



*Ventura Countywide  
Stormwater Quality  
Management Program*

2021-2022  
Permit Year

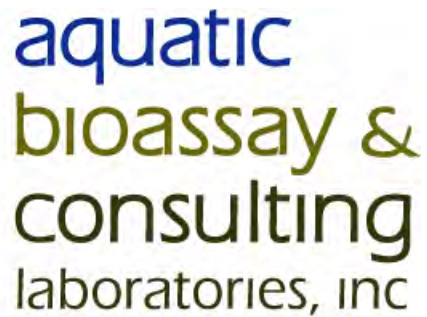
Ventura Countywide Stormwater Quality  
Management Program Annual Report

# Attachment D Monitoring Appendices I - Part 2



December 15, 2022

Camarillo  
County of Ventura  
Fillmore  
Moorpark  
Ojai  
Oxnard  
Port Hueneme  
Santa Paula  
Simi Valley  
Thousand Oaks  
Ventura  
Ventura County Watershed Protection District



## **Toxicity Report for Ventura County Watershed Protection District**

### Most Sensitive Species Testing

PROJECT: 2021/22-2 (Wet)  
PO: NA  
CLIENT: Ms. Kelly Hahs  
VCWPD  
800 South Victoria Avenue, L#1670  
Ventura, CA 93003-1670  
SAMPLE I.D.: ME-CC, ME-VR2, ME-SCR  
DATE RECEIVED: 12/14/2021  
DATE REPORTED: 1/14/2022 Preliminary Results, 2/8/2022 Final Report  
ABC LAB NO.: VCF1221.121, .122, .123

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 and ME-VR2. 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 December 14<sup>th</sup>, 2021 and delivered the same day. Testing was conducted at Aquatic Bioassay and Consulting Labs, Inc. in Ventura California from December 15<sup>th</sup>, through December 22<sup>nd</sup>, 2021.

## MATERIALS AND METHODS

### Test Material

Test material consisted of 3 grab samples collected by Ventura County Watershed Protection District (VCWPD) receiving 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	98.33	No	Pass	1.67
		Biomass (mg)	0.3723	0.3798	No	Pass	-2.01
ME-CC	Chronic Ceriodaphnia	Survival (%)	100	100	No	Pass	0.00
		Reproduction #-	22.1	24.5	No	Pass	-10.86
ME-CC	Acute Hyalella	Survival (%)	100	98.33	No	Pass	10.00
ME-CC	Acute Chironomus	Survival (%)	100	90	No	Pass	5.00
ME-VR2	Chronic Fathead	Survival (%)	100	96.67	No	Pass	3.33
		Biomass (mg)	0.3723	0.3555	No	Pass	4.66
ME-VR2	Chronic Ceriodaphnia	Survival (%)	100	100	No	Pass	0.00
		Reproduction #-Neonates	24.6	29.4	No	Pass	-19.51
ME-VR2	Acute Hyalella	Survival (%)	100	100	No	Pass	0.00
ME-VR2	Acute Chironomus	Survival (%)	100	100	No	Pass	5.00
ME-SCR	Chronic Topsmelt	Survival (%)	100	100	No	Pass	0.00
		Biomass (mg)	1.067	0.984	No	Pass	7.80

\*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
ME-SCR	Chronic Kelp	Germination (%)	92.20	94.60	No	Pass	-2.60
		Tube Length	13.10	13.12	No	Pass	-0.15
ME-SCR	Chronic Urchin	Fertilization (%)	96.0	95.0	No	Pass	2.08

\*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 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 most sensitive species is Hyalella with a percent effect of 10.00, ME-VR2 most sensitive species is Chironomus with a percent effect of 5.00, and ME-SCR most sensitive species is Topsmelt with percent effect of 7.80. 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.*



**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: December 14, 2021

Project Number: 2021/22-2 (Wet)

Sampling Team: W. Carey & S. Morris

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	12/14/2021 12:20 PM	X	X	X	X				3	Note 1, Note 2, Note 3
ME-VR2	12/14/2021 9:15 AM	X	X	X	X				3	Note 1, Note 2, Note 3
ME-SCR	12/14/2021 11:00 AM					X	X	X	3	Note 1, Note 2, Note 3

Relinquished

Printed Name Shannon Morris

Signature [Signature]

Affiliation Rincon Consultants/VCWPD Date/Time 12/14/21 1500

Received

Printed Name Victor Marquez

Signature [Signature]

Affiliation ABC LABS Date/Time 12/14/21 1500

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.





January 14, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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 Flood Control
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.121

#### CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

BIOMASS	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 13 Jan-22 10:21 (p 1 of 2)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

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

<b>Batch ID:</b> 19-7569-4089	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 17-8842-5931	<b>Code:</b> VCF1221.121fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

### Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
20-9756-1700	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	3.72%	1	1
09-9249-7531	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	5.95%	1	1

### Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
04-9756-7619	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC10	>100	---	---	<1	1
			✓ EC15	>100	---	---	<1	
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
16-5003-4299	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC10	>100	---	---	<1	1
			✓ IC15	>100	---	---	<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	
04-9756-7619	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
20-9756-1700	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
09-9249-7531	Mean Dry Biomass-mg	Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
16-5003-4299	Mean Dry Biomass-mg	Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
09-9249-7531	Mean Dry Biomass-mg	PMSD	0.05953	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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%

### Mean Dry Biomass-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3723	0.3471	0.3976	0.3573	0.3913	0.007937	0.01587	4.26%	0.00%
6.25		4	0.3817	0.368	0.3953	0.372	0.3927	0.00429	0.008581	2.25%	-2.51%
12.5		4	0.3767	0.3515	0.4018	0.364	0.398	0.007912	0.01582	4.20%	-1.16%
25		4	0.3725	0.3531	0.3919	0.3573	0.386	0.006094	0.01219	3.27%	-0.04%
50		4	0.3755	0.3637	0.3873	0.3693	0.386	0.003716	0.007431	1.98%	-0.85%
100		4	0.3798	0.3553	0.4044	0.3647	0.3973	0.007709	0.01542	4.06%	-2.01%

1A35

**CETIS Summary Report**

Report Date: 13 Jan-22 10:21 (p 2 of 2)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: B67EFD73A631D4AD26ED14790BC2B3D0

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	0.9333	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9333	1.0000

**Mean Dry Biomass-mg Detail**

MD5: 9B6334E2785C8D43846ECFD896A47D40

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.372	0.3927	0.3827	0.3793
12.5		0.3793	0.3653	0.398	0.364
25		0.3693	0.3573	0.386	0.3773
50		0.3693	0.3713	0.3753	0.386
100		0.388	0.3647	0.3973	0.3693

**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	14/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	14/15	15/15

**CETIS Analytical Report**

**Report Date:** 13 Jan-22 10:21 (p 1 of 4)  
**Test Code/ID:** VCF1221.121fml / 13-0545-3821

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

<b>Analysis ID:</b> 20-9756-1700	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 13 Jan-22 10:20	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 13 Jan-22 10:18	<b>MD5 Hash:</b> B67EFD73A631D4AD26ED14790BC2B3D	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 19-7569-4089	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 17-8842-5931	<b>Code:</b> VCF1221.121fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.03723	3.72%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	16	10	1	6	CDF	0.6105	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	16	10	1	6	CDF	0.6105	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	0.0057813	0.0011563	5	0.8	0.5640	Non-Significant Effect
Error	0.026016	0.0014453	18			
Total	0.0317973		23			

**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	7.2	4.248	0.0007	Unequal Variances
	Mod Levene Equality of Variance Test	0.8	4.248	0.5640	Equal Variances
Distribution	Anderson-Darling A2 Test	4.32	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.005	2.576	0.0027	Non-Normal Distribution
	D'Agostino Skewness Test	3.704	2.576	0.0002	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	22.75	9.21	1.2E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.4167	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.6154	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	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	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	1.67%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		4	0.9833	0.9303	1.0000	1.0000	0.9333	1.0000	0.0167	3.39%	1.67%

