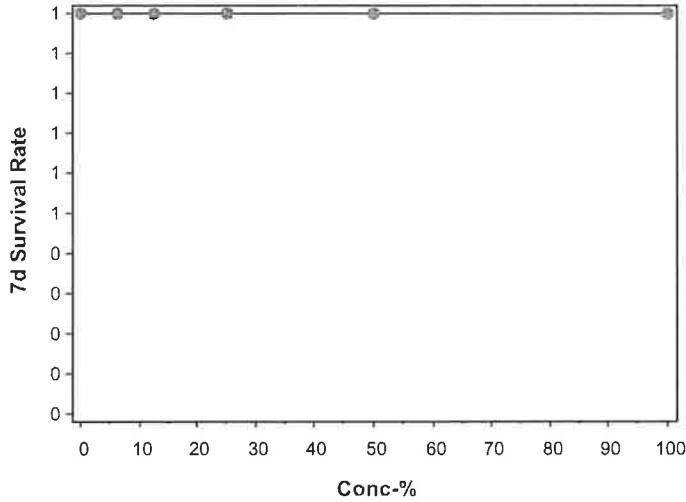
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-1629-1197 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:30 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 16 Sep-22 15:28 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

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CETIS Analytical Report

Report Date: 22 Sep-22 10:31 (p 3 of 4)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

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

Analysis ID: 07-8664-5905	Endpoint: Reproduction	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:30	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:28	MD5 Hash: 34A61DCCF759F0E080AA903C7C244028	Editor ID: 008-463-000-3
Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2036788	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	25.3	15	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Reproduction Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	10	25.3	24.25	22	30	9.51%	0.00%	27	0.00%
6.25		10	28.1	28	24	33	9.41%	-11.07%	27	0.00%
12.5		10	27.2	27	24	31	7.71%	-7.51%	27	0.00%
25		10	27.4	26.25	25	32	8.46%	-8.30%	27	0.00%
50		10	25.7	25.33	22	29	9.18%	-1.58%	25.7	4.81%
100		10	23.4	23.5	17	29	15.50%	7.51%	23.4	13.33%

Reproduction Detail

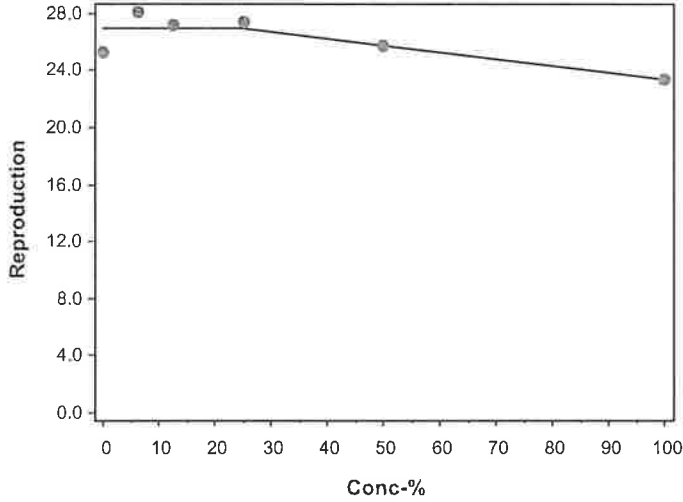
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	24	24	27	27	25	27	24	22	23	30
6.25		28	25	29	28	26	30	24	33	30	28
12.5		27	29	24	27	27	27	24	31	28	28
25		26	25	29	25	28	30	26	26	32	27
50		25	26	23	22	27	25	29	24	29	27
100		17	24	23	19	22	23	25	29	24	28

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-8664-5905 Endpoint: Reproduction CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:30 Analysis: Linear Interpolation (ICPIN) Status Level: 1
Edit Date: 16 Sep-22 15:28 MD5 Hash: 34A61DCCF759F0E080AA903C7C244028 Editor ID: 008-463-000-3

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CETIS Analytical Report

Report Date: 22 Sep-22 10:32 (p 1 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 09-7590-8513	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 15:30	Analysis: STP 2xK Contingency Tables	Status Level: 1			
Edit Date: 16 Sep-22 15:28	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3			
Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:			
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1			
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Untransformed	C > T	100	>100	---	1

Fisher Exact/Bonferroni-Holm Test						
Control	vs	Conc-%	Test Stat	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	1.0000	Exact	1.0000	Non-Significant Effect
		12.5	1.0000	Exact	1.0000	Non-Significant Effect
		25	1.0000	Exact	1.0000	Non-Significant Effect
		50	1.0000	Exact	1.0000	Non-Significant Effect
		100	1.0000	Exact	1.0000	Non-Significant Effect

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

7d Survival Rate Frequencies							
Conc-%	Code	NR	R	NR + R	Prop NR	Prop R	%Effect
0	N	10	0	10	1.0000	0.0000	0.00%
6.25		10	0	10	1.0000	0.0000	0.00%
12.5		10	0	10	1.0000	0.0000	0.00%
25		10	0	10	1.0000	0.0000	0.00%
50		10	0	10	1.0000	0.0000	0.00%
100		10	0	10	1.0000	0.0000	0.00%

7d Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

7d Survival Rate Detail											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Ceriodaphnia 7-d Survival and Reproduction Test

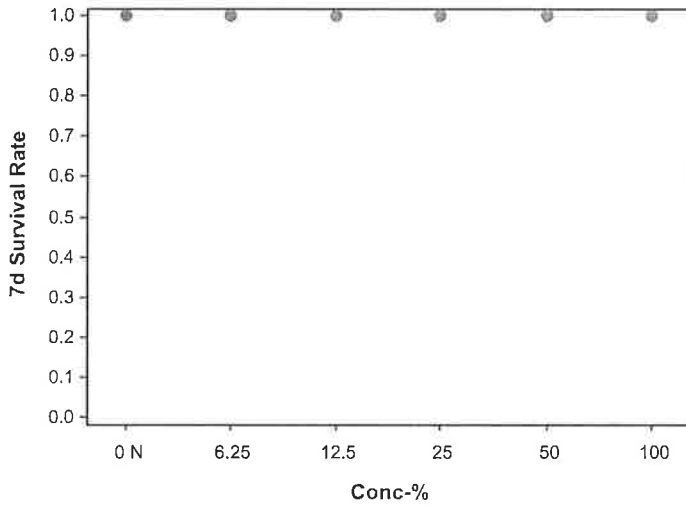
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-7590-8513 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:30 Analysis: STP 2xK Contingency Tables Status Level: 1
 Edit Date: 16 Sep-22 15:28 MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF Editor ID: 008-463-000-3

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		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
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:32 (p 1 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 01-0256-8205	Test Type: Reproduction-Survival (7d)	Analyst:
Start Date: 30 Aug-22 14:34	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 06 Sep-22 14:04	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 06-3957-7933	Code: VCF0822.213cer	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	61	61	61	61	61	0	0	0.00%	0
100		8	239	239	239	239	239	0	0	0.00%	0
Overall		16	150	101	199	61	239	22.98	91.92	61.28%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	380.1	379.4	380.8	379	382	0.1043	0.8345	0.22%	0
6.25		8	695.2	692.7	697.8	691	699	0.3882	3.105	0.45%	0
12.5		8	784.4	781	787.7	776	788	0.5042	4.033	0.51%	0
25		8	1192	1189	1196	1183	1196	0.5151	4.121	0.35%	0
50		8	1958	1951	1965	1940	1968	1.069	8.548	0.44%	0
100		8	3375	3369	3381	3364	3383	0.9099	7.279	0.22%	0
Overall		48	1398	1100	1695	379	3383	147.9	1025	73.34%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.481	7.919	7.1	7.9	0.03273	0.2619	3.40%	0
6.25		8	7.688	7.441	7.934	7	7.9	0.03686	0.2949	3.84%	0
12.5		8	7.675	7.431	7.919	7	7.9	0.03644	0.2915	3.80%	0
25		8	7.675	7.467	7.883	7.1	7.9	0.03116	0.2493	3.25%	0
50		8	7.687	7.476	7.899	7.1	7.9	0.03165	0.2532	3.29%	0
100		8	7.687	7.476	7.899	7.1	7.9	0.03165	0.2532	3.29%	0
Overall		48	7.685	7.612	7.759	7	7.9	0.03659	0.2535	3.30%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	84.25	58.83	109.7	9	95	3.801	30.41	36.09%	0
100		8	550	550	550	550	550	0	0	0.00%	0
Overall		16	317.1	188.5	445.8	9	550	60.35	241.4	76.12%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.175	8.116	8.234	8.1	8.3	0.00884	0.07072	0.87%	0
6.25		8	8.138	8.061	8.214	8	8.3	0.01145	0.09162	1.13%	0
12.5		8	8.125	8.051	8.199	8	8.3	0.01108	0.08865	1.09%	0
25		8	8.075	8.001	8.149	8	8.2	0.01108	0.08865	1.10%	0
50		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
100		8	8.1	8.023	8.177	8	8.2	0.01157	0.09259	1.14%	0
Overall		48	8.119	8.093	8.145	8	8.3	0.01286	0.0891	1.10%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:32 (p 2 of 2)
 Test Code/ID: VCF0822.213cer / 15-9698-7127

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	24	24	24	24	24	0	0	0.00%	0
6.25		8	24	24	24	24	24	0	0	0.00%	0
12.5		8	24	24	24	24	24	0	0	0.00%	0
25		8	24	24	24	24	24	0	0	0.00%	0
50		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
100		8	24.01	23.98	24.04	24	24.1	0.004414	0.03531	0.15%	0
Overall		48	24	24	24.01	24	24.1	0.002915	0.02019	0.08%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	RW-LC1
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.213


ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:34 (p 1 of 1)
 Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	12-5099-3364	Test Type:	Survival (96h)	Analyst:			
Start Date:	30 Aug-22 12:25	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Laboratory Water		
Ending Date:	03 Sep-22 13:22	Species:	Hyalella azteca	Brine:	Not Applicable		
Test Length:	4d 1h	Taxon:	Malacostraca	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	15-3922-9791	Code:	VCF0822.213ahya	Project:			
Sample Date:	29 Aug-22 08:20	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	29 Aug-22 10:20	CAS (PC):		Station:	RW-LC1		
Sample Age:	28h (11 °C)	Client:	Ventura County Watershed Protection Distri				

Multiple Comparison Summary									
Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S	
11-5514-2383	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1	

Point Estimate Summary									
Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S	
01-7408-4827	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1	
			EC20	>100	---	---	<1		
			EC25	>100	---	---	<1		
			EC40	>100	---	---	<1		
			EC50	>100	---	---	<1		

96h Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail						MD5: 68E117461239090AA7E1427F0F536296					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4						
0	N	1.0000	1.0000	1.0000	1.0000						
6.25		1.0000	1.0000	1.0000	1.0000						
12.5		1.0000	1.0000	1.0000	1.0000						
25		1.0000	1.0000	1.0000	1.0000						
50		1.0000	1.0000	1.0000	1.0000						
100		1.0000	1.0000	1.0000	1.0000						

96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

Report Date: 22 Sep-22 10:34 (p 1 of 2)
 Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 11-5514-2383	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 15:41	Analysis: Nonparametric-Control vs Treatments	Status Level: 1			
Edit Date: 16 Sep-22 15:34	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 12-5099-3364	Test Type: Survival (96h)	Analyst:			
Start Date: 30 Aug-22 12:25	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 03 Sep-22 13:22	Species: Hyalella azteca	Brine: Not Applicable			
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:			
Sample ID: 15-3922-9791	Code: VCF0822.213ahya	Project:			
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1			
Sample Age: 28h (11 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test									
Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table						
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test				Indeterminate	
Distribution	Shapiro-Wilk W Normality Test				Indeterminate	

96h Survival Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 22 Sep-22 10:34 (p 2 of 2)
 Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-5514-2383 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:41 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:34 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

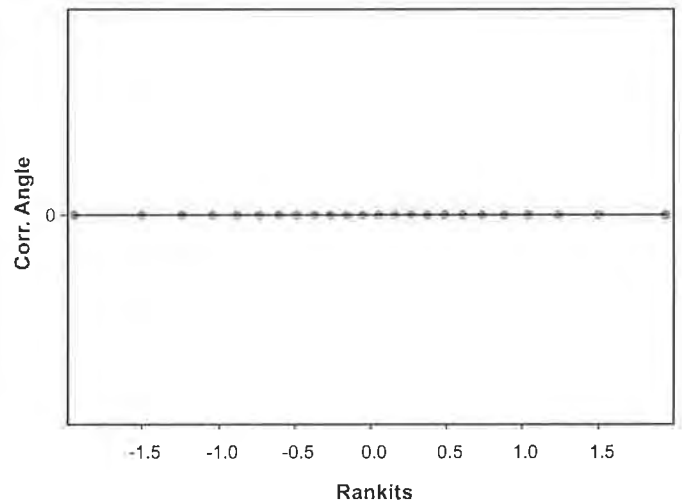
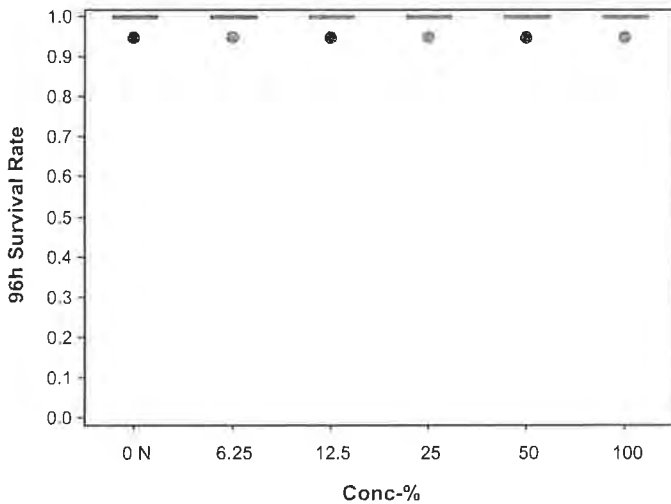
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:34 (p 1 of 2)

Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 01-7408-4827	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 15:41	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 16 Sep-22 15:34	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3			
Batch ID: 12-5099-3364	Test Type: Survival (96h)	Analyst:			
Start Date: 30 Aug-22 12:25	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 03 Sep-22 13:22	Species: Hyalella azteca	Brine: Not Applicable			
Test Length: 4d 1h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:			
Sample ID: 15-3922-9791	Code: VCF0822.213ahya	Project:			
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: RW-LC1			
Sample Age: 28h (11 °C)	Client: Ventura County Watershed Protection Distri				

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

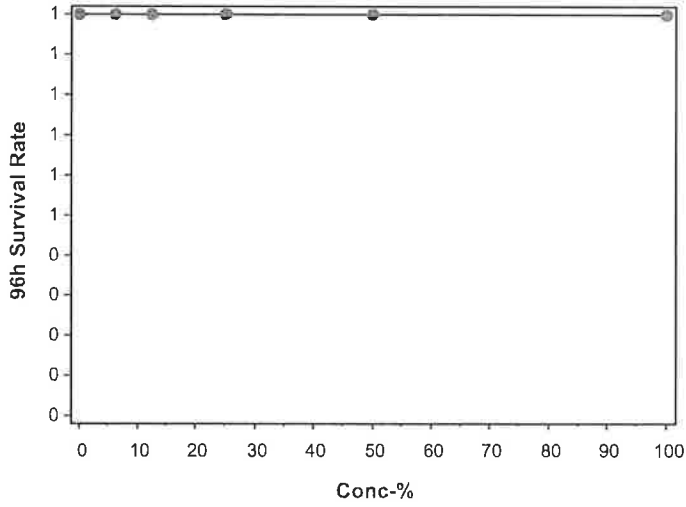
96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-7408-4827	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:41	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:34	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:34 (p 1 of 2)

Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 12-5099-3364 Test Type: Survival (96h) Analyst:
 Start Date: 30 Aug-22 12:25 Protocol: EPA/821/R-02-012 (2002) Diluent: Laboratory Water
 Ending Date: 03 Sep-22 13:22 Species: Hyalella azteca Brine: Not Applicable
 Test Length: 4d 1h Taxon: Malacostraca Source: Aquatic Biosystems, CO Age:

Sample ID: 15-3922-9791 Code: VCF0822.213ahya Project:
 Sample Date: 29 Aug-22 08:20 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: RW-LC1
 Sample Age: 28h (11 °C) Client: Ventura County Watershed Protection Distri

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	239	239	239	239	239	0	0	0.00%	0
Overall		6	150	47.69	252.3	61	239	39.8	97.49	65.00%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	694	683.2	704.8	691	699	1.453	4.359	0.63%	0
12.5		3	781.7	768.9	794.4	776	786	1.711	5.132	0.66%	0
25		3	1191	1174	1207	1183	1195	2.219	6.658	0.56%	0
50		3	1954	1924	1983	1940	1961	3.949	11.85	0.61%	0
100		3	3371	3351	3391	3364	3380	2.728	8.185	0.24%	0
Overall		18	1395	876.9	1914	379	3380	245.7	1042	74.70%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
12.5		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
25		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
50		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
100		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
Overall		18	7.767	7.71	7.823	7.6	7.9	0.02681	0.1138	1.47%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	550	550	550	550	550	0	0	0.00%	0
Overall		6	322.5	60.97	584	95	550	101.7	249.2	77.28%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.2	7.952	8.448	8.1	8.3	0.03333	0.1	1.22%	0
6.25		3	8.2	7.952	8.448	8.1	8.3	0.03333	0.1	1.22%	0
12.5		3	8.167	7.88	8.454	8.1	8.3	0.03849	0.1155	1.41%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
Overall		18	8.172	8.135	8.21	8.1	8.3	0.01772	0.07519	0.92%	0 (0%)

CETIS Measurement Report

Report Date: 22 Sep-22 10:34 (p 2 of 2)
Test Code/ID: VCF0822.213ahya / 20-0595-2195

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)





September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms EPA-821-R-02-012*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	RW-LC1
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.213

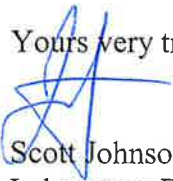
ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

*TUa = 0.00

* TU(a) Is calculated by: $\log (\% \text{ Mortality})/1.7$

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:36 (p 1 of 1)

Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 03-7242-2361	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:22	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 05-2060-5153	Code: VCF0822.213achi	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 14:22	CAS (PC):	Station: RW-LC1
Sample Age: 31h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
20-5085-4424	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
03-4927-8128	96h Survival Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

96h Survival Rate Detail

MD5: 68E117461239090AA7E1427F0F536296

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

CETIS Analytical Report

Report Date: 22 Sep-22 10:36 (p 1 of 2)
 Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-5085-4424	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:44	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:42	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 03-7242-2361	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:22	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 05-2060-5153	Code: VCF0822.213achi	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 14:22	CAS (PC):	Station: RW-LC1
Sample Age: 31h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units
Angular (Corrected)	C > T	100	>100	---	1

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		12.5	6	18	10	1	CDF	0.8333	Non-Significant Effect
		25	6	18	10	1	CDF	0.8333	Non-Significant Effect
		50	6	18	10	1	CDF	0.8333	Non-Significant Effect
		100	6	18	10	1	CDF	0.8333	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0	0	5			Indeterminate
Error	0	0	18			
Total	0		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
Distribution	Shapiro-Wilk W Normality Test				Indeterminate

96h Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

CETIS Analytical Report

Report Date: 22 Sep-22 10:36 (p 2 of 2)
 Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-5085-4424 Endpoint: 96h Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:44 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:42 MD5 Hash: 68E117461239090AA7E1427F0F536296 Editor ID: 008-463-000-3

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

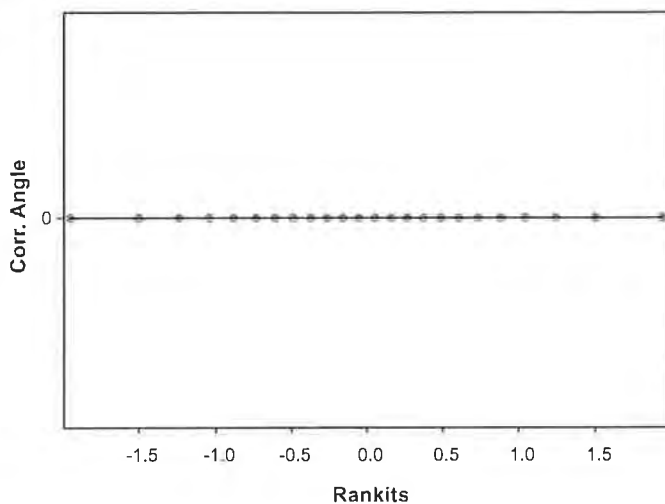
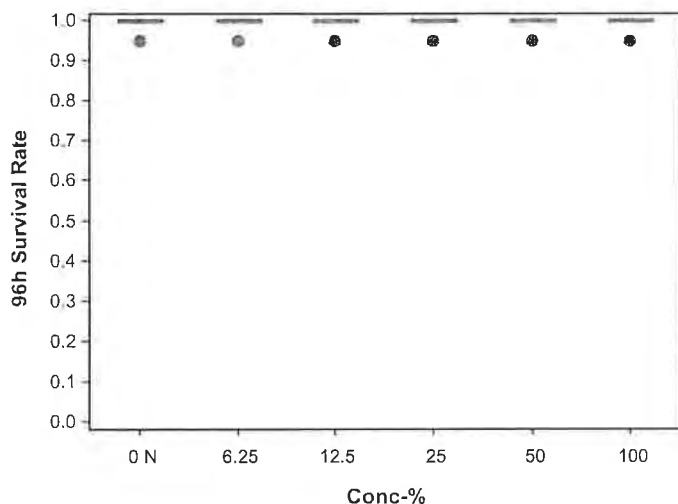
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	1.3450	1.3450

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:36 (p 1 of 2)
 Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-4927-8128	Endpoint: 96h Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:44	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:42	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 03-7242-2361	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:22	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 05-2060-5153	Code: VCF0822.213achi	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 14:22	CAS (PC):	Station: RW-LC1
Sample Age: 31h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

96h Survival Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
6.25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	1.0000	0.00%

96h Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000

96h Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Chironomus 96-Hour Acute Survival Bioassay

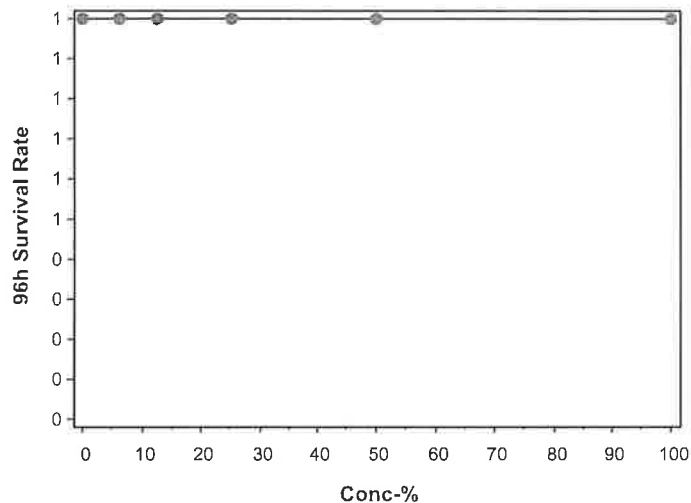
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-4927-8128
Analyzed: 16 Sep-22 15:44
Edit Date: 16 Sep-22 15:42

Endpoint: 96h Survival Rate
Analysis: Linear Interpolation (ICPIN)
MD5 Hash: 68E117461239090AA7E1427F0F536296

CETIS Version: CETISv2.1.2
Status Level: 1
Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 10:36 (p 1 of 2)

Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 03-7242-2361	Test Type: Survival (96h)	Analyst:
Start Date: 30 Aug-22 15:20	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water
Ending Date: 03 Sep-22 14:22	Species: Chironomus dilutus	Brine: Not Applicable
Test Length: 95h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:
Sample ID: 05-2060-5153	Code: VCF0822.213achi	Project:
Sample Date: 29 Aug-22 08:20	Material: Sample Water	Source: Bioassay Report
Receipt Date: 03 Sep-22 14:22	CAS (PC):	Station: RW-LC1
Sample Age: 31h (11 °C)	Client: Ventura County Watershed Protection Distri	

Alkalinity (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	61	61	61	61	61	0	0	0.00%	0
100		3	239	239	239	239	239	0	0	0.00%	0
Overall		6	150	47.69	252.3	61	239	39.8	97.49	65.00%	0 (0%)

Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	380.3	376.5	384.1	379	382	0.5092	1.528	0.40%	0
6.25		3	694	683.2	704.8	691	699	1.453	4.359	0.63%	0
12.5		3	781.7	768.9	794.4	776	786	1.711	5.132	0.66%	0
25		3	1191	1174	1207	1183	1195	2.219	6.658	0.56%	0
50		3	1954	1924	1983	1940	1961	3.949	11.85	0.61%	0
100		3	3371	3351	3391	3364	3380	2.728	8.185	0.24%	0
Overall		18	1395	876.9	1914	379	3380	245.7	1042	74.70%	0 (0%)

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
6.25		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
12.5		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
25		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
50		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
100		3	7.767	7.48	8.054	7.7	7.9	0.03849	0.1155	1.49%	0
Overall		18	7.767	7.71	7.823	7.6	7.9	0.02681	0.1138	1.47%	0 (0%)

Hardness (CaCO3)-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	95	95	95	95	95	0	0	0.00%	0
100		3	550	550	550	550	550	0	0	0.00%	0
Overall		6	322.5	60.97	584	95	550	101.7	249.2	77.28%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.2	7.952	8.448	8.1	8.3	0.03333	0.1	1.22%	0
6.25		3	8.2	7.952	8.448	8.1	8.3	0.03333	0.1	1.22%	0
12.5		3	8.167	7.88	8.454	8.1	8.3	0.03849	0.1155	1.41%	0
25		3	8.133	7.99	8.277	8.1	8.2	0.01925	0.05776	0.71%	0
50		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
100		3	8.167	8.023	8.31	8.1	8.2	0.01925	0.05775	0.71%	0
Overall		18	8.172	8.135	8.21	8.1	8.3	0.01772	0.07519	0.92%	0 (0%)

Attachment A Appendix I

CETIS Measurement Report

Report Date: 22 Sep-22 10:36 (p 2 of 2)
Test Code/ID: VCF0822.213achi / 12-8718-6295

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	22	22	22	22	22	0	0	0.00%	0
6.25		3	22	22	22	22	22	0	0	0.00%	0
12.5		3	22	22	22	22	22	0	0	0.00%	0
25		3	22	22	22	22	22	0	0	0.00%	0
50		3	22	22	22	22	22	0	0	0.00%	0
100		3	22	22	22	22	22	0	0	0.00%	0
Overall		18	22	22	22	22	22	0	0	0.00%	0 (0%)

Attachment A Appendix I 



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Estuarine Organisms, EPA/821/R-02-014*. Results were as follows:

CLIENT: Ventura County Watershed Protection District
SAMPLE I.D.: ME-SCR
DATE RECEIVED: 8/29/2022
ABC LAB. NO.: VCF0822.211

CHRONIC TOPSMELT SURVIVAL AND GROWTH BIOASSAY

Survival	NOEC =	100.00
	TU _c =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %
Biomass	NOEC =	100.00 %
	TU _c =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,



Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 10:55 (p 1 of 2)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
02-9125-0851	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	14.1%	1	1
17-2249-1194	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	100	>100	---	3.54%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
06-1611-3837	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
20-3394-6624	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
02-9125-0851	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
06-1611-3837	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
17-2249-1194	Mean Dry Biomass-mg	Control Resp	1.422	0.85	<<	Yes	Passes Criteria
20-3394-6624	Mean Dry Biomass-mg	Control Resp	1.422	0.85	<<	Yes	Passes Criteria
02-9125-0851	7d Survival Rate	PMSD	0.1408	<<	0.25	No	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		5	0.9600	0.8489	1.0710	0.8000	1.0000	0.0400	0.0894	9.32%	4.00%
12.5		5	0.9200	0.7840	1.0560	0.8000	1.0000	0.0490	0.1095	11.91%	8.00%
25		5	0.9600	0.8489	1.0710	0.8000	1.0000	0.0400	0.0894	9.32%	4.00%
50		5	0.9600	0.8489	1.0710	0.8000	1.0000	0.0400	0.0894	9.32%	4.00%
100		5	0.9200	0.7840	1.0560	0.8000	1.0000	0.0490	0.1095	11.91%	8.00%

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	1.422	1.409	1.434	1.408	1.436	0.004445	0.00994	0.70%	0.00%
6.25		5	1.421	1.417	1.425	1.418	1.424	0.001356	0.003033	0.21%	0.06%
12.5		5	1.432	1.406	1.457	1.41	1.462	0.009196	0.02056	1.44%	-0.70%
25		5	1.451	1.359	1.543	1.41	1.582	0.03309	0.07399	5.10%	-2.05%
50		5	1.437	1.406	1.469	1.41	1.478	0.01139	0.02548	1.77%	-1.10%
100		5	1.424	1.408	1.44	1.41	1.44	0.005899	0.01319	0.93%	-0.17%

PASS

CETIS Summary Report

Report Date: 22 Sep-22 10:55 (p 2 of 2)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Survival Rate Detail

MD5: C73FAE89E3DF502CB4BD13F0208D2381

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	0.8000	1.0000	1.0000
12.5		1.0000	1.0000	0.8000	1.0000	0.8000
25		1.0000	1.0000	1.0000	1.0000	0.8000
50		1.0000	1.0000	0.8000	1.0000	1.0000
100		0.8000	0.8000	1.0000	1.0000	1.0000

Mean Dry Biomass-mg Detail

MD5: 7A29C6934FB0BD7CC8E4836A77F98111

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.422	1.422	1.408	1.42	1.436
6.25		1.42	1.424	1.424	1.418	1.418
12.5		1.41	1.424	1.42	1.462	1.442
25		1.41	1.41	1.418	1.582	1.434
50		1.424	1.478	1.41	1.434	1.44
100		1.424	1.44	1.412	1.434	1.41

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	5/5	5/5	5/5	5/5	5/5
6.25		5/5	5/5	4/5	5/5	5/5
12.5		5/5	5/5	4/5	5/5	4/5
25		5/5	5/5	5/5	5/5	4/5
50		5/5	5/5	4/5	5/5	5/5
100		4/5	4/5	5/5	5/5	5/5

CETIS Analytical Report

Report Date: 22 Sep-22 10:55 (p 1 of 3)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-9125-0851	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:51	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:46	MD5 Hash: C73FAE89E3DF502CB4BD13F0208D2381	Editor ID: 008-463-000-3
Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.1408	14.08%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	25	16	1	CDF	0.6353	Non-Significant Effect
		12.5	8	22.5	16	1	CDF	0.3937	Non-Significant Effect
		25	8	25	16	1	CDF	0.6353	Non-Significant Effect
		50	8	25	16	1	CDF	0.6353	Non-Significant Effect
		100	8	22.5	16	1	CDF	0.3937	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	1	0.8	<<	Yes	Passes Criteria
PMSD	0.1408	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0321345	0.0064269	5	0.5667	0.7246	Non-Significant Effect
Error	0.272198	0.0113416	24			
Total	0.304332		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test				Indeterminate
	Levene Equality of Variance Test	3.84	3.895	0.0107	Equal Variances
	Mod Levene Equality of Variance Test	0.6	4.248	0.7006	Equal Variances
Distribution	Anderson-Darling A2 Test	3.186	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	0.303	2.576	0.7619	Normal Distribution
	D'Agostino Skewness Test	2.356	2.576	0.0185	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	5.644	9.21	0.0595	Normal Distribution
	Kolmogorov-Smirnov D Test	0.2885	0.1853	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7781	0.9031	2.7E-05	Non-Normal Distribution

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	4.00%
12.5		5	0.9200	0.7840	1.0000	1.0000	0.8000	1.0000	0.0490	11.91%	8.00%
25		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	4.00%
50		5	0.9600	0.8489	1.0000	1.0000	0.8000	1.0000	0.0400	9.32%	4.00%
100		5	0.9200	0.7840	1.0000	1.0000	0.8000	1.0000	0.0490	11.91%	8.00%

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-9125-0851 Endpoint: 7d Survival Rate CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:51 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:46 MD5 Hash: C73FAE89E3DF502CB4BD13F0208D2381 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		5	1.2980	1.1650	1.4300	1.3450	1.1070	1.3450	0.0476	8.21%	3.54%
12.5		5	1.2500	1.0880	1.4120	1.3450	1.1070	1.3450	0.0583	10.43%	7.08%
25		5	1.2980	1.1650	1.4300	1.3450	1.1070	1.3450	0.0476	8.21%	3.54%
50		5	1.2980	1.1650	1.4300	1.3450	1.1070	1.3450	0.0476	8.21%	3.54%
100		5	1.2500	1.0880	1.4120	1.3450	1.1070	1.3450	0.0583	10.43%	7.08%

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	0.8000	1.0000	1.0000
12.5		1.0000	1.0000	0.8000	1.0000	0.8000
25		1.0000	1.0000	1.0000	1.0000	0.8000
50		1.0000	1.0000	0.8000	1.0000	1.0000
100		0.8000	0.8000	1.0000	1.0000	1.0000

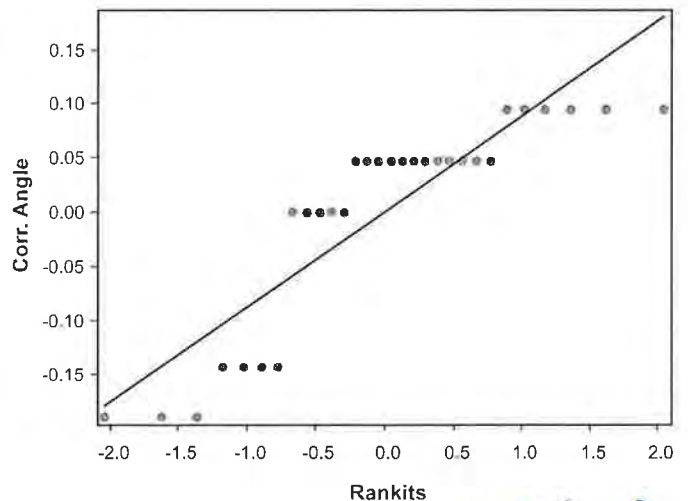
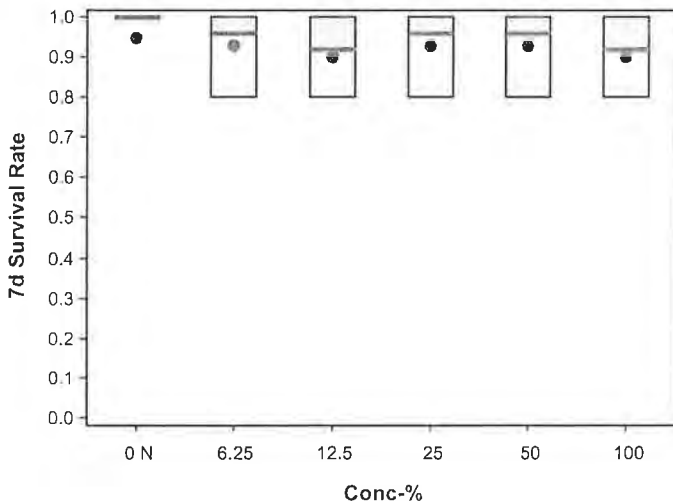
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.3450	1.3450	1.3450	1.3450	1.3450
6.25		1.3450	1.3450	1.1070	1.3450	1.3450
12.5		1.3450	1.3450	1.1070	1.3450	1.1070
25		1.3450	1.3450	1.3450	1.3450	1.1070
50		1.3450	1.3450	1.1070	1.3450	1.3450
100		1.1070	1.1070	1.3450	1.3450	1.3450

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	5/5	5/5	5/5	5/5	5/5
6.25		5/5	5/5	4/5	5/5	5/5
12.5		5/5	5/5	4/5	5/5	4/5
25		5/5	5/5	5/5	5/5	4/5
50		5/5	5/5	4/5	5/5	5/5
100		4/5	4/5	5/5	5/5	5/5