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 20-9756-1700      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 13 Jan-22 10:20      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 13 Jan-22 10:18      MD5 Hash: B67EFD73A631D4AD26ED14790BC2B3D      Editor ID: 000-189-126-0

**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	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	2.28%
50		4	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
100		4	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	2.28%

**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	0.9333	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9333	1.0000

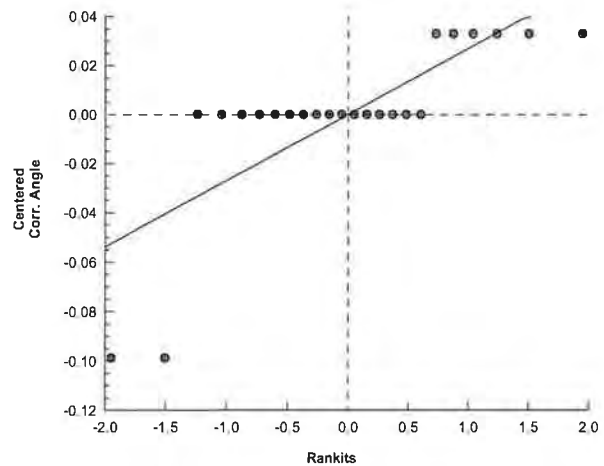
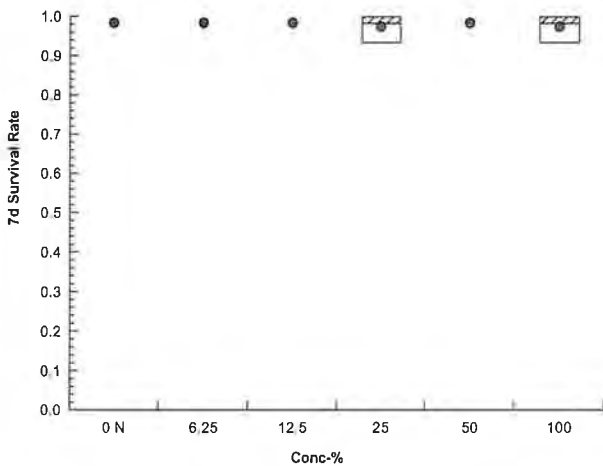
**Angular (Corrected) Transformed Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.4410	1.4410	1.4410	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	1.3100	1.4410	1.4410
50		1.4410	1.4410	1.4410	1.4410
100		1.4410	1.4410	1.3100	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	14/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	14/15	15/15

**Graphics**



*P*

**CETIS Analytical Report**

Report Date: 13 Jan-22 10:21 (p 3 of 4)

Test Code/ID: VCF1221.121fml / 13-0545-3821

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 09-9249-7531	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 13 Jan-22 10:20	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 13 Jan-22 10:18	<b>MD5 Hash:</b> 9B6334E2785C8D43846ECFD896A47D40	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 19-7569-4089	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 17-8842-5931	<b>Code:</b> VCF1221.121fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.02217	5.95%

**Dunnnett Multiple Comparison Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-1.014	2.407	0.022	6	CDF	0.9834	Non-Significant Effect
		12.5	-0.4706	2.407	0.022	6	CDF	0.9354	Non-Significant Effect
		25	-0.0181	2.407	0.022	6	CDF	0.8386	Non-Significant Effect
		50	-0.3439	2.407	0.022	6	CDF	0.9148	Non-Significant Effect
		100	-0.8145	2.407	0.022	6	CDF	0.9719	Non-Significant Effect

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
PMSD	0.05953	0.12	0.3	Yes	Below Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0002886	5.772E-05	5	0.3404	0.8817	Non-Significant Effect
Error	0.0030526	0.0001696	18			
Total	0.0033412		23			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.563	15.09	0.7669	Equal Variances
	Levene Equality of Variance Test	1.561	4.248	0.2213	Equal Variances
	Mod Levene Equality of Variance Test	1.292	4.248	0.3108	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4564	3.878	0.2707	Normal Distribution
	D'Agostino Kurtosis Test	1.632	2.576	0.1027	Normal Distribution
	D'Agostino Skewness Test	0.713	2.576	0.4759	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	3.172	9.21	0.2048	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1326	0.2056	0.3328	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9397	0.884	0.1609	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	0.3723	0.3471	0.3976	0.3703	0.3573	0.3913	0.007937	4.26%	0.00%
6.25		4	0.3817	0.368	0.3953	0.381	0.372	0.3927	0.00429	2.25%	-2.51%
12.5		4	0.3767	0.3515	0.4018	0.3723	0.364	0.398	0.007912	4.20%	-1.16%
25		4	0.3725	0.3531	0.3919	0.3733	0.3573	0.386	0.006094	3.27%	-0.04%
50		4	0.3755	0.3637	0.3873	0.3733	0.3693	0.386	0.003716	1.98%	-0.85%
100		4	0.3798	0.3553	0.4044	0.3787	0.3647	0.3973	0.007709	4.06%	-2.01%

Fathead Minnow 7-d Larval Survival and Growth Test

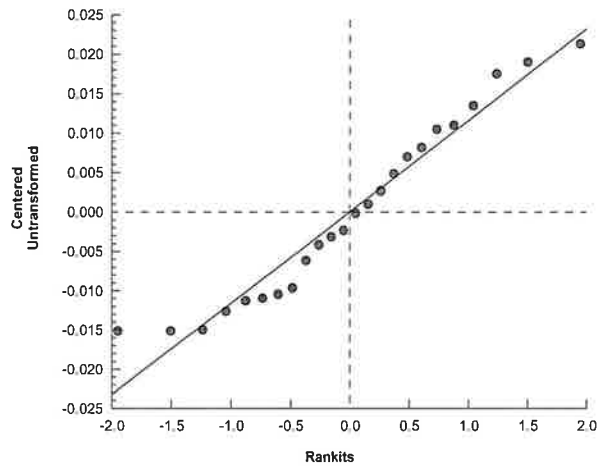
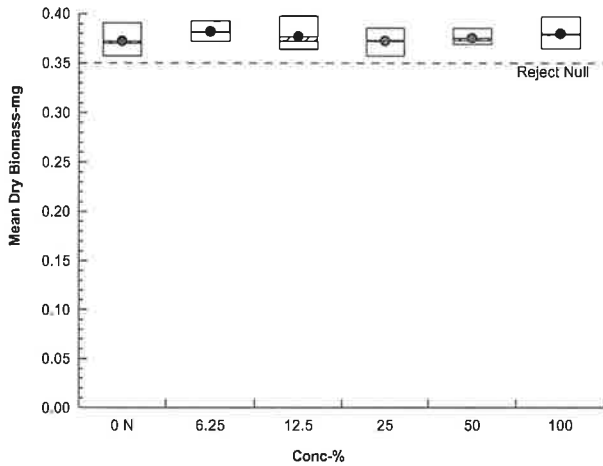
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-9249-7531      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.7  
 Analyzed: 13 Jan-22 10:20      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 13 Jan-22 10:18      MD5 Hash: 9B6334E2785C8D43846ECFD896A47D40      Editor ID: 000-189-126-0

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.372	0.3927	0.3827	0.3793
12.5		0.3793	0.3653	0.398	0.364
25		0.3693	0.3573	0.386	0.3773
50		0.3693	0.3713	0.3753	0.386
100		0.388	0.3647	0.3973	0.3693

Graphics



**CETIS Analytical Report**

Report Date: 13 Jan-22 10:21 (p 1 of 4)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 04-9756-7619	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7	Analyst:		
Analyzed: 13 Jan-22 10:20	Analysis: Linear Interpolation (ICPIN)	Status Level: 1	Diluent: Laboratory Water		
Edit Date: 13 Jan-22 10:18	MD5 Hash: B67EFD73A631D4AD26ED14790BC2B3D	Editor ID: 000-189-126-0	Brine: Not Applicable		
Batch ID: 19-7569-4089	Test Type: Growth-Survival (7d)		Source: Aquatic Biosystems, CO	Age: <24	
Start Date: 15 Dec-21 15:23	Protocol: EPA/821/R-02-013 (2002)				
Ending Date: 22 Dec-21 14:10	Species: Pimephales promelas				
Test Length: 6d 23h	Taxon: Actinopterygii				
Sample ID: 17-8842-5931	Code: VCF1221.121fml	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 12:20	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-CC			
Sample Age: 27h (6.5 °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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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	0.9833	1.0000	0.9333	1.0000	3.39%	1.67%	59/60	0.9917	0.83%
50		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	0.9917	0.83%
100		4	0.9833	1.0000	0.9333	1.0000	3.39%	1.67%	59/60	0.9833	1.67%

**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	0.9333	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	0.9333	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	14/15	15/15	15/15
50		15/15	15/15	15/15	15/15
100		15/15	15/15	14/15	15/15





**CETIS Analytical Report**

Report Date: 13 Jan-22 10:21 (p 3 of 4)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

Fathead Minnow 7-d Larval Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 16-5003-4299	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7	Analyzed: 13 Jan-22 10:20	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 13 Jan-22 10:18	MD5 Hash: 9B6334E2785C8D43846ECFD896A47D40	Editor ID: 000-189-126-0	Batch ID: 19-7569-4089	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 15 Dec-21 15:23	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water	Ending Date: 22 Dec-21 14:10	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO	Age: <24	Sample ID: 17-8842-5931	Code: VCF1221.121fml
Sample Date: 14 Dec-21 12:20	Material: Sample Water	Project: NPDES Stormwater Wet Season	Receipt Date: 14 Dec-21 15:00	CAS (PC):	Source: Bioassay Report
Sample Age: 27h (6.5 °C)	Client: Ventura County Watershed Protection Distri	Station: ME-CC			

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	154949	280	Yes	Two-Point Interpolation

Test Acceptability Criteria		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	0.3723	0.25	>>	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC10	>100	---	---	<1	---	---
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	0.3723	0.3703	0.3573	0.3913	4.26%	0.00%	0.377	0.00%
6.25		4	0.3817	0.381	0.372	0.3927	2.25%	-2.51%	0.377	0.00%
12.5		4	0.3767	0.3723	0.364	0.398	4.20%	-1.16%	0.3767	0.09%
25		4	0.3725	0.3733	0.3573	0.386	3.27%	-0.04%	0.3759	0.28%
50		4	0.3755	0.3733	0.3693	0.386	1.98%	-0.85%	0.3759	0.28%
100		4	0.3798	0.3787	0.3647	0.3973	4.06%	-2.01%	0.3759	0.28%

Mean Dry Biomass-mg Detail					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.372	0.3927	0.3827	0.3793
12.5		0.3793	0.3653	0.398	0.364
25		0.3693	0.3573	0.386	0.3773
50		0.3693	0.3713	0.3753	0.386
100		0.388	0.3647	0.3973	0.3693



# CETIS Measurement Report

Report Date: 13 Jan-22 10:21 (p 1 of 8)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

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

<b>Batch ID:</b> 19-7569-4089	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24

<b>Sample ID:</b> 17-8842-5931	<b>Code:</b> VCF1221.121fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	62.62	61.74	63.51	60	63	0.1326	1.061	1.69%	0
100		8	98	98	98	98	98	0	0	0.00%	0
Overall		16	80.31	70.57	90.05	60	98	4.57	18.28	22.76%	0 (0%)

Conductivity-µmhos											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	361.3	367	360	370	0.4249	3.399	0.93%	0
6.25		8	362	359.3	364.7	359	369	0.4009	3.207	0.89%	0
12.5		8	356.5	353.9	359.1	352	360	0.3838	3.071	0.86%	0
25		8	354.5	351.1	357.9	350	360	0.5089	4.071	1.15%	0
50		8	349.4	345	353.8	342	359	0.6544	5.236	1.50%	0
100		8	346.2	342.9	349.6	340	352	0.4944	3.955	1.14%	0
Overall		48	355.5	353.3	357.6	340	370	1.067	7.395	2.08%	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	7.613	7.396	7.829	7.1	7.9	0.03235	0.2588	3.40%	0
6.25		8	7.562	7.363	7.762	7.1	7.9	0.02983	0.2387	3.16%	0
12.5		8	7.525	7.303	7.747	7	7.8	0.03324	0.2659	3.53%	0
25		8	7.488	7.271	7.704	7	7.8	0.03235	0.2588	3.46%	0
50		8	7.463	7.239	7.686	7	7.8	0.03337	0.2669	3.58%	0
100		8	7.462	7.226	7.699	7	7.8	0.03532	0.2825	3.79%	0
Overall		48	7.519	7.445	7.593	7	7.9	0.03667	0.254	3.38%	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	73	73	73	73	73	0	0	0.00%	0
100		8	121	121	121	121	121	0	0	0.00%	0
Overall		16	97	83.79	110.2	73	121	6.197	24.79	25.55%	0 (0%)

pH-Units											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.075	8.001	8.149	8	8.2	0.01108	0.08865	1.10%	0
6.25		8	8.05	7.95	8.15	7.9	8.2	0.01494	0.1195	1.48%	0
12.5		8	8.013	7.93	8.095	7.9	8.2	0.01239	0.0991	1.24%	0
25		8	8	7.923	8.077	7.9	8.2	0.01157	0.09258	1.16%	0
50		8	8	7.923	8.077	7.9	8.2	0.01157	0.09258	1.16%	0
100		8	7.888	7.573	8.202	7	8.2	0.04698	0.3758	4.76%	0
Overall		48	8.004	7.952	8.056	7	8.2	0.02578	0.1786	2.23%	0 (0%)



**CETIS Measurement Report**

Report Date: 13 Jan-22 10:21 (p 3 of 8)  
 Test Code/ID: VCF1221.121fml / 13-0545-3821

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

Alkalinity (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				98					
0	N	2		63					
100				98					
0	N	3		63					
100				98					
0	N	4		63					
100				98					
0	N	5		63					
100				98					
0	N	6		63					
100				98					
0	N	7		63					
100				98					
0	N	8		63					
100				98					

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:21 (p 4 of 8)

Test Code/ID: VCF1221.121fml / 13-0545-3821

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

Conductivity-µmhos									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				359					
12.5				354					
25				352					
50				350					
100				349					
0	N	2		360					
6.25				360					
12.5				352					
25				350					
50				349					
100				347					
0	N	3		362					
6.25				360					
12.5				354					
25				350					
50				342					
100				340					
0	N	4		364					
6.25				361					
12.5				359					
25				352					
50				344					
100				342					
0	N	5		362					
6.25				361					
12.5				359					
25				355					
50				348					
100				344					
0	N	6		365					
6.25				362					
12.5				359					
25				358					
50				350					
100				348					
0	N	7		368					
6.25				364					
12.5				360					
25				359					
50				353					
100				348					
0	N	8		370					
6.25				369					
12.5				355					
25				360					
50				359					
100				352					







**CETIS Measurement Report**

Report Date: 13 Jan-22 10:21 (p 7 of 8)

Test Code/ID: VCF1221.121fml / 13-0545-3821

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

pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8					
6.25				8.2					
12.5				8.2					
25				8.2					
50				8.2					
100				8.2					
0	N	2		8					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7					
0	N	3		8.2					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
0	N	4		8					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
0	N	5		8.1					
6.25				8.2					
12.5				8					
25				8					
50				8					
100				8.1					
0	N	6		8.2					
6.25				8.1					
12.5				8.1					
25				8					
50				8					
100				8					
0	N	7		8.1					
6.25				8.1					
12.5				8					
25				8					
50				8					
100				8					
0	N	8		8					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.8					

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:21 (p 8 of 8)

Test Code/ID: VCF1221.121fml / 13-0545-3821

Fathead Minnow 7-d Larval Survival and Growth Test					Aquatic Bioassay & Consulting Labs, Inc.				
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	2		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	3		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	4		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	5		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	6		24					
6.25				24					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	7		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	8		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					