Graphics



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CETIS Analytical Report

Report Date: 22 Sep-22 10:55 (p 3 of 3)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 17-2249-1194	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:51	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 16 Sep-22 15:46	MD5 Hash: 7A29C6934FB0BD7CC8E4836A77F98111	Editor ID: 008-463-000-3
Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.05039	3.54%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	df	Test Stat	Critical	Ties	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	26.5	16	1	CDF	0.7637	Non-Significant Effect
		12.5	8	31.5	16	1	CDF	0.9757	Non-Significant Effect
		25	8	27	16	0	CDF	0.8003	Non-Significant Effect
		50	8	34	16	0	CDF	0.9954	Non-Significant Effect
		100	8	30	16	0	CDF	0.9446	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1.422	0.85	<<	Yes	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0033612	0.0006722	5	0.5906	0.7072	Non-Significant Effect
Error	0.0273168	0.0011382	24			
Total	0.030678		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	33.25	15.09	<1.0E-05	Unequal Variances
	Levene Equality of Variance Test	3.935	3.895	0.0095	Unequal Variances
	Mod Levene Equality of Variance Test	0.9873	4.248	0.4526	Equal Variances
Distribution	Anderson-Darling A2 Test	2.157	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	4.197	2.576	2.7E-05	Non-Normal Distribution
	D'Agostino Skewness Test	4.632	2.576	<1.0E-05	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	39.07	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2251	0.1853	0.0005	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.7441	0.9031	<1.0E-05	Non-Normal Distribution

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.422	1.409	1.434	1.422	1.408	1.436	0.004446	0.70%	0.00%
6.25		5	1.421	1.417	1.425	1.42	1.418	1.424	0.001358	0.21%	0.06%
12.5		5	1.432	1.406	1.457	1.424	1.41	1.462	0.009195	1.44%	-0.70%
25		5	1.451	1.359	1.543	1.418	1.41	1.582	0.03309	5.10%	-2.05%
50		5	1.437	1.406	1.469	1.434	1.41	1.478	0.01139	1.77%	-1.10%
100		5	1.424	1.408	1.44	1.424	1.41	1.44	0.005898	0.93%	-0.17%

CETIS Analytical Report

Report Date: 22 Sep-22 10:55 (p 4 of 3)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

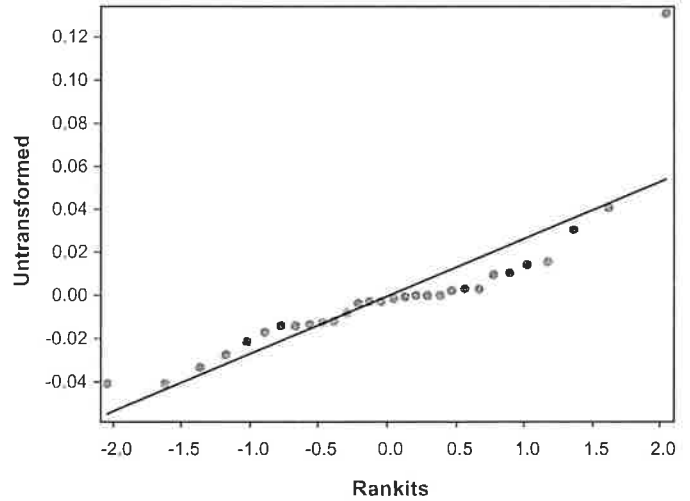
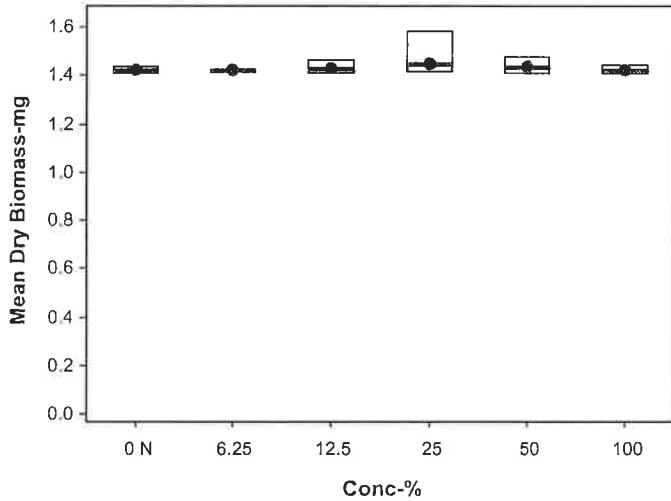
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-2249-1194 Endpoint: Mean Dry Biomass-mg CETIS Version: CETISv2.1.2
 Analyzed: 16 Sep-22 15:51 Analysis: Nonparametric-Control vs Treatments Status Level: 1
 Edit Date: 16 Sep-22 15:46 MD5 Hash: 7A29C6934FB0BD7CC8E4836A77F98111 Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.422	1.422	1.408	1.42	1.436
6.25		1.42	1.424	1.424	1.418	1.418
12.5		1.41	1.424	1.42	1.462	1.442
25		1.41	1.41	1.418	1.582	1.434
50		1.424	1.478	1.41	1.434	1.44
100		1.424	1.44	1.412	1.434	1.41

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:55 (p 1 of 4)

Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 06-1611-3837	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2			
Analyzed: 16 Sep-22 15:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 16 Sep-22 15:46	MD5 Hash: C73FAE89E3DF502CB4BD13F0208D2381	Editor ID: 008-463-000-3			
Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable			
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d			
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:			
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR			
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri				

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

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

Point Estimates						
Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

7d Survival Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%
6.25		5	0.9600	1.0000	0.8000	1.0000	9.32%	4.00%	24/25	0.9600	4.00%
12.5		5	0.9200	1.0000	0.8000	1.0000	11.91%	8.00%	23/25	0.9467	5.33%
25		5	0.9600	1.0000	0.8000	1.0000	9.32%	4.00%	24/25	0.9467	5.33%
50		5	0.9600	1.0000	0.8000	1.0000	9.32%	4.00%	24/25	0.9467	5.33%
100		5	0.9200	1.0000	0.8000	1.0000	11.91%	8.00%	23/25	0.9200	8.00%

7d Survival Rate Detail						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.0000	1.0000	1.0000	1.0000	1.0000
6.25		1.0000	1.0000	0.8000	1.0000	1.0000
12.5		1.0000	1.0000	0.8000	1.0000	0.8000
25		1.0000	1.0000	1.0000	1.0000	0.8000
50		1.0000	1.0000	0.8000	1.0000	1.0000
100		0.8000	0.8000	1.0000	1.0000	1.0000

7d Survival Rate Binomials						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	5/5	5/5	5/5	5/5	5/5
6.25		5/5	5/5	4/5	5/5	5/5
12.5		5/5	5/5	4/5	5/5	4/5
25		5/5	5/5	5/5	5/5	4/5
50		5/5	5/5	4/5	5/5	5/5
100		4/5	4/5	5/5	5/5	5/5

CETIS Analytical Report

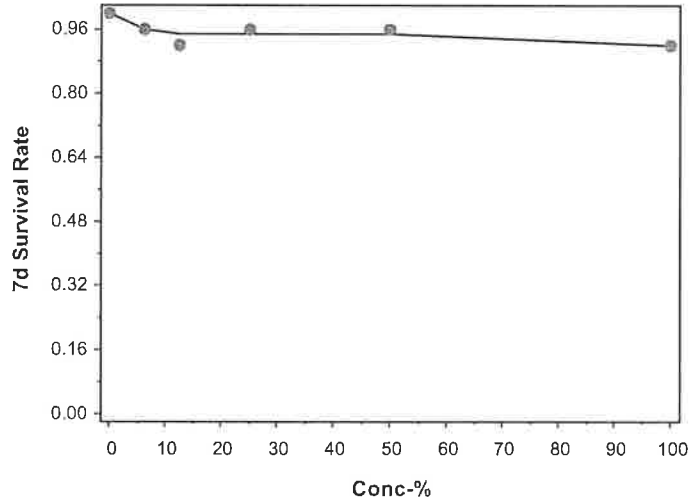
Report Date: 22 Sep-22 10:55 (p 2 of 4)
Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-1611-3837	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:46	MD5 Hash: C73FAE89E3DF502CB4BD13F0208D2381	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 10:55 (p 3 of 4)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-3394-6624	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:46	MD5 Hash: 7A29C6934FB0BD7CC8E4836A77F98111	Editor ID: 008-463-000-3
Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1630016	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1.422	0.85	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	5	1.422	1.422	1.408	1.436	0.70%	0.00%	1.432	0.00%
6.25		5	1.421	1.42	1.418	1.424	0.21%	0.06%	1.432	0.00%
12.5		5	1.432	1.424	1.41	1.462	1.44%	-0.70%	1.432	0.00%
25		5	1.451	1.418	1.41	1.582	5.10%	-2.05%	1.432	0.00%
50		5	1.437	1.434	1.41	1.478	1.77%	-1.10%	1.432	0.00%
100		5	1.424	1.424	1.41	1.44	0.93%	-0.17%	1.424	0.56%

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.422	1.422	1.408	1.42	1.436
6.25		1.42	1.424	1.424	1.418	1.418
12.5		1.41	1.424	1.42	1.462	1.442
25		1.41	1.41	1.418	1.582	1.434
50		1.424	1.478	1.41	1.434	1.44
100		1.424	1.44	1.412	1.434	1.41

CETIS Analytical Report

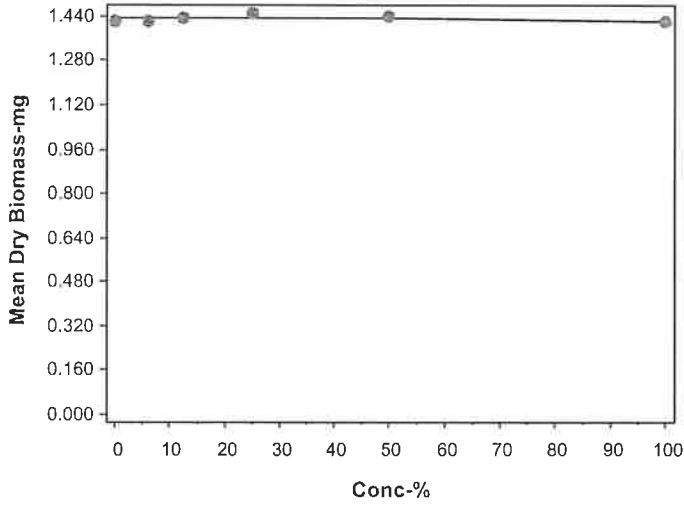
Report Date: 22 Sep-22 10:55 (p 4 of 4)
Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-3394-6624	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.2
Analyzed: 16 Sep-22 15:51	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 16 Sep-22 15:46	MD5 Hash: 7A29C6934FB0BD7CC8E4836A77F98111	Editor ID: 008-463-000-3

Graphics



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CETIS Measurement Report

Report Date: 22 Sep-22 10:55 (p 1 of 1)
 Test Code/ID: VCF0822.211tops / 17-9132-7391

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 20-5917-5455	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 30 Aug-22 12:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 06 Sep-22 12:30	Species: Atherinops affinis	Brine: Not Applicable
Test Length: 7d 0h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: 14d
Sample ID: 03-1601-1365	Code: VCF0822.211tops	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 30h (11 °C)	Client: Ventura County Watershed Protection Distri	

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.262	7.039	7.486	6.9	7.7	0.03337	0.2669	3.68%	0
6.25		8	7.225	6.994	7.456	6.8	7.6	0.03456	0.2765	3.83%	0
12.5		8	7.213	6.962	7.463	6.7	7.6	0.03746	0.2997	4.16%	0
25		8	7.213	7.015	7.41	6.8	7.5	0.02946	0.2357	3.27%	0
50		8	7.238	7.048	7.427	6.9	7.5	0.0283	0.2264	3.13%	0
100		8	7.25	7.077	7.423	7	7.5	0.02588	0.207	2.86%	0
Overall		48	7.233	7.163	7.303	6.7	7.7	0.03477	0.2409	3.33%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.6	7.555	7.645	7.5	7.7	0.006681	0.05345	0.70%	0
6.25		8	7.625	7.551	7.699	7.5	7.8	0.01108	0.08864	1.16%	0
12.5		8	7.637	7.575	7.7	7.6	7.8	0.0093	0.0744	0.97%	0
25		8	7.662	7.6	7.725	7.6	7.8	0.0093	0.0744	0.97%	0
50		8	7.662	7.586	7.739	7.5	7.8	0.01145	0.09161	1.20%	0
100		8	7.65	7.561	7.739	7.5	7.8	0.01336	0.1069	1.40%	0
Overall		48	7.64	7.616	7.663	7.5	7.8	0.01181	0.08184	1.07%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	34	34	34	34	34	0	0	0.00%	0
6.25		8	34	34	34	34	34	0	0	0.00%	0
12.5		8	34	34	34	34	34	0	0	0.00%	0
25		8	34	34	34	34	34	0	0	0.00%	0
50		8	34	34	34	34	34	0	0	0.00%	0
100		8	34	34	34	34	34	0	0	0.00%	0
Overall		48	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	21	21	21	21	21	0	0	0.00%	0
6.25		8	21	21	21	21	21	0	0	0.00%	0
12.5		8	21	21	21	21	21	0	0	0.00%	0
25		8	21	21	21	21	21	0	0	0.00%	0
50		8	21	21	21	21	21	0	0	0.00%	0
100		8	21	21	21	21	21	0	0	0.00%	0
Overall		48	21	21	21	21	21	0	0	0.00%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Ms. Hahs:

We are pleased to present the enclosed revised bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA-600/R95/136, 1995*. Results were as follows:

CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.211

CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

NOEC = 100.00 %

TU_c = 1.00

IC₂₅ = >100.00 %

IC₅₀ = >100.00 %

Yours very truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 11:26 (p 1 of 1)
 Test Code/ID: VCF0822.211urc / 19-4268-7559

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-7107-2957	Test Type: Fertilization	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 30 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 06-5744-3403	Code: VCF0822.211urc	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
14-8884-9795	Fertilization Rate	Dunnett Multiple Comparison Test	100	>100	---	3.93%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
20-6433-6866	Fertilization Rate	Linear Interpolation (ICPIN)	EC15	>100	---	---	<1	1
			EC20	>100	---	---	<1	
			EC25	>100	---	---	<1	
			EC40	>100	---	---	<1	
			EC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
14-8884-9795	Fertilization Rate	Control Resp	0.935	0.7	<<	Yes	Passes Criteria
20-6433-6866	Fertilization Rate	Control Resp	0.935	0.7	<<	Yes	Passes Criteria
14-8884-9795	Fertilization Rate	PMSD	0.03935	<<	0.25	No	Passes Criteria

Fertilization Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.9350	0.9019	0.9681	0.9100	0.9600	0.0104	0.0208	2.23%	0.00%
6.25		4	0.9650	0.9445	0.9855	0.9500	0.9800	0.0065	0.0129	1.34%	-3.21%
12.5		4	0.9325	0.8907	0.9743	0.9100	0.9600	0.0132	0.0263	2.82%	0.27%
25		4	0.9350	0.9019	0.9681	0.9100	0.9600	0.0104	0.0208	2.23%	0.00%
50		4	0.9350	0.9145	0.9555	0.9200	0.9500	0.0065	0.0129	1.38%	0.00%
100		4	0.9350	0.9074	0.9626	0.9200	0.9600	0.0087	0.0173	1.85%	0.00%

Fertilization Rate Detail

MD5: 4C3E66CB4C3B448ED52FF9E1E26393F5

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9400	0.9100	0.9600	0.9300
6.25		0.9700	0.9800	0.9600	0.9500
12.5		0.9100	0.9600	0.9500	0.9100
25		0.9300	0.9400	0.9100	0.9600
50		0.9200	0.9300	0.9500	0.9400
100		0.9300	0.9600	0.9200	0.9300

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	94/100	91/100	96/100	93/100
6.25		97/100	98/100	96/100	95/100
12.5		91/100	96/100	95/100	91/100
25		93/100	94/100	91/100	96/100
50		92/100	93/100	95/100	94/100
100		93/100	96/100	92/100	93/100

Pass

CETIS Analytical Report

Report Date: 22 Sep-22 11:26 (p 1 of 3)
 Test Code/ID: VCF0822.211urc / 19-4268-7559

Purple Sea Urchin Sperm Cell Fertilization Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 14-8884-9795	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2			
Analyzed: 22 Sep-22 11:25	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 22 Sep-22 11:24	MD5 Hash: 4C3E66CB4C3B448ED52FF9E1E26393F5	Editor ID: 008-463-000-3			
Batch ID: 19-7107-2957	Test Type: Fertilization	Analyst:			
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 30 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable			
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:			
Sample ID: 06-5744-3403	Code: VCF0822.211urc	Project:			
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR			
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.03679	3.93%

Dunnnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-2.414	2.407	0.0694	CDF	0.9998	Non-Significant Effect
		12.5	6	0.1298	2.407	0.0694	CDF	0.7922	Non-Significant Effect
		25	6	0	2.407	0.0694	CDF	0.8333	Non-Significant Effect
		50	6	0.05393	2.407	0.0694	CDF	0.8170	Non-Significant Effect
		100	6	0.02046	2.407	0.0694	CDF	0.8272	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.935	0.7	<<	Yes	Passes Criteria
PMSD	0.03935	<<	0.25	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0167412	0.0033482	5	2.014	0.1253	Non-Significant Effect
Error	0.0299276	0.0016626	18			
Total	0.0466688		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	1.399	15.09	0.9244	Equal Variances
	Levene Equality of Variance Test	0.8062	4.248	0.5601	Equal Variances
	Mod Levene Equality of Variance Test	0.7349	4.248	0.6068	Equal Variances
Distribution	Anderson-Darling A2 Test	0.6726	3.878	0.0792	Normal Distribution
	D'Agostino Kurtosis Test	1.889	2.576	0.0589	Normal Distribution
	D'Agostino Skewness Test	0.5937	2.576	0.5527	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	3.92	9.21	0.1408	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1603	0.2056	0.1116	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9183	0.884	0.0535	Normal Distribution