January 14, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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:

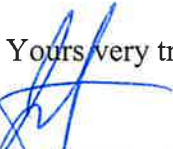
CLIENT: Ventura County Flood Control  
SAMPLE I.D.: ME-CC  
DATE RECEIVED: 12/14/2021  
ABC LAB. NO.: VCF1221.121

#### CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

REPRODUCTION	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,

  
Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 12 Jan-22 09:54 (p 1 of 2)  
 Test Code/ID: VCF1221.121cer / 03-5507-4027

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
03-4950-7414	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
06-5523-4278	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	15.6%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
08-8987-0197	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC10	>100	---	---	<1	1
			✓ EC15	>100	---	---	<1	
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
01-0455-0348	Reproduction	Linear Interpolation (ICPIN)	✓ IC10	>100	---	---	<1	1
			✓ IC15	>100	---	---	<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			
03-4950-7414	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
08-8987-0197	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
01-0455-0348	Reproduction	Control Resp	22.1	15	>>	Yes	Passes Criteria	
06-5523-4278	Reproduction	Control Resp	22.1	15	>>	Yes	Passes Criteria	
06-5523-4278	Reproduction	PMSD	0.1557	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%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	10	22.1	19.54	24.66	16	27	1.13	3.573	16.17%	0.00%
6.25		10	25.3	23.14	27.46	20	29	0.9551	3.02	11.94%	-14.48%
12.5		10	26	23.74	28.26	22	31	1	3.162	12.16%	-17.65%
25		10	26.3	23.8	28.8	21	31	1.106	3.498	13.30%	-19.00%
50		10	26.7	24.09	29.31	22	33	1.155	3.653	13.68%	-20.81%
100		10	24.5	22.21	26.79	21	30	1.014	3.206	13.09%	-10.86%

*PASS*

**CETIS Summary Report**

Report Date: 12 Jan-22 09:54 (p 2 of 2)

Test Code/ID: VCF1221.121cer / 03-5507-4027

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

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: 6DFFCF255519977902535414E38EA216

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: C7C2DF3AFF67A098C04DA73A07122323

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	26	24	19	18	24	22	16	27	21	24
6.25		26	21	28	20	27	29	25	27	27	23
12.5		31	29	31	24	25	22	24	25	24	25
25		29	28	27	31	29	23	24	22	21	29
50		24	33	25	29	24	24	32	27	27	22
100		23	29	25	25	21	24	21	26	21	30

**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: 12 Jan-22 09:54 (p 1 of 2)

Test Code/ID: VCF1221.121cer / 03-5507-4027

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 06-5523-4278	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 9:53	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 9:49	<b>MD5 Hash:</b> DE6CE03A1594CE45B062B14875EA52DD	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.44	15.57%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-2.129	2.289	3.44	18	CDF	0.9997	Non-Significant Effect
		12.5	-2.595	2.289	3.44	18	CDF	1.0000	Non-Significant Effect
		25	-2.795	2.289	3.44	18	CDF	1.0000	Non-Significant Effect
		50	-3.061	2.289	3.44	18	CDF	1.0000	Non-Significant Effect
		100	-1.597	2.289	3.44	18	CDF	0.9977	Non-Significant Effect

**Test Acceptability Criteria**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	22.1	15	>>	Yes	Passes Criteria
PMSD	0.1557	0.13	0.47	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	141.95	28.39	5	2.514	0.0406	Significant Effect
Error	609.7	11.2907	54			
Total	751.65		59			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	0.5048	15.09	0.9919	Equal Variances
	Levene Equality of Variance Test	0.2085	3.377	0.9575	Equal Variances
	Mod Levene Equality of Variance Test	0.2325	3.377	0.9466	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5115	3.878	0.1993	Normal Distribution
	D'Agostino Kurtosis Test	2.585	2.576	0.0097	Non-Normal Distribution
	D'Agostino Skewness Test	0.2954	2.576	0.7677	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	6.771	9.21	0.0339	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08487	0.1331	0.3247	Normal Distribution
	Shapiro-Wilk W Normality Test	0.971	0.9459	0.1633	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	22.1	19.54	24.66	23	16	27	1.13	16.17%	0.00%
6.25		10	25.3	23.14	27.46	26.5	20	29	0.9551	11.94%	-14.48%
12.5		10	26	23.74	28.26	25	22	31	1	12.16%	-17.65%
25		10	26.3	23.8	28.8	27.5	21	31	1.106	13.30%	-19.00%
50		10	26.7	24.09	29.31	26	22	33	1.155	13.68%	-20.81%
100		10	24.5	22.21	26.79	24.5	21	30	1.014	13.09%	-10.86%





**CETIS Analytical Report**

**Report Date:** 12 Jan-22 09:54 (p 1 of 4)  
**Test Code/ID:** VCF1221.121cer / 03-5507-4027

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 08-8987-0197	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 9:54	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 9:49	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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**

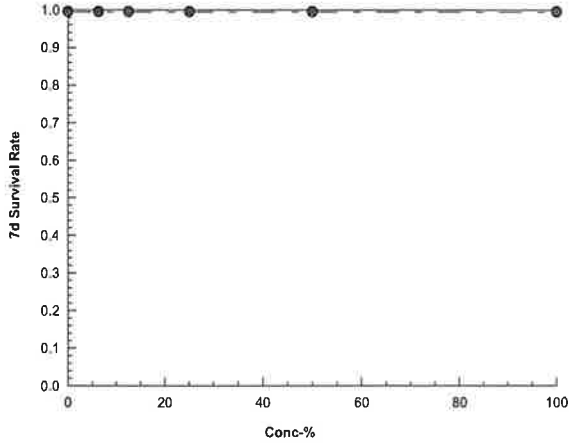
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		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: 08-8987-0197	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 12 Jan-22 9:54	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 12 Jan-22 9:49	MD5 Hash: 6DFFCF255519977902535414E38EA216	Editor ID: 000-189-126-0

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 09:54 (p 3 of 4)

Test Code/ID: VCF1221.121cer / 03-5507-4027

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 01-0455-0348	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 9:54	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 9:49	<b>MD5 Hash:</b> DE6CE03A1594CE45B062B14875EA52DD	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	686691	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	22.1	15	>>	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC10	>100	---	---	<1	---	---
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	22.1	23	16	27	16.17%	0.00%	25.28	0.00%
6.25		10	25.3	26.5	20	29	11.94%	-14.48%	25.28	0.00%
12.5		10	26	25	22	31	12.16%	-17.65%	25.28	0.00%
25		10	26.3	27.5	21	31	13.30%	-19.00%	25.28	0.00%
50		10	26.7	26	22	33	13.68%	-20.81%	25.28	0.00%
100		10	24.5	24.5	21	30	13.09%	-10.86%	24.5	3.09%

**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	26	24	19	18	24	22	16	27	21	24
6.25		26	21	28	20	27	29	25	27	27	23
12.5		31	29	31	24	25	22	24	25	24	25
25		29	28	27	31	29	23	24	22	21	29
50		24	33	25	29	24	24	32	27	27	22
100		23	29	25	25	21	24	21	26	21	30



Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 03-4950-7414	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 9:53	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 9:49	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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

TAC Limits

Attribute	Test Stat	Lower	Upper	Overlap	Decision
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

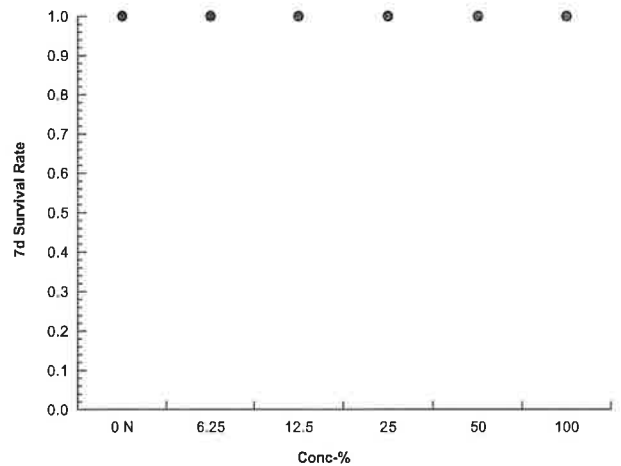
**Ceriodaphnia 7-d Survival and Reproduction Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 03-4950-7414	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 9:53	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 9:49	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0

**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: 12 Jan-22 09:54 (p 1 of 8)

Test Code/ID: VCF1221.121cer / 03-5507-4027

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

<b>Batch ID:</b> 12-6111-7595	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:23	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:10	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24

<b>Sample ID:</b> 11-3248-8075	<b>Code:</b> VCF1221.121cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	62.62	61.74	63.51	60	63	0.1326	1.061	1.69%	0
100		8	98	98	98	98	98	0	0	0.00%	0
Overall		16	80.31	70.57	90.05	60	98	4.57	18.28	22.76%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	361.3	367	360	370	0.4249	3.399	0.93%	0
6.25		8	362	359.3	364.7	359	369	0.4009	3.207	0.89%	0
12.5		8	356.5	353.9	359.1	352	360	0.3838	3.071	0.86%	0
25		8	354.5	351.1	357.9	350	360	0.5089	4.071	1.15%	0
50		8	349.4	345	353.8	342	359	0.6544	5.236	1.50%	0
100		8	346.2	342.9	349.6	340	352	0.4944	3.955	1.14%	0
Overall		48	355.5	353.3	357.6	340	370	1.067	7.395	2.08%	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	7.613	7.396	7.829	7.1	7.9	0.03235	0.2588	3.40%	0
6.25		8	7.562	7.363	7.762	7.1	7.9	0.02983	0.2387	3.16%	0
12.5		8	7.525	7.303	7.747	7	7.8	0.03324	0.2659	3.53%	0
25		8	7.488	7.271	7.704	7	7.8	0.03235	0.2588	3.46%	0
50		8	7.463	7.239	7.686	7	7.8	0.03337	0.2669	3.58%	0
100		8	7.462	7.226	7.699	7	7.8	0.03532	0.2825	3.79%	0
Overall		48	7.519	7.445	7.593	7	7.9	0.03667	0.254	3.38%	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	73	73	73	73	73	0	0	0.00%	0
100		8	121	121	121	121	121	0	0	0.00%	0
Overall		16	97	83.79	110.2	73	121	6.197	24.79	25.55%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.075	8.001	8.149	8	8.2	0.01108	0.08865	1.10%	0
6.25		8	8.05	7.95	8.15	7.9	8.2	0.01494	0.1195	1.48%	0
12.5		8	8.013	7.93	8.095	7.9	8.2	0.01239	0.0991	1.24%	0
25		8	8	7.923	8.077	7.9	8.2	0.01157	0.09258	1.16%	0
50		8	8	7.923	8.077	7.9	8.2	0.01157	0.09258	1.16%	0
100		8	7.888	7.573	8.202	7	8.2	0.04698	0.3758	4.76%	0
Overall		48	8.004	7.952	8.056	7	8.2	0.02578	0.1786	2.23%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 09:54 (p 2 of 8)

Test Code/ID: VCF1221.121cer / 03-5507-4027

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	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	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	0.00663	0.04593	0.19%	0 (0%)



# CETIS Measurement Report

Report Date: 12 Jan-22 09:54 (p 3 of 8)

Test Code/ID: VCF1221.121cer / 03-5507-4027

Ceriodaphnia 7-d Survival and Reproduction Test	Aquatic Bioassay & Consulting Labs, Inc.
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Alkalinity (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				98					
0	N	2		63					
100				98					
0	N	3		63					
100				98					
0	N	4		63					
100				98					
0	N	5		63					
100				98					
0	N	6		63					
100				98					
0	N	7		63					
100				98					
0	N	8		63					
100				98					

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**CETIS Measurement Report**

Report Date: 12 Jan-22 09:54 (p 4 of 8)

Test Code/ID: VCF1221.121cer / 03-5507-4027

Ceriodaphnia 7-d Survival and Reproduction Test						Aquatic Bioassay & Consulting Labs, Inc.			
Conductivity-µmhos									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				359					
12.5				354					
25				352					
50				350					
100				349					
0	N	2		360					
6.25				360					
12.5				352					
25				350					
50				349					
100				347					
0	N	3		362					
6.25				360					
12.5				354					
25				350					
50				342					
100				340					
0	N	4		364					
6.25				361					
12.5				359					
25				352					
50				344					
100				342					
0	N	5		362					
6.25				361					
12.5				359					
25				355					
50				348					
100				344					
0	N	6		365					
6.25				362					
12.5				359					
25				358					
50				350					
100				348					
0	N	7		368					
6.25				364					
12.5				360					
25				359					
50				353					
100				348					
0	N	8		370					
6.25				369					
12.5				355					
25				360					
50				359					
100				352					



**CETIS Measurement Report**

Report Date: 12 Jan-22 09:54 (p 6 of 8)  
 Test Code/ID: VCF1221.121cer / 03-5507-4027

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

Hardness (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		73					
100				121					
0	N	2		73					
100				121					
0	N	3		73					
100				121					
0	N	4		73					
100				121					
0	N	5		73					
100				121					
0	N	6		73					
100				121					
0	N	7		73					
100				121					
0	N	8		73					
100				121					

**CETIS Measurement Report**

Report Date: 12 Jan-22 09:54 (p 7 of 8)  
 Test Code/ID: VCF1221.121cer / 03-5507-4027

Ceriodaphnia 7-d Survival and Reproduction Test					Aquatic Bioassay & Consulting Labs, Inc.				
pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8					
6.25			8.2						
12.5			8.2						
25			8.2						
50			8.2						
100			8.2						
0	N	2		8					
6.25			7.9						
12.5			7.9						
25			7.9						
50			7.9						
100			7						
0	N	3		8.2					
6.25			8						
12.5			8						
25			8						
50			8						
100			8						
0	N	4		8					
6.25			8						
12.5			8						
25			8						
50			8						
100			8						
0	N	5		8.1					
6.25			8.2						
12.5			8						
25			8						
50			8						
100			8.1						
0	N	6		8.2					
6.25			8.1						
12.5			8.1						
25			8						
50			8						
100			8						
0	N	7		8.1					
6.25			8.1						
12.5			8						
25			8						
50			8						
100			8						
0	N	8		8					
6.25			7.9						
12.5			7.9						
25			7.9						
50			7.9						
100			7.8						

*P*

**CETIS Measurement Report**

Report Date: 12 Jan-22 09:54 (p 8 of 8)

Test Code/ID: VCF1221.121cer / 03-5507-4027

Ceriodaphnia 7-d Survival and Reproduction Test						Aquatic Bioassay & Consulting Labs, Inc.			
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	2		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	3		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	4		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	5		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	6		24					
6.25				24					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	7		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	8		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					



January 14, 2022

Mr. Arne Anselm  
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 *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 Flood Control
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.121

#### ACUTE HYALELLA SURVIVAL BIOASSAY

% Survival = 90 % Survival in 100% Sample  
EC25 = >100.00 %  
EC50 = >100.00 %  
\*TU(a) = 0.59

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

Yours very truly,

Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 12 Jan-22 13:13 (p 1 of 1)

Test Code/ID: VCF1221.121ahya / 16-8252-8029

**Hyalella 96-h Acute Survival Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-4233-5600	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 11:00	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 92h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 02-2233-7221	<b>Code:</b> VCF1221.121ahya	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
04-6405-0936	96h Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	13.5%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
02-8944-8727	96h Survival Rate	Linear Interpolation (ICPIN)		EC10	100	---	---	1	1
				EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%
50		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%
100		4	0.9000	0.7163	1.0840	0.8000	1.0000	0.0577	0.1155	12.83%	10.00%