Fertilization Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9350	0.9019	0.9681	0.9350	0.9100	0.9600	0.0104	2.23%	0.00%
6.25		4	0.9650	0.9445	0.9855	0.9650	0.9500	0.9800	0.0065	1.34%	-3.21%
12.5		4	0.9325	0.8907	0.9743	0.9233	0.9100	0.9600	0.0132	2.82%	0.27%
25		4	0.9350	0.9019	0.9681	0.9350	0.9100	0.9600	0.0104	2.23%	0.00%
50		4	0.9350	0.9145	0.9555	0.9350	0.9200	0.9500	0.0065	1.38%	0.00%
100		4	0.9350	0.9074	0.9626	0.9300	0.9200	0.9600	0.0087	1.85%	0.00%

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-8884-9795 Endpoint: Fertilization Rate CETIS Version: CETISv2.1.2
 Analyzed: 22 Sep-22 11:25 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 22 Sep-22 11:24 MD5 Hash: 4C3E66CB4C3B448ED52FF9E1E26393F5 Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3150	1.2470	1.3840	1.3130	1.2660	1.3690	0.0215	3.27%	0.00%
6.25		4	1.3850	1.3280	1.4420	1.3830	1.3450	1.4290	0.0180	2.60%	-5.29%
12.5		4	1.3120	1.2260	1.3970	1.2920	1.2660	1.3690	0.0268	4.09%	0.28%
25		4	1.3150	1.2470	1.3840	1.3130	1.2660	1.3690	0.0215	3.27%	0.00%
50		4	1.3140	1.2720	1.3560	1.3130	1.2840	1.3450	0.0132	2.01%	0.12%
100		4	1.3150	1.2550	1.3740	1.3030	1.2840	1.3690	0.0187	2.85%	0.04%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9400	0.9100	0.9600	0.9300
6.25		0.9700	0.9800	0.9600	0.9500
12.5		0.9100	0.9600	0.9500	0.9100
25		0.9300	0.9400	0.9100	0.9600
50		0.9200	0.9300	0.9500	0.9400
100		0.9300	0.9600	0.9200	0.9300

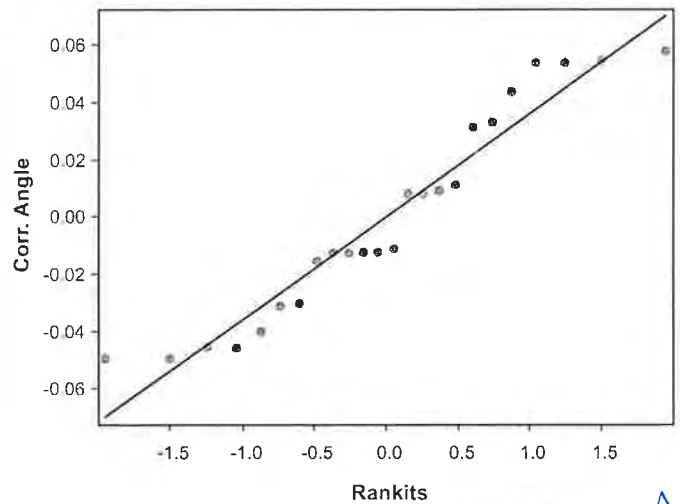
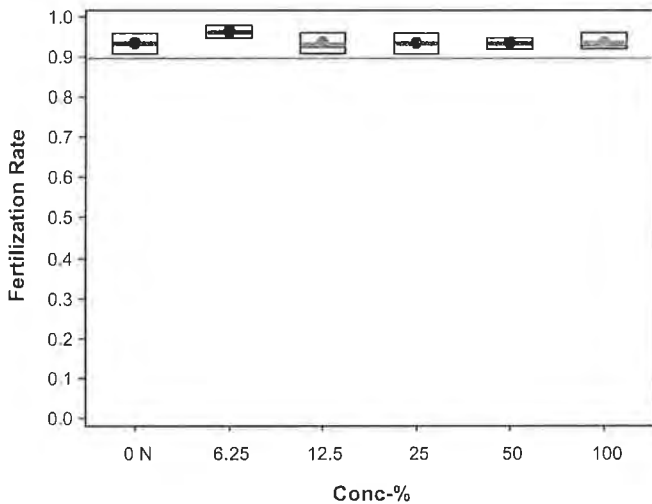
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.3230	1.2660	1.3690	1.3030
6.25		1.3970	1.4290	1.3690	1.3450
12.5		1.2660	1.3690	1.3450	1.2660
25		1.3030	1.3230	1.2660	1.3690
50		1.2840	1.3030	1.3450	1.3230
100		1.3030	1.3690	1.2840	1.3030

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	94/100	91/100	96/100	93/100
6.25		97/100	98/100	96/100	95/100
12.5		91/100	96/100	95/100	91/100
25		93/100	94/100	91/100	96/100
50		92/100	93/100	95/100	94/100
100		93/100	96/100	92/100	93/100

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 11:26 (p 1 of 2)
 Test Code/ID: VCF0822.211urc / 19-4268-7559

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-6433-6866	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 11:25	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 22 Sep-22 11:24	MD5 Hash: 4C3E66CB4C3B448ED52FF9E1E26393F5	Editor ID: 008-463-000-3
Batch ID: 19-7107-2957	Test Type: Fertilization	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 30 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive Age:
Sample ID: 06-5744-3403	Code: VCF0822.211urc	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.935	0.7	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

Fertilization Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)						Isotonic Variate		
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	4	0.9350	0.9350	0.9100	0.9600	2.23%	0.00%	374/400	0.9500	0.00%
6.25		4	0.9650	0.9650	0.9500	0.9800	1.34%	-3.21%	386/400	0.9500	0.00%
12.5		4	0.9325	0.9233	0.9100	0.9600	2.82%	0.27%	373/400	0.9344	1.64%
25		4	0.9350	0.9350	0.9100	0.9600	2.23%	0.00%	374/400	0.9344	1.64%
50		4	0.9350	0.9350	0.9200	0.9500	1.38%	0.00%	374/400	0.9344	1.64%
100		4	0.9350	0.9300	0.9200	0.9600	1.85%	0.00%	374/400	0.9344	1.64%

Fertilization Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9400	0.9100	0.9600	0.9300
6.25		0.9700	0.9800	0.9600	0.9500
12.5		0.9100	0.9600	0.9500	0.9100
25		0.9300	0.9400	0.9100	0.9600
50		0.9200	0.9300	0.9500	0.9400
100		0.9300	0.9600	0.9200	0.9300

Fertilization Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	94/100	91/100	96/100	93/100
6.25		97/100	98/100	96/100	95/100
12.5		91/100	96/100	95/100	91/100
25		93/100	94/100	91/100	96/100
50		92/100	93/100	95/100	94/100
100		93/100	96/100	92/100	93/100

CETIS Analytical Report

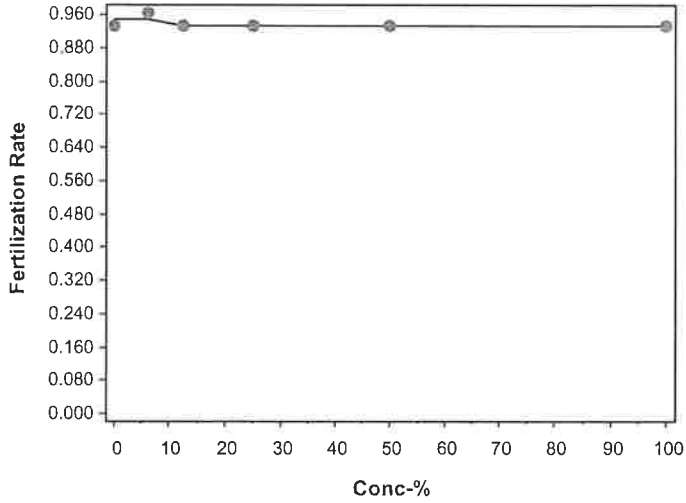
Report Date: 22 Sep-22 11:26 (p 2 of 2)
Test Code/ID: VCF0822.211urc / 19-4268-7559

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-6433-6866	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 11:25	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 22 Sep-22 11:24	MD5 Hash: 4C3E66CB4C3B448ED52FF9E1E26393F5	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 11:26 (p 1 of 1)
 Test Code/ID: VCF0822.211urc / 19-4268-7559

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 19-7107-2957	Test Type: Fertilization	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 30 Aug-22 15:43	Species: Strongylocentrotus purpuratus	Brine: Not Applicable
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive
		Age:
Sample ID: 06-5744-3403	Code: VCF0822.211urc	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Parameter Acceptability Criteria

Parameter	TAC Limits				Overlap	Decision
	Min	Max	Lower	Upper		
Salinity	34	34	32	36	Yes	Passes Criteria
Temperature	15.6	15.6	11	13	Yes	Above Criteria

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.1	7.086	7.114	7.1	7.1	0	0	0.00%	0
6.25		2	7.1	7.086	7.114	7.1	7.1	0	0	0.00%	0
12.5		2	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
25		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
50		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
100		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
Overall		12	6.917	6.827	7.006	6.8	7.1	0.04051	0.1403	2.03%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	8	8	8	8	8	0	0	0.00%	0
6.25		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
12.5		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
25		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
50		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
100		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
Overall		12	8.167	8.117	8.216	8	8.2	0.02247	0.07785	0.95%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
6.25		2	34	34	34	34	34	0	0	0.00%	0
12.5		2	34	34	34	34	34	0	0	0.00%	0
25		2	34	34	34	34	34	0	0	0.00%	0
50		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
Overall		12	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
6.25		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
12.5		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
25		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
50		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
100		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
Overall		12	15.6	15.6	15.6	15.6	15.6	0	0	0.00%	0 (0%)



September 23, 2022

Ms. Kelly Hahs
Ventura County Watershed Protection District
800 South Victoria Ave
Ventura, CA 93009

Dear Mr. Anselm:

We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms, EPA/R-95/136*. "All acceptability criteria were met and the concentration-response was normal. This is a valid test." Results were as follows:

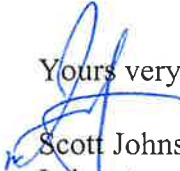
CLIENT:	Ventura County Watershed Protection District
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	8/29/2022
ABC LAB. NO.:	VCF0822.211

CHRONIC KELP GERMINATION AND GROWTH BIOASSAY

GERMINATION	NOEC =	100.00 %
	TUc =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

TUBE LENGTH	NOEC =	100.00 %
	TUc =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,


Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date: 22 Sep-22 13:13 (p 1 of 2)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 17-6649-3793	Test Type: Growth-Germination	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 01 Sep-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 05-2064-0089	Code: VCF0822.211klp	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
10-9982-7019	Germination Rate	Dunnett Multiple Comparison Test	100	>100	---	3.05%	1	1
12-6612-4806	Mean Length	Dunnett Multiple Comparison Test	100	>100	---	1.46%	1	1

Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
08-5373-3193	Germination Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
10-8265-9968	Mean Length	Linear Interpolation (ICPIN)	✓ IC15	>100	---	---	<1	1
			✓ IC20	>100	---	---	<1	
			✓ IC25	>100	---	---	<1	
			✓ IC40	>100	---	---	<1	
			✓ IC50	>100	---	---	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
08-5373-3193	Germination Rate	Control Resp	0.928	0.7	<<	Yes	Passes Criteria
10-9982-7019	Germination Rate	Control Resp	0.928	0.7	<<	Yes	Passes Criteria
10-8265-9968	Mean Length	Control Resp	13.22	10	<<	Yes	Passes Criteria
12-6612-4806	Mean Length	Control Resp	13.22	10	<<	Yes	Passes Criteria
10-9982-7019	Germination Rate	PMSD	0.03048	<<	0.2	No	Passes Criteria
12-6612-4806	Mean Length	PMSD	0.01459	<<	0.2	No	Passes Criteria

Germination Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	0.9280	0.8984	0.9576	0.9000	0.9600	0.0107	0.0239	2.57%	0.00%
6.25		5	0.9240	0.9032	0.9448	0.9100	0.9500	0.0075	0.0167	1.81%	0.43%
12.5		5	0.9340	0.9114	0.9566	0.9100	0.9600	0.0081	0.0182	1.94%	-0.65%
25		5	0.9140	0.8998	0.9282	0.9000	0.9300	0.0051	0.0114	1.25%	1.51%
50		5	0.9300	0.9037	0.9563	0.9100	0.9600	0.0095	0.0212	2.28%	-0.22%
100		5	0.9240	0.9073	0.9407	0.9100	0.9400	0.0060	0.0134	1.45%	0.43%

Mean Length Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	13.22	13.06	13.38	13	13.3	0.05831	0.1304	0.99%	0.00%
6.25		5	13.16	12.93	13.39	13	13.4	0.08124	0.1817	1.38%	0.45%
12.5		5	13.02	12.86	13.18	12.8	13.1	0.05831	0.1304	1.00%	1.51%
25		5	13.12	13.02	13.22	13	13.2	0.03742	0.08367	0.64%	0.76%
50		5	13.24	13.1	13.38	13.1	13.4	0.05099	0.114	0.86%	-0.15%
100		5	13.16	13.02	13.3	13	13.3	0.05099	0.114	0.87%	0.45%

Handwritten signature and initials: PAS

CETIS Summary Report

Report Date: 22 Sep-22 13:13 (p 2 of 2)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Germination Rate Detail

MD5: 1DF973FFB753A04DE74E3993EE28966C

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9400	0.9100	0.9300	0.9000	0.9600
6.25		0.9200	0.9300	0.9100	0.9500	0.9100
12.5		0.9300	0.9600	0.9100	0.9300	0.9400
25		0.9100	0.9000	0.9100	0.9200	0.9300
50		0.9100	0.9100	0.9300	0.9400	0.9600
100		0.9100	0.9300	0.9100	0.9400	0.9300

Mean Length Detail

MD5: 95535EC4F71A2CC7CFAB3FA7A86B91EE

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.3	13.3	13.2	13.3	13
6.25		13.4	13.3	13.1	13	13
12.5		13.1	13.1	12.8	13.1	13
25		13	13.2	13.1	13.2	13.1
50		13.1	13.3	13.4	13.2	13.2
100		13.3	13.2	13.2	13	13.1

Germination Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	94/100	91/100	93/100	90/100	96/100
6.25		92/100	93/100	91/100	95/100	91/100
12.5		93/100	96/100	91/100	93/100	94/100
25		91/100	90/100	91/100	92/100	93/100
50		91/100	91/100	93/100	94/100	96/100
100		91/100	93/100	91/100	94/100	93/100

CETIS Analytical Report

Report Date: 22 Sep-22 13:13 (p 1 of 3)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 10-9982-7019	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 13:12	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 22 Sep-22 13:08	MD5 Hash: 1DF973FFB753A04DE74E3993EE28966C	Editor ID: 008-463-000-3
Batch ID: 17-6649-3793	Test Type: Growth-Germination	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 01 Sep-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 05-2064-0089	Code: VCF0822.211klp	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.02828	3.05%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	0.4087	2.362	0.05361	CDF	0.6860	Non-Significant Effect
		12.5	8	-0.4756	2.362	0.05361	CDF	0.9366	Non-Significant Effect
		25	8	1.257	2.362	0.05361	CDF	0.3117	Non-Significant Effect
		50	8	-0.1503	2.362	0.05361	CDF	0.8739	Non-Significant Effect
		100	8	0.4348	2.362	0.05361	CDF	0.6750	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.928	0.7	<<	Yes	Passes Criteria
PMSD	0.03048	<<	0.2	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0046937	0.0009387	5	0.7286	0.6088	Non-Significant Effect
Error	0.0309201	0.0012883	24			
Total	0.0356138		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.406	15.09	0.6377	Equal Variances
	Levene Equality of Variance Test	0.7052	3.895	0.6252	Equal Variances
	Mod Levene Equality of Variance Test	0.924	4.248	0.4882	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4595	3.878	0.2661	Normal Distribution
	D'Agostino Kurtosis Test	0.3757	2.576	0.7071	Normal Distribution
	D'Agostino Skewness Test	1.15	2.576	0.2501	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.464	9.21	0.4810	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1079	0.1853	0.4898	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9558	0.9031	0.2407	Normal Distribution

Germination Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9280	0.8984	0.9576	0.9300	0.9000	0.9600	0.0107	2.57%	0.00%
6.25		5	0.9240	0.9032	0.9448	0.9200	0.9100	0.9500	0.0075	1.81%	0.43%
12.5		5	0.9340	0.9114	0.9566	0.9300	0.9100	0.9600	0.0081	1.94%	-0.65%
25		5	0.9140	0.8998	0.9282	0.9100	0.9000	0.9300	0.0051	1.25%	1.51%
50		5	0.9300	0.9037	0.9563	0.9300	0.9100	0.9600	0.0095	2.28%	-0.22%
100		5	0.9240	0.9073	0.9407	0.9300	0.9100	0.9400	0.0060	1.45%	0.43%

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 10-9982-7019 Endpoint: Germination Rate CETIS Version: CETISv2.1.2
 Analyzed: 22 Sep-22 13:12 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 22 Sep-22 13:08 MD5 Hash: 1DF973FFB753A04DE74E3993EE28966C Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.3020	1.2430	1.3610	1.3030	1.2490	1.3690	0.0213	3.66%	0.00%
6.25		5	1.2930	1.2520	1.3340	1.2840	1.2660	1.3450	0.0148	2.55%	0.71%
12.5		5	1.3130	1.2660	1.3600	1.3030	1.2660	1.3690	0.0169	2.87%	-0.83%
25		5	1.2740	1.2480	1.2990	1.2660	1.2490	1.3030	0.0092	1.61%	2.19%
50		5	1.3060	1.2520	1.3590	1.3030	1.2660	1.3690	0.0194	3.32%	-0.26%
100		5	1.2920	1.2610	1.3240	1.3030	1.2660	1.3230	0.0113	1.96%	0.76%

Germination Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9400	0.9100	0.9300	0.9000	0.9600
6.25		0.9200	0.9300	0.9100	0.9500	0.9100
12.5		0.9300	0.9600	0.9100	0.9300	0.9400
25		0.9100	0.9000	0.9100	0.9200	0.9300
50		0.9100	0.9100	0.9300	0.9400	0.9600
100		0.9100	0.9300	0.9100	0.9400	0.9300

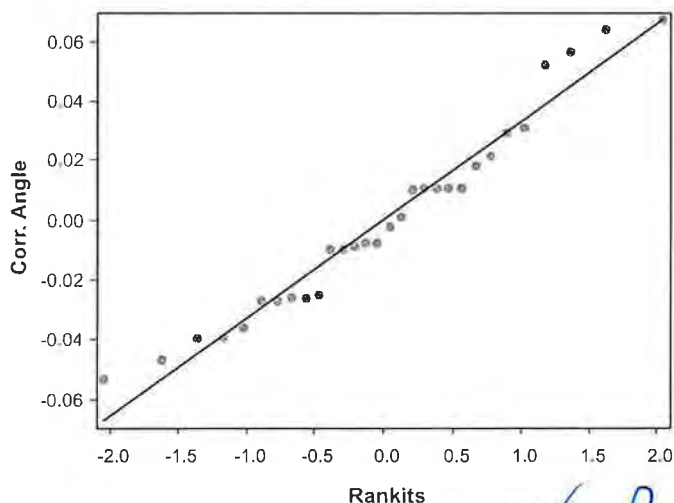
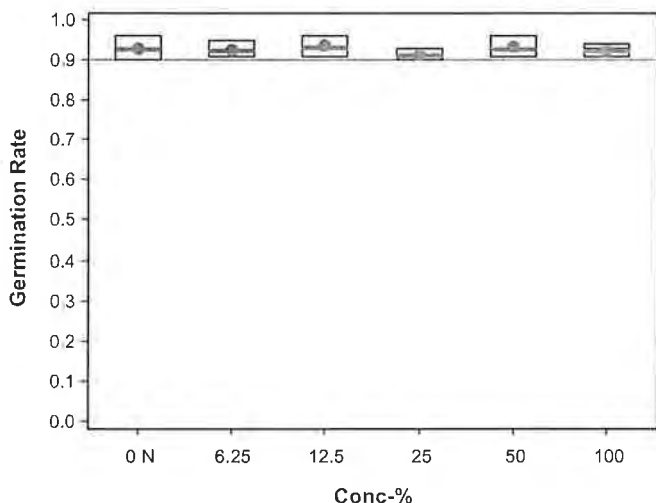
Angular (Corrected) Transformed Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.3230	1.2660	1.3030	1.2490	1.3690
6.25		1.2840	1.3030	1.2660	1.3450	1.2660
12.5		1.3030	1.3690	1.2660	1.3030	1.3230
25		1.2660	1.2490	1.2660	1.2840	1.3030
50		1.2660	1.2660	1.3030	1.3230	1.3690
100		1.2660	1.3030	1.2660	1.3230	1.3030

Germination Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	94/100	91/100	93/100	90/100	96/100
6.25		92/100	93/100	91/100	95/100	91/100
12.5		93/100	96/100	91/100	93/100	94/100
25		91/100	90/100	91/100	92/100	93/100
50		91/100	91/100	93/100	94/100	96/100
100		91/100	93/100	91/100	94/100	93/100

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 13:13 (p 3 of 3)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 12-6612-4806 Endpoint: Mean Length CETIS Version: CETISv2.1.2
 Analyzed: 22 Sep-22 13:12 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 22 Sep-22 13:08 MD5 Hash: 95535EC4F71A2CC7CFAB3FA7A86B91E Editor ID: 008-463-000-3

Batch ID: 17-6649-3793 Test Type: Growth-Germination Analyst:
 Start Date: 30 Aug-22 15:03 Protocol: EPA/600/R-95/136 (1995) Diluent: Laboratory Seawater
 Ending Date: 01 Sep-22 15:03 Species: Macrocystis pyrifera Brine: Not Applicable
 Test Length: 48h Taxon: Ochrophyta Source: Ventura Dive Age:

Sample ID: 05-2064-0089 Code: VCF0822.211klp Project:
 Sample Date: 29 Aug-22 06:45 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-SCR
 Sample Age: 32h (11 °C) Client: Ventura County Watershed Protection Distri

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	Tox Units	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.1928	1.46%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	0.7348	2.362	0.1928	CDF	0.5410	Non-Significant Effect
		12.5*	8	2.449	2.362	0.1928	CDF	0.0419	Significant Effect
		25	8	1.225	2.362	0.1928	CDF	0.3243	Non-Significant Effect
		50	8	-0.2449	2.362	0.1928	CDF	0.8956	Non-Significant Effect
		100	8	0.7348	2.362	0.1928	CDF	0.5410	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.22	10	<<	Yes	Passes Criteria
PMSD	0.01459	<<	0.2	No	Passes Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.154666	0.0309333	5	1.856	0.1399	Non-Significant Effect
Error	0.4	0.0166667	24			
Total	0.554666		29			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.339	15.09	0.8005	Equal Variances
	Levene Equality of Variance Test	1.087	3.895	0.3925	Equal Variances
	Mod Levene Equality of Variance Test	0.4308	4.248	0.8212	Equal Variances
Distribution	Anderson-Darling A2 Test	0.7217	3.878	0.0596	Normal Distribution
	D'Agostino Kurtosis Test	0.6921	2.576	0.4889	Normal Distribution
	D'Agostino Skewness Test	0.6079	2.576	0.5432	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.8486	9.21	0.6542	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1521	0.1853	0.0744	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9516	0.9031	0.1862	Normal Distribution

Mean Length Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	13.22	13.06	13.38	13.3	13	13.3	0.0583	0.99%	0.00%
6.25		5	13.16	12.93	13.39	13.1	13	13.4	0.08124	1.38%	0.45%
12.5		5	13.02	12.86	13.18	13.1	12.8	13.1	0.05832	1.00%	1.51%
25		5	13.12	13.02	13.22	13.1	13	13.2	0.03742	0.64%	0.76%
50		5	13.24	13.1	13.38	13.2	13.1	13.4	0.05098	0.86%	-0.15%
100		5	13.16	13.02	13.3	13.2	13	13.3	0.05099	0.87%	0.45%

Macrocystis Germination and Germ Tube Growth Test

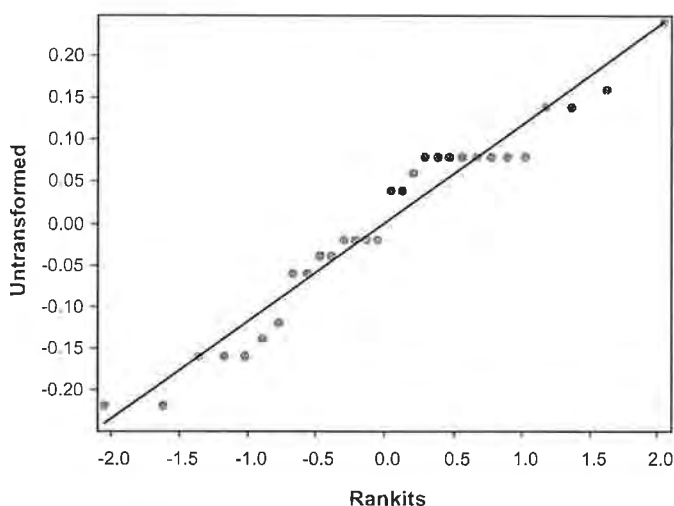
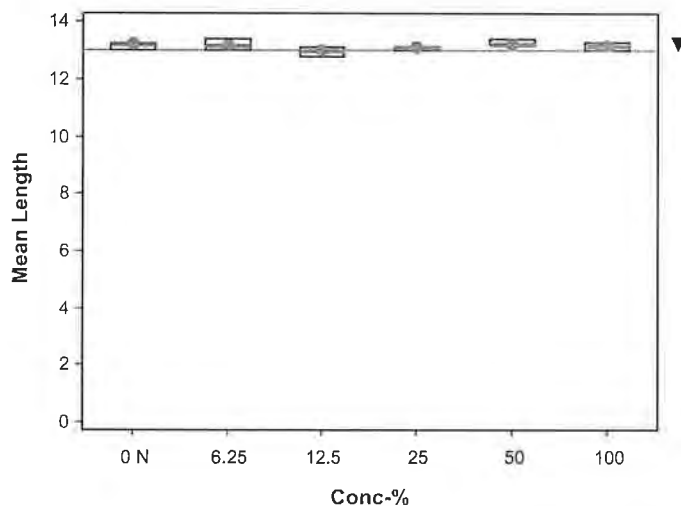
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 12-6612-4806 Endpoint: Mean Length CETIS Version: CETISv2.1.2
 Analyzed: 22 Sep-22 13:12 Analysis: Parametric-Control vs Treatments Status Level: 1
 Edit Date: 22 Sep-22 13:08 MD5 Hash: 95535EC4F71A2CC7CFAB3FA7A86B91E Editor ID: 008-463-000-3

Mean Length Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.3	13.3	13.2	13.3	13
6.25		13.4	13.3	13.1	13	13
12.5		13.1	13.1	12.8	13.1	13
25		13	13.2	13.1	13.2	13.1
50		13.1	13.3	13.4	13.2	13.2
100		13.3	13.2	13.2	13	13.1

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 13:13 (p 1 of 4)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test **Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 08-5373-3193	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 13:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 22 Sep-22 13:08	MD5 Hash: 1DF973FFB753A04DE74E3993EE28966C	Editor ID: 008-463-000-3
Batch ID: 17-6649-3793	Test Type: Growth-Germination	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 01 Sep-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 05-2064-0089	Code: VCF0822.211klp	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.928	0.7	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
EC15	>100	---	---	<1	---	---
EC20	>100	---	---	<1	---	---
EC25	>100	---	---	<1	---	---
EC40	>100	---	---	<1	---	---
EC50	>100	---	---	<1	---	---

Germination Rate Summary

Conc-%	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	ΣA/ΣB	Mean	%Effect
0	N	5	0.9280	0.9300	0.9000	0.9600	2.57%	0.00%	464/500	0.9287	0.00%
6.25		5	0.9240	0.9200	0.9100	0.9500	1.81%	0.43%	462/500	0.9287	0.00%
12.5		5	0.9340	0.9300	0.9100	0.9600	1.94%	-0.65%	467/500	0.9287	0.00%
25		5	0.9140	0.9100	0.9000	0.9300	1.25%	1.51%	457/500	0.9227	0.65%
50		5	0.9300	0.9300	0.9100	0.9600	2.28%	-0.22%	465/500	0.9227	0.65%
100		5	0.9240	0.9300	0.9100	0.9400	1.45%	0.43%	462/500	0.9227	0.65%

Germination Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9400	0.9100	0.9300	0.9000	0.9600
6.25		0.9200	0.9300	0.9100	0.9500	0.9100
12.5		0.9300	0.9600	0.9100	0.9300	0.9400
25		0.9100	0.9000	0.9100	0.9200	0.9300
50		0.9100	0.9100	0.9300	0.9400	0.9600
100		0.9100	0.9300	0.9100	0.9400	0.9300

Germination Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	94/100	91/100	93/100	90/100	96/100
6.25		92/100	93/100	91/100	95/100	91/100
12.5		93/100	96/100	91/100	93/100	94/100
25		91/100	90/100	91/100	92/100	93/100
50		91/100	91/100	93/100	94/100	96/100
100		91/100	93/100	91/100	94/100	93/100

CETIS Analytical Report

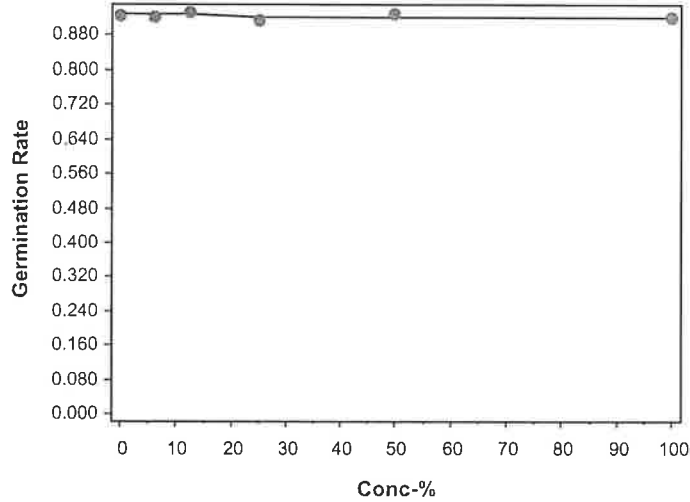
Report Date: 22 Sep-22 13:13 (p 2 of 4)
Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 08-5373-3193	Endpoint: Germination Rate	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 13:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 22 Sep-22 13:08	MD5 Hash: 1DF973FFB753A04DE74E3993EE28966C	Editor ID: 008-463-000-3

Graphics



CETIS Analytical Report

Report Date: 22 Sep-22 13:13 (p 3 of 4)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 10-8265-9968 Endpoint: Mean Length CETIS Version: CETISv2.1.2
 Analyzed: 22 Sep-22 13:12 Analysis: Linear Interpolation (ICPIN) Status Level: 1
 Edit Date: 22 Sep-22 13:08 MD5 Hash: 95535EC4F71A2CC7CFAB3FA7A86B91E Editor ID: 008-463-000-3

Batch ID: 17-6649-3793 Test Type: Growth-Germination Analyst:
 Start Date: 30 Aug-22 15:03 Protocol: EPA/600/R-95/136 (1995) Diluent: Laboratory Seawater
 Ending Date: 01 Sep-22 15:03 Species: Macrocystis pyrifera Brine: Not Applicable
 Test Length: 48h Taxon: Ochrophyta Source: Ventura Dive Age:

Sample ID: 05-2064-0089 Code: VCF0822.211klp Project:
 Sample Date: 29 Aug-22 06:45 Material: Sample Water Source: Bioassay Report
 Receipt Date: 29 Aug-22 10:20 CAS (PC): Station: ME-SCR
 Sample Age: 32h (11 °C) Client: Ventura County Watershed Protection Distri

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	97676	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.22	10	<<	Yes	Passes Criteria

Point Estimates

Level	%	95% LCL	95% UCL	Tox Units	95% LCL	95% UCL
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

Mean Length Summary

Conc-%	Code	Count	Mean	Median	Calculated Variate				Isotonic Variate	
					Min	Max	CV%	%Effect	Mean	%Effect
0	N	5	13.22	13.3	13	13.3	0.99%	0.00%	13.22	0.00%
6.25		5	13.16	13.1	13	13.4	1.38%	0.45%	13.16	0.45%
12.5		5	13.02	13.1	12.8	13.1	1.00%	1.51%	13.14	0.61%
25		5	13.12	13.1	13	13.2	0.64%	0.76%	13.14	0.61%
50		5	13.24	13.2	13.1	13.4	0.86%	-0.15%	13.14	0.61%
100		5	13.16	13.2	13	13.3	0.87%	0.45%	13.14	0.61%

Mean Length Detail

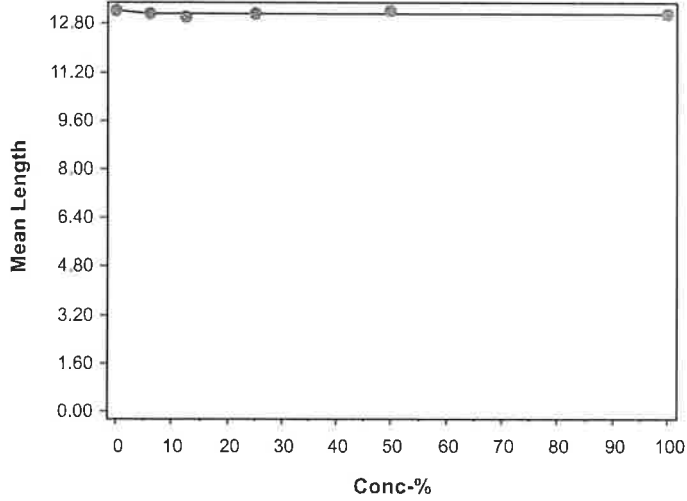
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.3	13.3	13.2	13.3	13
6.25		13.4	13.3	13.1	13	13
12.5		13.1	13.1	12.8	13.1	13
25		13	13.2	13.1	13.2	13.1
50		13.1	13.3	13.4	13.2	13.2
100		13.3	13.2	13.2	13	13.1

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 10-8265-9968	Endpoint: Mean Length	CETIS Version: CETISv2.1.2
Analyzed: 22 Sep-22 13:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 22 Sep-22 13:08	MD5 Hash: 95535EC4F71A2CC7CFAB3FA7A86B91E	Editor ID: 008-463-000-3

Graphics



CETIS Measurement Report

Report Date: 22 Sep-22 13:13 (p 1 of 1)
 Test Code/ID: VCF0822.211klp / 00-2720-3692

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Batch ID: 17-6649-3793	Test Type: Growth-Germination	Analyst:
Start Date: 30 Aug-22 15:03	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater
Ending Date: 01 Sep-22 15:03	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive Age:
Sample ID: 05-2064-0089	Code: VCF0822.211klp	Project:
Sample Date: 29 Aug-22 06:45	Material: Sample Water	Source: Bioassay Report
Receipt Date: 29 Aug-22 10:20	CAS (PC):	Station: ME-SCR
Sample Age: 32h (11 °C)	Client: Ventura County Watershed Protection Distri	

Dissolved Oxygen-mg/L

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.1	7.086	7.114	7.1	7.1	0	0	0.00%	0
6.25		2	7.1	7.086	7.114	7.1	7.1	0	0	0.00%	0
12.5		2	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
25		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
50		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
100		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
Overall		12	6.917	6.827	7.006	6.8	7.1	0.04051	0.1403	2.03%	0 (0%)

pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	8	8	8	8	8	0	0	0.00%	0
6.25		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
12.5		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
25		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
50		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
100		2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
Overall		12	8.167	8.117	8.216	8	8.2	0.02247	0.07785	0.95%	0 (0%)

Salinity-ppt

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	34	34	34	34	34	0	0	0.00%	0
6.25		2	34	34	34	34	34	0	0	0.00%	0
12.5		2	34	34	34	34	34	0	0	0.00%	0
25		2	34	34	34	34	34	0	0	0.00%	0
50		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
Overall		12	34	34	34	34	34	0	0	0.00%	0 (0%)

Temperature-°C

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
6.25		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
12.5		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
25		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
50		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
100		2	15.6	15.57	15.63	15.6	15.6	0	0	0.00%	0
Overall		12	15.6	15.6	15.6	15.6	15.6	0	0	0.00%	0 (0%)



Chain of Custody Record
Ventura County Watershed Protection District
NPDES Stormwater Monitoring Program
Project: NPDES Stormwater Wet Season (Contract AE20-007)
Most Sensitive Species Testing - Toxicity - ABC Laboratories

Side 1 of 1

Sampling Date: 8/29/22 Project Number: MSS-Dry-2
 Sampling Team: ~~8/29/22~~ K. HAHS, W.B. AREY

SAMPLE ID	DATE/TIME COLLECTED	Chronic toxicity - <i>Pimephales promelas</i> (fathead minnow)	Chronic toxicity - <i>Ceriodaphnia dubia</i> (daphnid)	Chronic toxicity - <i>Hyaella azteca</i> (Amphipod)	Chronic toxicity - <i>Chironomus dilutus</i> (midge)	Chronic toxicity - <i>Atherinops affinis</i> (topsmelt)	Chronic toxicity - <i>Macrocystis pyrifera</i> (giant kelp)	Chronic toxicity - <i>Strongylocentrotus purpuratus</i> (purple sea urchin)	Number of 5-Gallon Buckets	NOTES
ME-CC	8/29/22 0730	X	X	X	X				3	Note 1, Note 2, Note 3
ME-VR2	8/29/22 10:05	X	X	X	X				3	Note 1, Note 2, Note 3
ME-SCR	8/29/22 0645					X	X	X	3	Note 1, Note 2, Note 3
MO-HUE	8/29/22 0920					X	X	X	3	"
RW-LC1	8/29/22 0820	X	X	X	X				3	"

Temp ~ 20°C
 CAPTURED
 NIT 3

209
 210
 211
 212
 213

Relinquished Printed Name KELLY HAHS
 Signature [Signature]
 Affiliation VCWPD Date/Time 8/29/22 10:20

Received Printed Name Victor Marquez
 Signature [Signature]
 Affiliation ABC LABS Date/Time 8/29/22 1020

Other Notes: Note 1: Dilutions - 6.25%, 12.5%, 25%, 50%, 100%.
Note 2: Please contact Kelly Hahs 805-658-4375 if lethal or sublethal effect > 50%. TIE may be needed.
Note 3: Notify District within 24 hours if significant toxicity is observed. All times PDT.
Plesserum salt controls & FW species if needed.