**96h Survival Rate Detail**

MD5: 10F599D656B2C111457CB3A5FB1D8C95

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	0.8000	1.0000	1.0000
50		1.0000	1.0000	0.8000	1.0000
100		1.0000	0.8000	0.8000	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	4/5	5/5	5/5
50		5/5	5/5	4/5	5/5
100		5/5	4/5	4/5	5/5



**CETIS Analytical Report**

Report Date: 12 Jan-22 13:13 (p 1 of 2)  
 Test Code/ID: VCF1221.121ahya / 16-8252-8029

**Hyalella 96-h Acute Survival Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 04-6405-0936	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 13:12	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 13:10	<b>MD5 Hash:</b> 10F599D656B2C111457CB3A5FB1D8C95	<b>Editor ID:</b> 000-189-126-0

<b>Batch ID:</b> 04-4233-5600	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 11:00	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 92h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 02-2233-7221	<b>Code:</b> VCF1221.121ahya	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.1352	13.52%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	16	10	1	6	CDF	0.6105	Non-Significant Effect
		50	16	10	1	6	CDF	0.6105	Non-Significant Effect
		100	14	10	1	6	CDF	0.3451	Non-Significant Effect

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0472566	0.0094513	5	1.2	0.3485	Non-Significant Effect
Error	0.14177	0.0078761	18			
Total	0.189026		23			

**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	10.4	4.248	8.2E-05	Unequal Variances
	Mod Levene Equality of Variance Test	2	4.248	0.1274	Equal Variances
Distribution	Anderson-Darling A2 Test	2.123	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	1.094	2.576	0.2738	Normal Distribution
	D'Agostino Skewness Test	2.056	2.576	0.0398	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	5.426	9.21	0.0663	Normal Distribution
	Kolmogorov-Smirnov D Test	0.3333	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.8314	0.884	0.0010	Non-Normal Distribution

**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	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%
50		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%
100		4	0.9000	0.7163	1.0000	0.9000	0.8000	1.0000	0.0577	12.83%	10.00%

**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	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%
50		4	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%
100		4	1.2260	1.0070	1.4450	1.2260	1.1070	1.3450	0.0687	11.21%	8.85%

Hyaella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 04-6405-0936	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 13:12	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 13:10	<b>MD5 Hash:</b> 10F599D656B2C111457CB3A5FB1D8C95	<b>Editor ID:</b> 000-189-126-0

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	0.8000	1.0000	1.0000
50		1.0000	1.0000	0.8000	1.0000
100		1.0000	0.8000	0.8000	1.0000

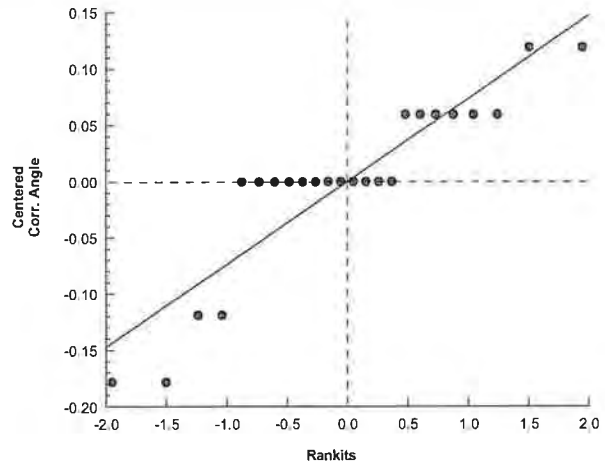
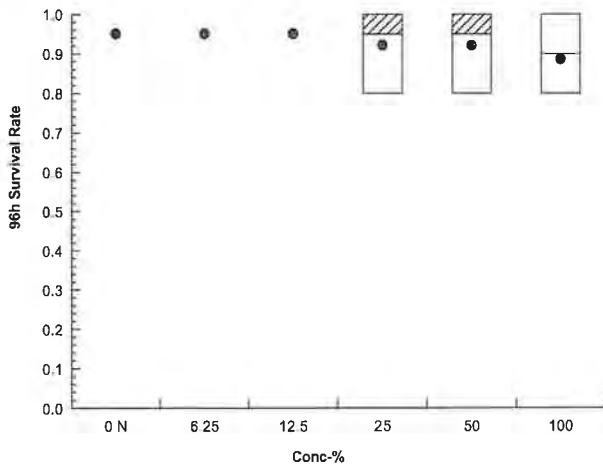
Angular (Corrected) Transformed Detail

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	1.1070	1.3450	1.3450
50		1.3450	1.3450	1.1070	1.3450
100		1.3450	1.1070	1.1070	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	4/5	5/5	5/5
50		5/5	5/5	4/5	5/5
100		5/5	4/5	4/5	5/5

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 13:13 (p 1 of 2)  
 Test Code/ID: VCF1221.121ahya / 16-8252-8029

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
<b>Analysis ID:</b> 02-8944-8727	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7			
<b>Analyzed:</b> 12 Jan-22 13:12	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1			
<b>Edit Date:</b> 12 Jan-22 13:10	<b>MD5 Hash:</b> 10F599D656B2C111457CB3A5FB1D8C95	<b>Editor ID:</b> 000-189-126-0			
<b>Batch ID:</b> 04-4233-5600	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>			
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water			
<b>Ending Date:</b> 19 Dec-21 11:00	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable			
<b>Test Length:</b> 92h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>			
<b>Sample ID:</b> 02-2233-7221	<b>Code:</b> VCF1221.121ahya	<b>Project:</b> NPDES Stormwater Wet Season			
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report			
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC			
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	TU	95% LCL	95% UCL
EC10	100	---	---	1	---	---
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	A/B	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	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9500	5.00%
50		4	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9500	5.00%
100		4	0.9000	0.9000	0.8000	1.0000	12.83%	10.00%	18/20	0.9000	10.00%

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	0.8000	1.0000	1.0000
50		1.0000	1.0000	0.8000	1.0000
100		1.0000	0.8000	0.8000	1.0000

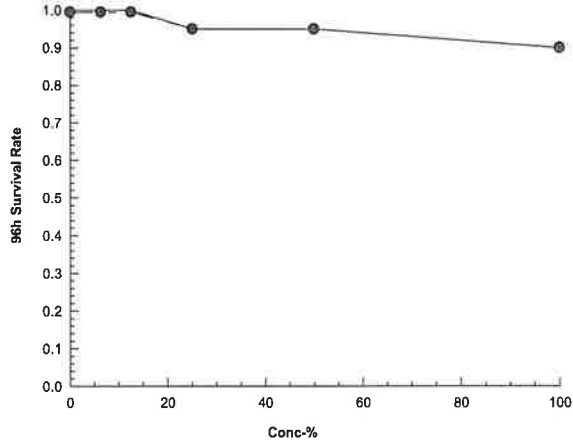
96h Survival Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	4/5	5/5	5/5
50		5/5	5/5	4/5	5/5
100		5/5	4/5	4/5	5/5

Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-8944-8727	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 12 Jan-22 13:12	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 12 Jan-22 13:10	MD5 Hash: 10F599D656B2C111457CB3A5FB1D8C95	Editor ID: 000-189-126-0

Graphics



**CETIS Measurement Report**

Report Date: 12 Jan-22 13:13 (p 1 of 4)

Test Code/ID: VCF1221.121ahya / 16-8252-8029

**Hyalella 96-h Acute Survival Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-4233-5600	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 11:00	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 92h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 02-2233-7221	<b>Code:</b> VCF1221.121ahya	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	62	57.7	66.3	60	63	0.5774	1.732	2.79%	0
100		3	73	73	73	73	73	0	0	0.00%	0
Overall		6	67.5	61.07	73.93	60	73	2.5	6.124	9.07%	0 (0%)