CHEMICAL ANALYSIS DATA SHEET- VCF 1

Start Date: 8/30/2022 1453

Lab#: VCFO822.209

End Date: 9/12/2022 1354

Date Rec'd: 8/29

YSI Used: B B

Renewal Sample Used: B B B B B B B

DAY	8/30	8/31	1	9/1	2	9/2	3	9/3	4	9/4	5	9/5	6	9/6
Initials	TD	TD	1084	1239	6	0950	M	TD	0922	TD	0757	57	KN	TD

DISSOLVED OXYGEN mg/L

CONTROL	7.9	13	7.0	7.9	7.1	7.0	7.8	7.2	7.1	7.8	7.4	7.2	7.6	7.2	7.0	7.7	7.1	7.1	7.8	7.1
6.25	7.6	7.2	7.0	7.9	7.0	7.0	7.9	7.2	7.1	7.7	7.3	7.0	7.6	7.2	7.0	7.6	7.0	7.0	7.8	7.0
12.5	7.6	7.2	7.0	7.9	7.0	7.1	7.9	7.2	7.1	7.7	7.3	7.0	7.6	7.2	7.0	7.6	7.0	7.1	7.8	7.0
25	7.6	7.2	7.0	7.8	7.0	7.0	7.9	7.1	7.1	7.7	7.3	7.0	7.7	7.2	7.0	7.6	7.1	7.1	7.7	7.0
50	7.7	7.2	7.0	7.8	7.0	7.0	7.9	7.1	7.1	7.8	7.2	7.0	7.7	7.2	7.0	7.6	7.0	7.1	7.7	7.0
100	7.7	7.2	7.0	7.8	7.0	7.0	7.8	7.1	7.1	7.8	7.2	7.0	7.7	7.2	7.0	7.6	7.0	7.0	7.7	7.0

TEMPERATURE °C

CONTROL	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
12.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
50	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
100	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0

pH

CONTROL	8.3	8.1	8.0	8.2	8.1	8.1	8.2	8.2	8.1	8.2	8.0	7.9	8.2	8.0	7.9	8.1	8.0	8.1	8.1
6.25	8.2	8.1	7.9	8.2	8.0	8.1	8.1	8.1	8.1	8.1	8.0	7.8	8.0	8.0	7.8	8.0	8.0	8.0	8.1
12.5	8.2	8.1	7.9	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.8	8.0	8.0	7.8	8.0	7.9	8.0	8.1
25	8.2	8.1	7.9	8.2	8.1	8.2	8.1	8.1	8.1	8.1	8.0	7.8	8.1	7.9	7.8	8.0	7.9	8.0	8.0
50	8.2	8.1	7.9	8.2	8.1	8.1	8.2	8.1	8.1	8.1	8.0	7.8	8.1	7.9	7.8	8.0	7.9	8.0	8.0
100	8.2	8.1	7.9	8.2	8.1	8.1	8.2	8.1	8.1	8.1	8.0	7.8	8.2	7.9	7.8	8.0	7.9	8.0	8.0

CONDUCTIVITY umohs

CONTROL	380	380	379	380	382	380	380	380	380	380	380	380	380	380	380	380	380	380	380
6.25	479	487	485	489	482	487	485	485	485	485	482	487	485	485	485	485	485	485	485
12.5	553	565	569	570	572	570	573	573	573	573	572	577	573	573	573	573	573	573	573
25	726	739	740	738	740	739	749	749	749	749	740	739	749	749	749	749	749	749	749
50	1126	1140	1135	1133	1137	1140	1138	1138	1138	1138	1137	1140	1138	1138	1138	1138	1138	1138	1138
100	1901	1912	1917	1922	1910	1921	1925	1925	1925	1925	1921	1921	1925	1925	1925	1925	1925	1925	1925

ALKALINITY

CONTROL	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
W	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300

HARDNESS

CONTROL	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
W	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400

Residual Chlorine 1st Sample 0.1 2nd Sample _____ 3rd Sample _____

Handwritten signature/initials

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF

Lab #: VCF 08 22. 209

Sample I.D.:

Date & Time Start: 8/30/22

Date & Time End: 9/4/22

Conc.	Rep.#	INITIAL	1	2	3	4	5	6	FINAL
CONTROL	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
6.25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
12.5%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
25%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
50%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15
100%	1	15	15	15	15	15	15	15	15
	2	15	15	15	15	15	15	15	15
	3	15	15	15	15	15	15	15	15
	4	15	15	15	15	15	15	15	15

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
MB 1	CONTROL	1		0.83350	0.83862	0.0512	
2		2		0.83106	0.83629	0.0523	
3		3		0.81853	0.82359	0.0506	
4		4		0.84349	0.84852	0.0503	
MB 5	6.25%	1		0.84026	0.84590	0.0564	
6		2		0.83140	0.83659	0.0519	
7		3		0.83621	0.84129	0.0508	
8		4		0.82939	0.83447	0.0508	
MB 9	12.5%	1		0.83703	0.84227	0.0524	
10		2		0.83982	0.84497	0.0515	
11		3		0.84671	0.85182	0.0511	
12		4		0.84426	0.84937	0.0511	
MB 13	25%	1		0.84044	0.84552	0.0508	
14		2		0.83802	0.84322	0.0520	
15		3		0.83664	0.84177	0.0513	
16		4		0.83307	0.83827	0.0520	
MB 17	50%	1		0.83068	0.83572	0.0504	
18		2		0.84446	0.84971	0.0525	
19		3		0.83454	0.83966	0.0512	
20		4		0.84468	0.84972	0.0504	
MB 21	100%	1		0.83406	0.83922	0.0516	
22		2		0.84746	0.85287	0.0541	
23		3		0.84655	0.85178	0.0523	
24		4		0.84574	0.85077	0.0503	

QC: ERM

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF |

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/30/22

Lab #: VCF 08 22 909

End Date: 9/6/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	TD	2	2	1	✓	3	2	4	2	✓	3	
	5	TD	6	6	5	2	3	6	4	4	2	4	
	6	✓	5	7	7	7	8	7	7	6	7	8	
	7	TD	12	12	15	12	13	14	10	9	9	10	
	Total		15	27	28	21	27	29	25	21	18	28	
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	✓	✓	3	2	2	1	✓	4	2	2	
	5	-	7	4	6	3	3	2	4	2	1	1	
	6	-	10	10	7	9	8	10	9	8	10	10	
	7	-	10	13	12	11	16	13	12	10	11	14	
	Total	-	27	27	28	28	29	26	25	24	24	27	
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	3	2	✓	✓	2	3	2	1	
	5	-	6	6	4	2	3	2	2	4	2	7	
	6	-	11	12	11	10	12	11	10	10	9	10	
	7	-	13	12	10	12	14	13	12	14	11	12	
	Total	-	32	32	28	26	29	26	25	31	24	30	
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	✓	3	2	1	1	2	2	4	2	
	5	-	3	6	2	3	3	4	2	4	3	3	
	6	-	10	10	7	7	9	8	10	10	7	9	
	7	-	14	12	14	12	11	13	9	14	10	9	
	Total	-	29	28	26	24	24	26	23	30	24	23	
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	✓	✓	3	2	1	1	2	4	3	
	5	-	6	5	5	2	6	4	7	✓	2	2	
	6	-	8	9	10	11	11	11	12	12	13	10	
	7	-	13	10	14	11	11	13	9	12	9	11	
	Total	-	29	24	29	22	30	29	29	26	28	26	
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	✓	3	1	2	1	4	2	3	
	5	-	✓	3	6	2	7	2	4	4	6	3	
	6	-	5	10	10	11	12	11	12	12	12	13	
	7	-	14	12	9	11	9	12	10	11	11	14	
	Total	-	21	22	25	27	29	27	27	31	31	33	

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1	Lab #: VCF0822.209				
Start date and time: 8/30/22 1220	Sample ID:				
End date and time: 9/3/22 1310	Date Rec'd: 9/29				
YSI Used: B 7 5 5 B					
Day	0 8/30	1 8/31	2 9/1	3 9/2	4 9/3
Analyst	TB	K	K	K	TB
Time	1220	1238	1304	1312	1310

Dissolved Oxygen

Control	7.9	7.2	7.8	7.2	7.0
6.25%	7.0	7.3	7.9	7.1	7.0
12.5%	7.0	7.2	7.9	7.1	7.0
25%	7.0	7.2	7.9	7.1	7.7
50%	7.7	7.2	7.9	7.1	7.7
100%	7.7	7.2	7.8	7.1	7.7

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.3	8.1	8.1	8.2	8.2
6.25%	8.2	8.1	8.1	8.1	8.0
12.5%	8.2	8.1	8.1	8.1	8.0
25%	8.2	8.1	8.1	8.1	8.1
50%	8.2	8.1	8.2	8.1	8.1
100%	8.2	8.1	8.2	8.1	8.2

Conductivity

Control	380		375		380
6.25%	479		485		482
12.5%	553		565		572
25%	726		790		740
50%	1126		1135		1137
100%	1901		1917		1910

Alkalinity

Control	61		61		61
W	3.0		3.0		3.0

Hardness

Control	95		95		95
W	4.0		4.0		4.0

QC: EM 1135

Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 1

Lab #: VCF 0822.209

Sample ID: _____

Start Date: 8/30/

End Date: 9/3/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	NR	5	5	5	5
	1	NR	5	5	5	5
	2	NR	5	5	5	5
	3	NR	5	5	5	5
	4	TD	5	5	5	5
6.25	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
12.5	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
25	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
50	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
100	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5

QC: EM

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1	Lab #: VCF0822.209				
Start date and time: 8/30/2015	Sample ID:				
End date and time: 9/3/22 1410	Date Rec'd: 8/29				
YSI Used: B D B D B					
Day	0 8/30	1 8/31	2 9/1	3 9/2	4 9/3
Analyst	TD	KW	KW	KW	TD
Time	15<	1252	1312	1325	1410

Dissolved Oxygen

Control	7.9	7.2	7.8	7.1	7.0
6.25%	7.6	7.2	7.9	7.1	7.0
12.5%	7.0	7.2	7.9	7.1	7.0
25%	7.0	7.2	7.9	7.1	7.7
50%	7.7	7.2	7.5	7.1	7.7
100%	7.7	7.2	7.8	7.1	7.7

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.3	8.1	8.1	8.2	8.2
6.25%	8.2	8.1	8.1	8.1	8.0
12.5%	8.2	8.1	8.1	8.1	8.0
25%	8.2	8.1	8.1	8.1	8.1
50%	8.2	8.1	8.2	8.1	8.1
100%	8.2	8.1	8.2	8.1	8.2

Conductivity

Control	380		379		382
6.25%	479		485		482
12.5%	553		569		572
25%	726		770		740
50%	1126		1135		1137
100%	1901		1917		1910

Alkalinity

Control	61		61		61
WD	920		920		920

Hardness

Control	95		95		95
WD	420		420		420

QC: en pass

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 1

Lab #: VCFU822.209

Sample ID: _____

Date Time & Start: 8/30/22

9/9/22

Conc.	Rep.#	INITIAL	1 hr	2 hr	3 hr	FINAL
CONTROL	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
6.25	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
12.5	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
25	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
50	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
100	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓

RC = CM + P

CHEMICAL ANALYSIS DATA SHEET- VC F 2

Start Date: 8/30/2022 1447

Lab#: VCFO822.210

End Date: 9/10/2022 1359

Date Rec'd: 8/29

YSI Used: B B

Renewal Sample Used: B B B B B B B

DAY	8/30	8/31	1	9/1	2	9/2	3	9/3	4	9/4	5	9/5	6	9/6
Initials	TD	TD	1054	1248/10		1010 M		TD 0937	TD 0821	OK M				TD

DISSOLVED OXYGEN mg/L																				
CONTROL	7.9	7.3	7.2	7.5	7.1	7.1	7.8	7.2	7.1	7.8	7.4	7.2	7.0	7.2	7.0	7.7	7.1	7.1	7.8	7.1
6.25	7.7	7.2	7.1	7.5	7.0	7.2	7.8	7.1	7.1	7.8	7.3	7.0	7.7	7.2	7.0	7.6	7.1	7.0	7.8	7.0
12.5	7.7	7.2	7.1	7.5	7.1	7.2	7.9	7.1	7.0	7.8	7.3	7.0	7.7	7.2	7.0	7.6	6.9	7.0	7.8	7.0
25	7.8	7.2	7.1	7.5	7.1	7.1	7.8	7.1	7.0	7.8	7.2	7.0	7.6	7.1	7.0	7.6	7.0	7.3	7.7	7.0
50	7.8	8.5	7.0	7.5	7.1	7.1	7.8	7.1	7.0	7.7	7.2	7.0	7.6	7.1	7.1	7.5	7.0	7.0	7.7	7.1
100	7.8	8.8	7.0	7.5	7.2	7.1	7.8	7.1	7.0	7.7	7.2	7.0	7.6	7.0	7.1	7.5	6.9	7.0	7.7	7.0

TEMPERATURE °C																				
CONTROL	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
12.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
50	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
100	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0

pH																				
CONTROL	8.2	8.1	8.0	8.2	8.1	8.1	8.2	8.2	8.1	8.2	8.0	7.9	8.2	8.0	7.9	8.1	8.0	8.0	8.1	8.1
6.25	8.2	8.1	7.9	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.8	8.1	8.0	7.8	8.0	8.0	8.0	8.1	8.1
12.5	8.2	8.1	7.9	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.8	8.1	8.0	7.8	8.0	8.0	8.0	8.1	8.1
25	8.2	8.1	7.9	8.2	8.1	8.2	8.1	8.1	8.1	8.1	8.0	7.8	8.1	8.0	7.8	8.1	8.0	8.0	8.1	8.0
50	8.2	8.1	7.8	8.2	8.1	8.1	8.2	8.1	8.1	8.1	8.0	7.8	8.1	8.0	7.8	8.1	8.0	8.0	8.1	8.0
100	8.2	8.1	7.8	8.2	8.1	8.1	8.2	8.1	8.1	8.2	8.0	7.8	8.1	8.0	7.8	8.1	8.0	7.9	8.0	8.0

CONDUCTIVITY umohs																				
CONTROL	380	380		379		380		382		380		380		380		380		380		380
470 ⁷⁰ 6.25	534	455		455		455		455		460		469		468		468		468		468
12.5	476	482		487		483		482		479		480		482		480		482		482
25	610	605		612		620		622		613		622		628		622		628		628
50	849	853		854		855		854		847		851		858		851		858		858
100	1267	1277		1282		1290		1283		1286		1288		1290		1288		1290		1290

ALKALINITY																				
CONTROL	61	61		61		61		61		61		61		61		61		61		61
min	165	165		165		165		165		165		165		165		165		165		165

HARDNESS																				
CONTROL	95	95		95		95		95		95		95		95		95		95		95
min	360	360		360		360		360		360		360		360		360		360		360

Residual Chlorine 1st Sample 2.07 2nd Sample _____ 3rd Sample _____

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2

Lab #: VCF 08 22. 210

Sample I.D.:

Date & Time Start: 8/30/22

Date & Time End: 9/6/22

Conc.	Rep.#	INITIAL	1	2	3	4	5	6	FINAL
CONTROL	1								15
	2								15
	3								10
	4								10
6.25%	1								10
	2								10
	3								10
	4								10
12.5%	1								10
	2								10
	3								10
	4								10
25%	1								10
	2								10
	3								10
	4								10
50%	1								10
	2								10
	3								10
	4								10
100%	1								15
	2								15
	3								10
	4								10

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
mc 1	CONTROL	1		0.82664	0.83177	0.0513	
2		2		0.84079	0.84583	0.0504	
3		3		0.84862	0.85388	0.05210	
4		4		0.84208	0.84761	0.0553	
mc 5	6.25%	1		0.84257	0.84766	0.0509	
6		2		0.83906	0.84452	0.0516	
7		3		0.83209	0.83744	0.0535	
8		4		0.84036	0.84576	0.0540	
mc 9	12.5%	1		0.83802	0.844370	0.0568	
10		2		0.84376	0.84866	0.0530	
11		3		0.83894	0.84402	0.0508	
12		4		0.83740	0.84259	0.0519	
mc 13	25%	1		0.84026	0.84556	0.0530	
14		2		0.84637	0.85159	0.0522	
15		3		0.83201	0.83744	0.0543	
16		4		0.83767	0.84282	0.0515	
mc 17	50%	1		0.84068	0.84577	0.0512	
18		2		0.83143	0.83659	0.0516	
19		3		0.83562	0.84070	0.0510	
20		4		0.83827	0.84327	0.0500	
mc 21	100%	1		0.83901	0.84429	0.0528	
22		2		0.82213	0.82733	0.0520	
23		3		0.83809	0.84361	0.0552	
24		4		0.83100	0.83627	0.0527	

QC: [Signature]

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 2

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/30/22

Lab #: VCF 08 22.210

End Date: 9/16/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	10	2	✓	3	3	2	4	2	2	1	1	
	5	10	✓	6	3	4	5	5	2	3	4	7	
	6	12	7	5	7	8	8	7	7	9	8	8	
	7	10	7	13	14	12	10	11	13	8	10	14	
	Total			24	24	27	27	28	27	24	22	23	30
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	1	3	2	2	4	✓	3	2	
	5	-	6	4	7	6	5	5	2	3	✓	4	
	6	-	7	7	8	9	10	9	8	10	7	9	
	7	-	10	16	10	9	9	12	14	13	13	15	
	Total	-		25	31	26	27	26	28	28	26	27	32
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	✓	3	3	2	✓	3	3	✓	✓	
	5	-	4	3	6	2	7	2	2	7	6	6	
	6	-	9	4	8	10	10	9	8	10	9	9	
	7	-	15	13	10	10	12	14	12	10	9	9	
	Total	-		30	25	27	25	31	25	25	30	24	24
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	4	3	✓	2	2	3	2	4	3	2	
	5	-	6	5	5	2	3	4	5	2	7	4	
	6	-	10	9	10	7	9	10	10	11	10	10	
	7	-	12	13	9	11	12	12	9	14	14	12	
	Total	-		32	30	24	22	26	29	26	31	34	28
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	3	✓	4	✓	✓	6	4	2	2	
	5	-	6	4	6	5	5	2	4	7	3	3	
	6	-	10	11	10	12	11	10	10	7	9	10	
	7	-	11	12	10	13	12	9	13	12	12	14	
	Total	-		29	30	26	34	28	21	33	30	26	29
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	-	2	2	3	2	4	3	3	✓	2	✓	
	5	-	4	6	6	4	5	3	2	6	4	6	
	6	-	7	7	10	8	10	5	10	11	11	10	
	7	-	15	14	12	12	12	13	12	9	9	10	
	Total	-		28	29	31	26	31	24	27	26	26	32

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2 ^{30 To} Lab #: VCF0822.210

Start date and time: 8/29/2022 ^{12:45} Sample ID:

End date and time: 9/13/22 ^{13:16} Date Rec'd: 8/29

YSI Used: 5 5 5 5 8

Day	0 8/30	1 8/31	2 9/1	3 9/2	4 9/3
Analyst	TD	AV	AV	AV	TD
Time	1222	1240	1308	1315	1316

Dissolved Oxygen

Control	7.9	7.2	7.8	7.2	7.0
6.25%	7.7	7.2	7.8	7.1	7.7
12.5%	7.7	7.2	7.9	7.1	7.7
25%	7.8	7.2	7.8	7.1	7.0
50%	7.8	7.5	7.8	7.1	7.0
100%	7.8	7.8	7.8	7.1	7.0

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.2	8.1	8.1	8.2	8.2
6.25%	8.2	8.1	8.1	8.1	8.1
12.5%	8.2	8.1	8.1	8.1	8.1
25%	8.2	8.1	8.1	8.1	8.1
50%	8.2	8.1	8.2	8.1	8.1
100%	8.2	8.1	8.2	8.1	8.1

Conductivity

Control	380		379		382
6.25%	470		445		455
12.5%	476		487		482
25%	610		612		622
50%	849		854		854
100%	1267		1282		1283

Alkalinity

Control	61		61		61
UV	165		165		165

Hardness

Control	95		95		95
UV	364		364		364

QC: EM PASS

Acute *Hyalella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 2
 Sample ID: _____
 Start Date: 8/30/

Lab #: VCF 0822.210
 End Date: 9/13/20

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	RL	5	5	5	5
	1	RL	5	5	5	5
	2	RL	5	5	5	5
	3	RL	5	5	5	5
	4	RL	5	5	5	5
6.25	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
12.5	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
25	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
50	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5
100	0	-	5	5	5	5
	1	-	5	5	5	5
	2	-	5	5	5	5
	3	-	5	5	5	5
	4	-	5	5	5	5

QC: EM

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 2

Lab #: VCF0822.210

Start date and time: 8/30/22 1518 Sample ID:

End date and time: 9/3/22 1410 Date Rec'd: 8/29

YSI Used:

Day	0	1	2	3	4
Analyst	To	M	M	M	To
Time	1518	1255	1320	1328	1410

Dissolved Oxygen

Control	7.9	7.2	7.8	7.2	7.6
6.25%	7.7	7.2	7.8	7.1	7.7
12.5%	7.7	7.2	7.8	7.1	7.7
25%	7.8	7.2	7.8	7.1	7.6
50%	7.8	7.5	7.8	7.1	7.6
100%	7.8	7.8	7.8	7.1	7.6

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.2	8.1	8.1	8.2	8.2
6.25%	8.2	8.1	8.1	8.1	8.1
12.5%	8.2	8.1	8.1	8.1	8.1
25%	8.2	8.1	8.1	8.1	8.1
50%	8.2	8.1	8.2	8.1	8.1
100%	8.2	8.1	8.2	8.1	8.1

Conductivity

Control	380		379		382
6.25%	470		465		455
12.5%	470		487		482
25%	610		612		622
50%	849		854		854
100%	1267		1282		1283

Alkalinity

Control	6.6		6.5		6.5
W	16.5		16.5		16.5

Hardness

Control	95		95		95
W	360		360		360

QC: WMT

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 2

Lab #: VCF0822.210

Sample ID: _____

9/3/22

Date Time & Start: 8/30/22

Conc.	Rep.#	INITIAL	1 _r	2 _r	3 _r	FINAL
VCF CONTROL VCF 0822.210	1					5
	2					5
	3					5
	4					5
6.25	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
12.5	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
25	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
50	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓
100	1	✓	✓	✓	✓	✓
	2	✓	✓	✓	✓	✓
	3	✓	✓	✓	✓	✓
	4	✓	✓	✓	✓	✓

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CHEMICAL ANALYSIS DATA SHEET- VCF 3

Start Date: 8/30/2022 1434

Lab#: VCFO822.213

End Date: 9/6/2022 1404

Date Rec'd: 8/29

YSI Used: B B

Renewal Sample Used: B B B B B B B

DAY	8/30	8/31	1	9/1	2	9/2	3	9/3	4	9/4	5	9/5	6	9/6
Initials	TD	TD	1137	1310 dr		1030 M		TD	0952	TD	1839	0815 M		TD

DISSOLVED OXYGEN mg/L																				
CONTROL	7.9	7.5	7.2	7.5	7.1	7.0	7.8	7.2	7.1	7.8	7.4	7.2	7.6	7.2	7.0	7.7	7.1	7.1	7.8	7.1
6.25	7.8	7.2	7.0	7.9	7.0	7.0	7.9	7.1	7.0	7.8	7.2	7.1	7.0	7.1	7.0	7.7	7.1	7.0	7.8	7.0
12.5	7.8	7.2	7.0	7.9	7.0	7.0	7.9	7.1	7.0	7.8	7.2	7.1	7.0	7.1	7.0	7.7	7.1	7.0	7.8	7.0
25	7.7	7.2	7.0	7.9	7.0	7.0	7.9	7.1	7.0	7.7	7.1	7.0	7.7	7.0	7.0	7.7	7.0	7.0	7.7	7.1
50	7.7	7.2	7.0	7.9	7.0	7.0	7.9	7.1	7.0	7.7	7.1	7.0	7.7	7.0	7.0	7.8	7.0	7.0	7.7	7.1
100	7.7	7.2	7.0	7.9	7.0	7.0	7.9	7.1	7.0	7.7	7.0	7.7	7.0	7.0	7.8	7.0	7.0	7.7	7.1	7.1

TEMPERATURE °C																				
CONTROL	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
6.25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
12.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
50	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0
100	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0

pH																				
CONTROL	8.3	8.1	8.0	8.2	8.1	8.1	8.2	8.2	8.1	8.2	8.0	7.9	8.2	8.0	7.9	8.1	8.0	8.0	8.1	8.1
6.25	8.3	8.0	8.0	8.2	8.1	8.1	8.2	8.1	8.1	8.1	8.0	7.9	8.1	7.9	7.8	8.0	8.0	8.0	8.1	8.1
12.5	8.3	8.0	8.0	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	7.9	8.1	7.9	7.8	8.0	8.0	7.9	8.1	8.1
25	8.2	8.0	8.0	8.2	8.2	8.2	8.1	8.1	8.1	8.0	8.0	7.9	8.1	7.9	7.8	8.0	7.9	7.9	8.0	8.0
50	8.2	7.9	8.0	8.2	8.2	8.1	8.1	8.1	8.1	8.0	8.0	7.9	8.2	7.9	7.8	8.1	7.9	7.9	8.0	8.0
100	8.2	7.8	8.0	8.2	8.2	8.1	8.1	8.1	8.1	8.0	8.0	7.9	8.2	7.9	7.8	8.1	7.9	7.9	8.0	8.0

CONDUCTIVITY umohs																				
CONTROL	380	380		379		380		382		380		380		380		380		380		380
6.25	691	698		699		694		692		693		693		697		697		698		698
12.5	776	787		786		788		783		782		782		786		786		788		788
25	1183	1196		1195		1192		1194		1193		1193		1190		1194		1194		1194
50	1940	1955		1960		1959		1961		1957		1957		1966		1968		1968		1968
100	3364	3383		3380		3381		3369		3369		3369		3373		3362		3362		3362

ALKALINITY																				
CONTROL	61	61		61		61		61		61		61		61		61		61		61
W	239	239		239		239		239		239		239		239		239		239		239

HARDNESS																				
CONTROL	95	95		95		95		95		95		95		95		95		95		95
W	550	550		550		550		550		550		550		550		550		550		550

Residual Chlorine 1st Sample 2.01 2nd Sample _____ 3rd Sample _____

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 3

Lab #: VCF 08 22. 913

Sample I.D.:

Date & Time End: 9/6/22

Date & Time Start:

Conc.	Rep.#	INITIAL	1	2	3	4	5	6	FINAL
USE CONTROL VCF 08 22. 909	1								
	2								
	3								
	4								
6.25%	1								
	2								
	3								
	4								
12.5%	1								
	2								
	3								
	4								
25%	1								
	2								
	3								
	4								
50%	1								
	2								
	3								
	4								
100%	1								
	2								
	3								
	4								

CHAMBER NUMBER	EFF. CONC.	REPL. #	NUMBER FISH	BOAT TARE	BOAT + FISH	FISH WEIGHT (g)	AVG. WT. PER FISH (g)
/	CONTROL	1					
		2					
		3					
		4					
MD 1	6.25%	1		0.82893	0.88397	.00504	
		2		0.83654	0.84169	.00515	
		3		0.82798	0.83299	.00501	
		4		0.82469	0.82976	.00507	
MD 5	12.5%	1		0.83763	0.84277	.00514	
		2		0.83729	0.84233	.00504	
		3		0.83620	0.84176	.00516	
		4		0.83629	0.84149	.00520	
MD 9	25%	1		0.84397	0.84899	.00502	
		2		0.83164	0.83674	.00510	
		3		0.83857	0.84366	.00509	
		4		0.82602	0.83149	.00547	
MD 13	50%	1		0.82517	0.83049	.00532	
		2		0.82351	0.82866	.00515	
		3		0.84477	0.84988	.00511	
		4		0.84620	0.85149	.00529	
MD 17	100%	1		0.83179	0.83687	.00508	
		2		0.82813	0.83329	.00516	
		3		0.81633	0.82146	.00513	
		4		0.81131	0.81652	.00521	

QC: [Signature]

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 3

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 8/30/22

Lab #: VCF 08 22.213

End Date: 9/6/22

Conc.	Day#	Initial	# YOUNG / REPLICATE											
			1	2	3	4	5	6	7	8	9	10		
USE CON of VCF082. 217	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	TO	3	2	2	✓	4	2	3	3	2	3	2	3
	5	TO	6	6	2	4	3	3	2	7	6	8		
	6	✓	7	10	10	11	10	7	9	10	11	10		
	7	TO	13	9	12	13	14	16	12	13	12	10		
	Total		29	27	26	28	31	28	26	33	31	28		
	6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	-	2	2	✓	3	2	2	3	3	2	1	2		
5	-	5	3	6	8	2	2	3	4	6	2	2		
6	-	10	9	10	11	10	9	10	10	10	10	10		
7	-	11	11	13	9	13	14	10	14	12	15			
Total	-	28	25	29	28	26	30	24	33	30	28			
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	-	4	3	2	2	✓	3	2	1	1	4	5		
5	-	4	3	6	6	5	2	2	4	8	5	5		
6	-	9	8	10	7	8	10	9	10	7	9	9		
7	-	13	14	9	12	14	12	11	16	12	10			
Total	-	27	29	24	27	27	27	24	31	28	28			
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	-	2	2	✓	4	✓	2	2	1	4	3	2		
5	-	6	3	6	2	5	5	2	4	3	2			
6	-	9	8	10	5	10	11	10	10	11	10			
7	-	9	12	13	10	13	12	12	11	14	12			
Total	-	26	25	29	25	28	30	26	26	32	27			
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	-	1	3	✓	✓	2	2	3	2	4	2			
5	-	4	6	2	4	6	7	5	5	4	3			
6	-	7	5	7	7	6	7	7	5	8	8			
7	-	13	12	14	11	13	9	14	12	13	14			
Total	-	25	26	23	21	29	25	29	24	29	29			
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	-	3	3	2	2	1	✓	✓	4	2	3			
5	-	3	2	6	4	4	6	5	5	2	4			
6	-	5	7	5	4	7	7	8	7	9	10			
7	-	9	12	10	9	10	10	12	13	11	11			
Total	-	17	24	23	19	22	23	25	29	24	28			

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 3

Lab #: VCF1822.213

Start date and time: 8/30/2022 12:25 Sample ID:

End date and time: 9/3/2022 13:22 Date Rec'd: 8/29

YSI Used:

Day	0	1	2	3	4
Analyst	JD	W	W	W	JD
Time	1225	1244	1310	1320	1322

Dissolved Oxygen

Control	7.9	7.2	7.8	7.6	7.6
6.25%	7.8	7.2	7.9	7.4	7.6
12.5%	7.8	7.2	7.9	7.4	7.6
25%	7.7	7.2	7.9	7.1	7.7
50%	7.7	7.2	7.9	7.1	7.7
100%	7.7	7.2	7.9	7.1	7.7

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.6	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.3	8.1	8.1	8.2	8.2
6.25%	8.3	8.0	8.2	8.1	8.1
12.5%	8.3	8.0	8.1	8.1	8.1
25%	8.2	8.0	8.1	8.1	8.1
50%	8.2	7.9	8.1	8.1	8.2
100%	8.2	7.8	8.1	8.1	8.2

Conductivity

Control	380		379		382
6.25%	691		699		692
12.5%	776		786		783
25%	1183		1155		1194
50%	1940		1920		1961
100%	3364		3380		3369

Alkalinity

Control	W		W		W
	239		219		239

Hardness

Control	W		W		W
	95		95		95

QC: EM

Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 3

Lab #: VCF 0822 213

Sample ID: _____

Start Date: 8/30/22

End Date: 9/3/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
USE CON of JCFD 20	0	M	5	5	5	5
	1	M				
	2	M				
	3	M				
	4	TD	5	5	5	5
6.25	0	-	9	9	9	9
	1	-	9	9	9	9
	2	-	9	9	9	9
	3	-	9	9	9	9
	4	-	9	9	9	9
12.5	0	-	9	9	9	9
	1	-	9	9	9	9
	2	-	9	9	9	9
	3	-	9	9	9	9
	4	-	9	9	9	9
25	0	-	9	9	9	9
	1	-	9	9	9	9
	2	-	9	9	9	9
	3	-	9	9	9	9
	4	-	9	9	9	9
50	0	-	9	9	9	9
	1	-	9	9	9	9
	2	-	9	9	9	9
	3	-	9	9	9	9
	4	-	9	9	9	9
100	0	-	9	9	9	9
	1	-	9	9	9	9
	2	-	9	9	9	9
	3	-	9	9	9	9
	4	-	9	9	9	9

QC: em f

Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 3

Lab #: VCF 0822. 213

Start date and time: 8/30/22 1520

Sample ID:

End date and time: 9/3/22 1422

Date Rec'd:

YSI Used:

Day	08/30	1 8/31	2 9/1	3 9/2	4 9/3
Analyst	TO	AL	AL	AL	TO
Time	1520	1500	1352	1330	1422

Dissolved Oxygen

Control	7.9	7.2	7.8	7.2	7.0
6.25%	7.8	7.2	7.5	7.1	7.0
12.5%	7.8	7.2	7.5	7.1	7.0
25%	7.7	7.2	7.9	7.1	7.7
50%	7.7	7.2	7.5	7.1	7.7
100%	7.7	7.2	7.9	7.1	7.7

Temperature

Control	22.0	22.0	22.0	22.0	22.0
6.25%	22.0	22.0	22.0	22.0	22.0
12.5%	22.0	22.0	22.0	22.0	22.0
25%	22.0	22.0	22.0	22.0	22.0
50%	22.0	22.0	22.0	22.0	22.0
100%	22.0	22.0	22.0	22.0	22.0

pH

Control	8.3	8.1	8.1	8.2	8.2
6.25%	8.3	8.0	8.2	8.1	8.1
12.5%	8.3	8.0	8.1	8.1	8.1
25%	8.2	8.0	8.1	8.1	8.1
50%	8.2	7.9	8.1	8.1	8.2
100%	8.2	7.8	8.1	8.1	8.2