Conductivity-µmhos											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	363.3	353	373.7	360	368	1.388	4.163	1.15%	0
6.25		3	362	351.2	372.8	359	367	1.453	4.359	1.20%	0
12.5		3	354.7	347.1	362.3	352	358	1.018	3.055	0.86%	0
25		3	352.3	346.1	358.6	350	355	0.8389	2.517	0.71%	0
50		3	350.3	346.5	354.1	349	352	0.5092	1.528	0.44%	0
100		3	348.7	344.9	352.5	347	350	0.5092	1.528	0.44%	0
Overall		18	355.2	352.1	358.4	347	368	1.485	6.302	1.77%	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	7.433	6.716	8.15	7.1	7.6	0.09623	0.2887	3.88%	0
6.25		3	7.333	6.816	7.85	7.1	7.5	0.06939	0.2082	2.84%	0
12.5		3	7.3	6.87	7.73	7.1	7.4	0.05774	0.1732	2.37%	0
25		3	7.233	6.716	7.75	7	7.4	0.06939	0.2082	2.88%	0
50		3	7.2	6.77	7.63	7	7.3	0.05773	0.1732	2.41%	0
100		3	7.167	6.787	7.546	7	7.3	0.05092	0.1527	2.13%	0
Overall		18	7.278	7.18	7.375	7	7.6	0.04613	0.1957	2.69%	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	98	98	98	98	98	0	0	0.00%	0
100		3	121	121	121	121	121	0	0	0.00%	0
Overall		6	109.5	96.28	122.7	98	121	5.143	12.6	11.50%	0 (0%)

pH-Units											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
6.25		3	8.033	7.654	8.413	7.9	8.2	0.05092	0.1528	1.90%	0
12.5		3	8.033	7.654	8.413	7.9	8.2	0.05092	0.1528	1.90%	0
25		3	8.033	7.654	8.413	7.9	8.2	0.05092	0.1528	1.90%	0
50		3	8.033	7.654	8.413	7.9	8.2	0.05092	0.1528	1.90%	0
100		3	8.033	7.654	8.413	7.9	8.2	0.05092	0.1528	1.90%	0
Overall		18	8.033	7.974	8.092	7.9	8.2	0.02801	0.1188	1.48%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:13 (p 2 of 4)  
 Test Code/ID: VCF1221.121ahya / 16-8252-8029

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%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:13 (p 3 of 4)

Test Code/ID: VCF1221.121ahya / 16-8252-8029

Hyalella 96-h Acute Survival Test					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Alkalinity (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				73					
0	N	2		63					
100				73					
0	N	3		63					
100				73					
<b>Conductivity-µmhos</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				359					
12.5				354					
25				352					
50				350					
100				349					
0	N	2		360					
6.25				360					
12.5				352					
25				350					
50				349					
100				347					
0	N	3		368					
6.25				367					
12.5				358					
25				355					
50				352					
100				350					
<b>Dissolved Oxygen-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.6					
6.25				7.4					
12.5				7.4					
25				7.3					
50				7.3					
100				7.2					
0	N	2		7.6					
6.25				7.5					
12.5				7.4					
25				7.4					
50				7.3					
100				7.3					
0	N	3		7.1					
6.25				7.1					
12.5				7.1					
25				7					
50				7					
100				7					

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:13 (p 4 of 4)

Test Code/ID: VCF1221.121ahya / 16-8252-8029

Hyalella 96-h Acute Survival Test					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		98					
100				121					
0	N	2		98					
100				121					
0	N	3		98					
100				121					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8					
6.25				8.2					
12.5				8.2					
25				8.2					
50				8.2					
100				8.2					
0	N	2		8					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	3		8.1					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					





January 14, 2022

Mr. Arne Anselm  
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 *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 Flood Control
SAMPLE I.D.:	ME-CC
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.121

#### ACUTE CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 95 % Survival in 100% Sample

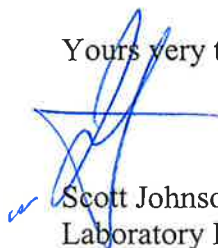
EC25 = >100.00 %

EC50 = >100.00 %

\*TU(a) = 0.41

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

Yours very truly,



Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 12 Jan-22 13:25 (p 1 of 1)  
 Test Code/ID: VCF1221.121achi / 00-0679-1024

**Chironomus 96-Hour Acute Survival Bioassay**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 17-9542-5388	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:10	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 96h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 18-0734-5757	<b>Code:</b> VCF1221.121achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
06-6703-0987	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	9.2%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
06-3116-5390	96h Survival Rate	Linear Interpolation (ICPIN)	EC10	>100	---	---	<1	1
			EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%

**96h Survival Rate Detail**

MD5: 8659F4C7B77919541373AF2F850E0842

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		0.8000	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		4/5	5/5	5/5	5/5

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 06-6703-0987	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 13:24	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 13:24	<b>MD5 Hash:</b> 8659F4C7B77919541373AF2F850E0842	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 17-9542-5388	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:10	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 96h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 18-0734-5757	<b>Code:</b> VCF1221.121achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.09205	9.20%

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	16	10	1	6	CDF	0.6105	Non-Significant Effect

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0118141	0.0023628	5	1	0.4457	Non-Significant Effect
Error	0.0425309	0.0023628	18			
Total	0.0543451		23			

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	9	4.248	0.0002	Unequal Variances
	Mod Levene Equality of Variance Test	1	4.248	0.4457	Equal Variances
Distribution	Anderson-Darling A2 Test	6.297	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	4.325	2.576	1.5E-05	Non-Normal Distribution
	D'Agostino Skewness Test	4.595	2.576	<1.0E-05	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	39.82	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.4583	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.4634	0.884	<1.0E-05	Non-Normal Distribution

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	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%

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	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-6703-0987      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 13:24      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 12 Jan-22 13:24      MD5 Hash: 8659F4C7B77919541373AF2F850E0842      Editor ID: 000-189-126-0

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		0.8000	1.0000	1.0000	1.0000

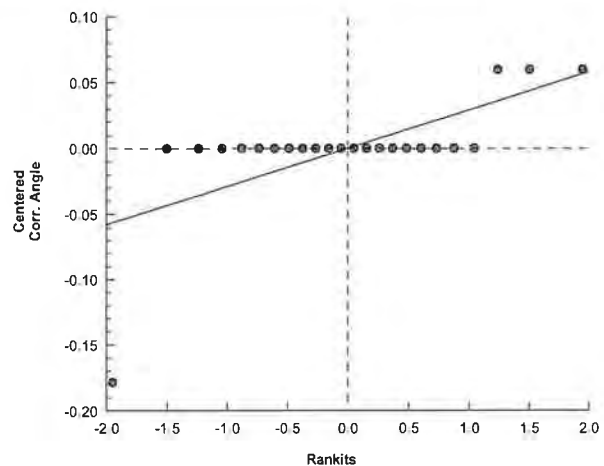
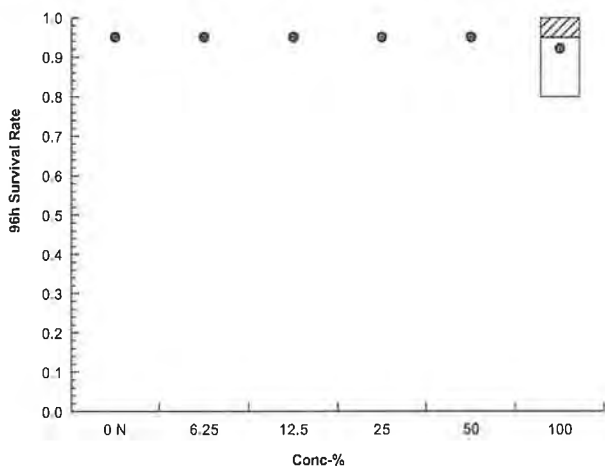
Angular (Corrected) Transformed Detail

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		1.1070	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		4/5	5/5	5/5	5/5

Graphics



# CETIS Analytical Report

Report Date: 12 Jan-22 13:25 (p 1 of 2)