Conductivity

Control	350		379		382
6.25%	691		695		1092
12.5%	776		786		783
25%	1183		1195		1194
50%	1940		1960		1961
100%	3364		3380		3369

Alkalinity

Control	61		61		61
UM	239		239		239

Hardness

Control	95		95		95
W	330		330		330

QC: AM-1135

Acute Chironomus survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 3

Lab #: VCF0822.213

Sample ID: _____

Date Time & Start: 8/30/22

9/13/22

VCF 0822.213

Conc.	Rep.#	INITIAL	1 hr	2 hr	3 hr	FINAL
USE CONTROL	1					
	2					
	3					
	4					
6.25	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
12.5	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
25	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
50	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0
100	1	0	0	0	0	0
	2	0	0	0	0	0
	3	0	0	0	0	0
	4	0	0	0	0	0

QC = 0.1

CHEMICAL ANALYSIS

VCF - Topsmelt

4

Start Date: 8/30/22 1230

Lab #: VCF 08 22. 211

End Date: 9/6/22 1230

Date Rec'd: 8/29

YSI Used: B

Sample used for renewal: B B B B B B B

Day	8/30	8/31	1	9/1	2	9/2	3	9/3	4	9/4	5	9/5	6	9/6
Analyst Int.	W	1090 W		125 W		150 W		TD 1121		TD 0956		1014 W		TD
DISSOLVED OXYGEN (mg/L)														
CONTROL	7.0	7.0	7.1	7.0	7.3	7.0	7.7	7.2	7.4	7.0	7.0	7.0	7.5	6.9
6.25%	6.9	7.0	7.1	7.0	7.3	7.1	7.6	7.2	7.3	7.0	7.3	7.0	7.5	6.5
12.5%	6.9	7.0	7.1	7.0	7.3	7.1	7.6	7.2	7.3	7.0	7.3	7.0	7.5	6.7
25%	7.0	7.0	7.1	7.1	7.3	7.1	7.5	7.1	7.2	7.0	7.4	7.0	7.4	6.8
50%	7.0	7.0	7.1	7.0	7.3	7.1	7.5	7.1	7.2	6.9	7.4	7.0	7.5	6.5
100%	7.0	7.0	7.1	6.9	7.3	7.1	7.5	7.1	7.0	6.9	7.4	6.9	7.5	7.0
TEMPERATURE (°C)														
CONTROL	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
6.25%	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
12.5%	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
25%	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
50%	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
100%	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
pH														
CONTROL	7.0	7.5	7.5	7.5	7.6	7.5	7.7	7.4	7.0	7.5	7.6	7.6	7.6	7.6
6.25%	7.8	7.8	7.5	7.5	7.6	7.5	7.7	7.4	7.0	7.5	7.6	7.6	7.6	7.6
12.5%	7.8	7.8	7.6	7.6	7.6	7.5	7.7	7.4	7.0	7.5	7.6	7.6	7.6	7.6
25%	7.8	7.8	7.7	7.6	7.6	7.6	7.7	7.3	7.7	7.5	7.6	7.5	7.6	7.6
50%	7.8	7.8	7.7	7.7	7.7	7.6	7.7	7.3	7.7	7.4	7.5	7.5	7.6	7.6
100%	7.8	7.8	7.7	7.7	7.7	7.6	7.7	7.3	7.7	7.4	7.5	7.5	7.5	7.6
SALINITY (ppt)														
CONTROL	34	34		34		34		34		34		34		34
6.25%	34	34		34		34		34		34		34		34
12.5%	34	34		34		34		34		34		34		34
25%	34	34		34		34		34		34		34		34
50%	34	34		34		34		34		34		34		34
100%	34	34		34		34		34		34		34		34

NOTES: None (14)

TOPSMELT SURVIVAL

Company: VCF 4

Sample ID: _____

Lab#: VCF 08 22. 21

Start Date: 8/30/22

End Date: 9/16/22

Concentration	Rep. #	Initial	Daily # of Surviving Fish						Final
			1 <u>hr</u>	2 <u>hr</u>	3 <u>hr</u>	4 <u>hr</u>	5 <u>hr</u>	6 <u>hr</u>	
CON	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5
6.25%	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5
12.5%	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5
25%	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5
50%	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5
100%	1	5	5	5	5	5	5	5	5
	2	5	5	5	5	5	5	5	5
	3	5	5	5	5	5	5	5	5
	4	5	5	5	5	5	5	5	5
	5	5	5	5	5	5	5	5	5

Inquatic Bioscience & Consulting Laboratories, Inc.

QC: em-p

TOPSMELT GROWTH

Company: VCF 4 8/30/22

Lab#: VCF 0822. 211

Sample ID: _____

Chamber #	Eff Conc.	Rep. #	Number Fish	Boat Tare	Boat + Fish	Fish Wt. (mg)	Average Weight Per Fish (mg)
MF 1	CON	1		1.17723	1.17834	.00711	
2		2		1.16133	1.16844	.00711	
3		3		1.14379	1.15083	.00704	
4		4		1.12947	1.13657	.00710	
5		5		1.15859	1.16577	.00718	
MF 6	6.25%	1		1.13687	1.14397	.00710	
7		2		1.13243	1.13955	.00712	
8		3		1.14684	1.15396	.00712	
9		4		1.14247	1.14956	.00709	
10		5		1.17427	1.18136	.00709	
MF 11	12.5%	1		1.12497	1.12902	.00705	
12		2		1.12471	1.13183	.00712	
13		3		1.14363	1.15073	.00710	
14		4		1.14368	1.15099	.00731	
15		5		1.15242	1.15963	.00721	
MF 16	25%	1		1.12692	1.13397	.00705	
17		2		1.12676	1.13381	.00705	
18		3		1.14377	1.15086	.00709	
19		4		1.13502	1.14293	.00791	
20		5		1.14746	1.15463	.00717	
MF 21	50%	1		1.18210	1.18922	.00702	.00712
22		2		1.13122	1.13861	.00739	
23		3		1.13987	1.14692	.00705	
24		4		1.13359	1.14076	.00717	
25		5		1.15112	1.15832	.00720	
MF 26	100%	1		1.15657	1.16369	.00712	
27		2		1.15912	1.16632	.00720	
28		3		1.14906	1.15612	.00706	
29		4		1.14309	1.15026	.00717	
30		5		1.15467	1.16172	.00705	

Aquatic Bioassay & Consulting Laboratories, Inc.

QC: emf

Toxicity Test Data Sheet

VCF copy

DATE		CLIENT	CONC (%)	TEMP (Deg. C)		pH		D.O.		SALINITY (ppt)	
Initial	Final										
8.30.22	8.30.22 UF	STD TOX	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1500 VM	1540 VM	Kelp & UF	5.6	15.6	15.6	8.1	8.1	7.1	7.1	34	34
			10	15.6	15.6	8.1	8.1	7.2	7.2	34	34
	9.01.22 K		18	15.6	15.6	8.2	8.2	7.2	7.2	34	34
	1500 VM		32	15.6	15.6	8.2	8.2	7.1	7.1	34	34
			56	15.6	15.6	8.2	8.2	7.1	7.1	34	34
			100	15.6	15.6	8.1	8.1	7.0	7.0	34	34
			180	15.6	15.6	8.2	8.2	7.0	7.0	34	34
			320	15.6	15.6	8.2	8.2	7.1	7.1	34	34
8.30.22	8.30.22 UF	VCF 1	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1503 VM	1543 VM	KLP & UF	6.25	15.6	15.6	8.2	8.2	7.1	7.1	34	34
			12.5	15.6	15.6	8.2	8.2	6.9	6.9	34	34
	9.01.22 K	(.211)	25	15.6	15.6	8.2	8.2	6.8	6.8	34	34
	1503 VM		50	15.6	15.6	8.2	8.2	6.8	6.8	34	34
			100	15.6	15.6	8.2	8.2	6.5	6.5	34	34
8.30.22	8.30.22 UF	VCF 2	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1506 VM	1546 VM	KLP & UF	6.25	15.6	15.6	8.2	8.2	6.9	6.9	34	34
			12.5	15.6	15.6	8.2	8.2	6.5	6.5	34	34
	9.01.22 K	(.212)	25	15.6	15.6	8.2	8.2	6.2	6.2	34	34
	1506 VM		50	15.6	15.6	8.2	8.2	6.2	6.2	34	34
			100	15.6	15.6	8.2	8.2	5.9	5.9	34	34
8.30.22	8.30.22 UF	EUR	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1509 VM	1549 VM	UF	1.0	15.6	15.6	8.2	8.2	7.2	7.2	34	34
		(.223)									
8.30.22	8.30.22 UF	EUR	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1511 VM	1551 VM	UF	.50	15.6	15.6	8.2	8.2	7.1	7.1	34	34
		(.224)									
8.30.22	8.30.22 UF	EUR	CON	15.6	15.6	8.0	8.0	7.1	7.1	34	34
1513 VM	1553 VM	UF	2.20	15.6	15.6	8.2	8.2	7.0	7.0	34	34
		(.225)									
		(TST)									

LIGHT INTENSITIES BY QUADRANT					
START	289	277	FINISH	START	264
	LEFT REAR			RIGHT REAR	FINISH
START	268	272	FINISH	START	258
	LEFT FRONT			RIGHT FRONT	FINISH

PURPLE URCHIN FERTILIZATION TEST DATA SHEET

Test Start Date: 8/30/22 1500
 Test End Date: 8/30/22 1540
 Microscope: 1
 Urchin Source: Ventura Dist
 Analyst: [Signature]

Company: STANDARD TOX.
 Sample Rec'd: 8/30
 Lab No.: MA
 Sample I.D.: URCF083022
 Dilution Water: Can 34pt

NOEC: _____

Test Cont. No.	Nominal Conc.	Number of FERTILIZED Larvae	Number of UNFERTILIZED Larvae	Proportion of Normal Larvae
1	32	77	23	
2	CON	91	9	
3	56	76	74	
4	32	73	27	
5	100	6	94	
6	56	29	71	
7	CON	93	7	
8	100	8	92	
9	CON	96	4	
10	100	4	96	
11	CON	92	8	
12	18	96	4	
13	18	97	3	
14	18	95	5	
15	32	79	21	
16	18	96	4	
17	56	29	71	
18	180	0	100	
19	180	0	100	
20	32	77	23	
21	100	3	97	
22	180	0	100	
23	180	0	100	
24	56	21	79	

PURPLE URCHIN FERTILIZATION TEST DATA SHEET

Test Start Date: 8/30/22 1503
 Test End Date: 8/30/22 1543
 Microscope: 1
 Urchin Source: Ventura Bay
 Analyst: Jg

Company: VCF
 Sample Rec'd: 8/29
 Lab No.: NA
 Sample I.D.: VCF 0822.211
 Dilution Water: CM 3 Apt

NOEC: _____

Test Cont. No.	Nominal Conc.	Number of FERTILIZED Larvae	Number of UNFERTILIZED Larvae	Proportion of Normal Larvae
1	12.5	91	9	
2	CON	94	6	
3	25	93	7	
4	12.5	96	4	
5	50	92	8	
6	25	94	6	
7	CON	91	9	
8	50	93	7	
9	CON	96	4	
10	50	95	5	
11	CON	93	7	
12	6.25	97	3	
13	6.25	98	2	
14	6.25	96	4	
15	12.5	95	5	
16	6.25	95	5	
17	25	91	9	
18	100	93	7	
19	100	96	4	
20	12.5	91	9	
21	50	94	6	
22	100	92	8	
23	100	93	7	
24	25	96	4	

MACROCYSTIS TOXICITY TEST DATA SHEET

Test Start Date: 8/30/22 1500
 Test End Date: 9/1/22 1500
 Microscope: 1
 Micrometer Conversion Factor: NA
 Kelp Source: Ventura Bin
 Date Collected: 8/29
 Analyst: [Signature]

Company: STANDARD TOX
 Sample Rec'd: 8/30
 Lab No.: NA
 Sample I.D.: 1CLP083022
 Dilution Water: Con 3A/PA

NOEC TUBE LENGTH: _____
 NOEC GERMINATION: _____

Test Cont. #	Nom. Conc. %	Spores Germ. #	Not Germ. #	Prop. Germ.	Length Measurements											Mean Length (um)
					Ocular Scale Units											
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	X	
1	32	91	9		14	13	12	13	14	14	13	12	14	13		13.2
2	10	90	10		13	13	12	14	13	12	14	13	13	12		12.9
3	CON	93	7		13	13	12	14	13	12	14	13	13	12		12.9
4	100	68	32		10	11	11	12	10	11	11	12	12	10		11.0
5	10	90	10		14	13	12	14	13	13	12	14	13	13		13.2
6	5.6	94	6		13	12	14	13	12	14	13	13	12	14		13.0
7	10	91	9		13	14	13	12	14	14	13	13	12	14		13.2
8	100	71	29		11	11	10	10	11	10	12	11	10	11		10.7
9	18	93	7		13	12	14	13	12	14	14	13	12	14		13.1
10	10	90	10		14	13	12	13	14	13	12	12	14	14		13.1
11	18	92	8		13	13	12	14	13	13	13	14	13	13		13.1
12	CON	91	9		13	14	14	13	12	14	13	12	14	13		13.2
13	10	90	10		13	12	14	13	12	14	13	12	14	14		13.1
14	18	93	7		13	12	14	14	13	14	12	14	13	13		13.2
15	CON	90	10		13	13	14	13	12	14	13	13	12	14		13.1
16	18	91	9		13	12	14	13	12	14	13	12	14	13		13.0
17	32	91	9		14	13	12	14	13	12	14	13	13	14		13.2
18	32	93	7		13	12	14	14	13	12	14	13	12	14		13.1
19	CON	90	10		14	13	13	12	14	13	12	14	14	13		13.2
20	32	91	9		13	12	14	13	12	14	14	13	13	14		13.2
21	100	72	28		12	12	10	11	11	12	12	10	10	11		11.1
22	5.6	93	7		14	13	12	14	13	13	12	14	13	14		13.2
23	CON	91	9		13	13	12	14	13	12	14	13	13	13		13.1
24	100	68	32		11	11	10	10	9	11	13	11	11	11		10.8
25	5.6	94	6		13	12	14	13	12	14	13	12	14	13		13.0
26	18	93	7		13	12	14	13	12	14	13	12	14	14		13.0
27	5.6	91	9		14	13	12	14	13	13	12	14	13	12		13.0
28	5.6	93	7		13	13	12	14	13	12	14	13	13	12		13.1
29	100	70	30		11	8	10	11	12	12	14	13	13	11		11.5
30	32	91	9		14	13	12	14	13	13	12	14	13	13		13.1
31	180	16	84		4	4	6	5	3	7	4	6	7	5		4.1
32	180	13	87		3	6	4	6	3	5	3	5	3	4		4.2
33	180	11	89		4	3	4	5	5	3	4	4	6	4		4.3
34	180	18	82		5	3	4	6	5	4	3	4	5	5		4.4
35	180	12	88		6	4	5	6	3	3	5	3	4	4		4.3
36	320	0	100													
37	320	0	100													
38	320	0	100													
39	320	0	100													
40	320	0	100													

MACROCYSTIS TOXICITY TEST DATA SHEET

Test Start Date: 8/30/22 1503
 Test End Date: 9/1/22 1503
 Microscope: 1
 Micrometer Conversion Factor: NA
 Kelp Source: Ventura
 Date Collected: 8/29
 Analyst: J

Company: VCF 1
 Sample Rec'd: 8/30
 Lab No.: NA
 Sample I.D.: VCFO822.211
 Dilution Water: CM 2Apt
 NOEC TUBE LENGTH: _____
 NOEC GERMINATION: _____

Test Cont. #	Nom. Conc. %	Spores Germ. #	Not Germ. #	Prop. Germ.	Length Measurements											Mean Length (um)
					Ocular Scale Units											
					L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	X	
1	50	91	9		14	13	13	12	14	15	12	14	13	13		13.1
2	12.5	93	7		12	14	13	13	13	14	13	12	14	13		13.1
3	CON	94	6		14	13	12	14	13	13	14	13	13	14		13.1
4	100	91	9		13	12	14	14	13	13	14	13	14	13		13.3
5	12.5	96	4		13	14	13	12	14	13	14	13	13	12		13.1
6	6.25	92	8		14	15	14	14	13	13	14	13	12	14		13.4
7	12.5	91	9		13	12	14	13	13	12	14	13	12	12		12.8
8	100	93	7		14	13	12	14	13	12	14	14	13	13		13.3
9	25	91	9		12	12	14	13	12	14	13	12	14	14		13.0
10	12.5	93	7		13	13	14	13	12	14	13	12	14	13		13.1
11	25	90	10		13	13	14	13	12	14	13	12	14	14		13.2
12	CON	91	9		13	13	12	14	13	13	14	13	14	14		13.3
13	12.5	94	6		14	13	12	14	15	12	14	13	13	12		13.0
14	25	91	9		13	13	12	14	13	13	14	13	12	14		13.1
15	CON	93	7		13	13	14	13	12	14	13	13	14	13		13.2
16	25	92	8		13	12	14	14	13	12	14	13	13	14		13.2
17	50	91	9		14	13	12	14	13	14	14	12	14	13		13.3
18	50	93	7		13	14	14	13	12	14	13	14	14	13		13.4
19	CON	90	10		14	13	12	14	14	13	13	14	12	14		13.3
20	50	94	6		13	14	13	12	14	13	12	14	14	13		13.2
21	100	91	9		13	14	13	12	14	14	13	12	14	13		13.2
22	6.25	93	7		13	14	14	13	12	14	13	13	14	13		13.3
23	CON	96	4		12	12	14	13	12	14	13	13	14	13		13.3
24	100	94	6		12	12	14	13	12	14	14	13	14	12		13.0
25	6.25	91	9		14	14	13	12	12	14	13	12	14	13		13.1
26	25	93	7		13	13	12	13	14	13	12	14	14	13		13.1
27	6.25	95	5		13	13	12	14	13	13	12	14	13	13		13.2
28	6.25	91	9		14	13	12	14	13	12	14	13	13	12		13.0
29	100	93	7		13	13	14	13	12	14	13	13	12	14		13.1
30	50	96	4		13	14	13	12	14	14	13	12	14	13		13.2