Test Code/ID: VCF1221.121achi / 00-0679-1024

## Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 06-3116-5390	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 13:24	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 13:24	<b>MD5 Hash:</b> 8659F4C7B77919541373AF2F850E0842	<b>Editor ID:</b> 000-189-126-0

<b>Batch ID:</b> 17-9542-5388	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:10	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 96h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 18-0734-5757	<b>Code:</b> VCF1221.121achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9500	5.00%

### 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		0.8000	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		4/5	5/5	5/5	5/5



# CETIS Measurement Report

Report Date: 12 Jan-22 13:25 (p 1 of 4)  
 Test Code/ID: VCF1221.121achi / 00-0679-1024

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

<b>Batch ID:</b> 17-9542-5388	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:10	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 96h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 18-0734-5757	<b>Code:</b> VCF1221.121achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 12:20	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 27h (6.5 °C)	<b>Client:</b> 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	62	57.7	66.3	60	63	0.5774	1.732	2.79%	0
100		3	73	73	73	73	73	0	0	0.00%	0
Overall		6	67.5	61.07	73.93	60	73	2.5	6.124	9.07%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	363	358.7	367.3	362	365	0.5774	1.732	0.48%	0
6.25		3	362	351.2	372.8	359	367	1.453	4.359	1.20%	0
12.5		3	355.3	349.6	361.1	354	358	0.7698	2.309	0.65%	0
25		3	352.3	346.1	358.6	350	355	0.8389	2.517	0.71%	0
50		3	348	334.9	361.1	342	352	1.764	5.292	1.52%	0
100		3	346.3	332.7	360	340	350	1.836	5.508	1.59%	0
Overall		18	354.5	350.9	358.1	340	367	1.727	7.326	2.07%	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	7.433	6.716	8.15	7.1	7.6	0.09623	0.2887	3.88%	0
6.25		3	7.367	6.742	7.992	7.1	7.6	0.08389	0.2517	3.42%	0
12.5		3	7.367	6.742	7.992	7.1	7.6	0.08389	0.2517	3.42%	0
25		3	7.267	6.642	7.892	7	7.5	0.08389	0.2517	3.46%	0
50		3	7.267	6.642	7.892	7	7.5	0.08389	0.2517	3.46%	0
100		3	7.233	6.608	7.858	7	7.5	0.08389	0.2517	3.48%	0
Overall		18	7.322	7.208	7.436	7	7.6	0.05396	0.229	3.13%	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	98	98	98	98	98	0	0	0.00%	0
100		3	121	121	121	121	121	0	0	0.00%	0
Overall		6	109.5	96.28	122.7	98	121	5.143	12.6	11.50%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.033	7.89	8.177	8	8.1	0.01925	0.05774	0.72%	0
6.25		3	8.067	7.78	8.354	8	8.2	0.03849	0.1155	1.43%	0
12.5		3	8.067	7.78	8.354	8	8.2	0.03849	0.1155	1.43%	0
25		3	8.067	7.78	8.354	8	8.2	0.03849	0.1155	1.43%	0
50		3	8.067	7.78	8.354	8	8.2	0.03849	0.1155	1.43%	0
100		3	8.067	7.78	8.354	8	8.2	0.03849	0.1155	1.43%	0
Overall		18	8.061	8.016	8.107	8	8.2	0.0216	0.09164	1.14%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:25 (p 2 of 4)  
 Test Code/ID: VCF1221.121achi / 00-0679-1024

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%)





**CETIS Measurement Report**

Report Date: 12 Jan-22 13:25 (p 4 of 4)

Test Code/ID: VCF1221.121achi / 00-0679-1024

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		98					
100				121					
0	N	2		98					
100				121					
0	N	3		98					
100				121					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8					
6.25				8.2					
12.5				8.2					
25				8.2					
50				8.2					
100				8.2					
0	N	2		8					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
0	N	3		8.1					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



January 14, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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 Flood Control
SAMPLE I.D.:	MO-VR2
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.122

#### CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

BIOMASS	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,

Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 13 Jan-22 10:26 (p 1 of 2)

Test Code/ID: VCF1221.122fml / 13-7874-6809

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 02-9505-1200	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-2750-3867	<b>Code:</b> VCF1221.122fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
08-5787-0671	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	3.29%	1	1
07-1138-4549	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	6.15%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
19-8849-2173	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC10	>100	---	---	<1	1
			✓ EC15	>100	---	---	<1	
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
16-1313-3839	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)	✓ IC10	>100	---	---	<1	1
			✓ IC15	>100	---	---	<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	
08-5787-0671	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
19-8849-2173	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
07-1138-4549	Mean Dry Biomass-mg	Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
16-1313-3839	Mean Dry Biomass-mg	Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
07-1138-4549	Mean Dry Biomass-mg	PMSD	0.0615	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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	0.9667	0.9054	1.0280	0.9333	1.0000	0.0193	0.0385	3.98%	3.33%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3723	0.3471	0.3976	0.3573	0.3913	0.007937	0.01587	4.26%	0.00%
6.25		4	0.3817	0.366	0.3974	0.3693	0.3927	0.004933	0.009866	2.58%	-2.51%
12.5		4	0.3675	0.3453	0.3897	0.3473	0.378	0.006962	0.01392	3.79%	1.30%
25		4	0.364	0.3595	0.3685	0.36	0.3667	0.001414	0.002828	0.78%	2.24%
50		4	0.3685	0.3358	0.4012	0.3507	0.398	0.01026	0.02053	5.57%	1.03%
100		4	0.355	0.3381	0.3719	0.342	0.3647	0.005323	0.01065	3.00%	4.66%

**CETIS Summary Report**

Report Date: 13 Jan-22 10:26 (p 2 of 2)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: CF130D10FD55FBC020EE091BAA3F78BA

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	0.9333	1.0000	0.9333

**Mean Dry Biomass-mg Detail**

MD5: 978811DFE92544C74DD665241B9F6756

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.3793	0.3853	0.3927	0.3693
12.5		0.3753	0.3473	0.3693	0.378
25		0.3647	0.3667	0.3647	0.36
50		0.3607	0.3507	0.398	0.3647
100		0.3627	0.342	0.3647	0.3507

**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	14/15	15/15	14/15

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	08-5787-0671	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.7		
Analyzed:	13 Jan-22 10:25	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1		
Edit Date:	13 Jan-22 10:23	MD5 Hash:	CF130D10FD55FBC020EE091BAA3F78BA	Editor ID:	000-189-126-0		
Batch ID:	02-9505-1200	Test Type:	Growth-Survival (7d)	Analyst:			
Start Date:	15 Dec-21 15:24	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	22 Dec-21 14:16	Species:	Pimephales promelas	Brine:	Not Applicable		
Test Length:	6d 23h	Taxon:	Actinopterygii	Source:	Aquatic Biosystems, CO	Age:	<24
Sample ID:	08-2750-3867	Code:	VCF1221.122fml	Project:	NPDES Stormwater Wet Season		
Sample Date:	14 Dec-21 09:15	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	14 Dec-21 15:00	CAS (PC):		Station:	ME-VR2		
Sample Age:	30h (2 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.03287	3.29%

Steel Many-One Rank Sum Test									
Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	14	10	1	6	CDF	0.3451	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	0.0144533	0.0028907	5	3	0.0384	Significant Effect
Error	0.017344	0.0009636	18			
Total	0.0317973		23			

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test				Indeterminate	
Distribution	Anderson-Darling A2 Test	6.053	3.878	<1.0E-05	Non-Normal Distribution	
	D'Agostino Kurtosis Test	2.647	2.576	0.0081	Non-Normal Distribution	
	D'Agostino Skewness Test	2.98E-14	2.576	1.0000	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	7.009	9.21	0.0301	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.4167	0.2056	<1.0E-05	Non-Normal Distribution	
	Shapiro-Wilk W Normality Test	0.5784	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	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	0.9667	0.9054	1.0000	0.9667	0.9333	1.0000	0.0192	3.98%	3.33%

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 08-5787-0671      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 13 Jan-22 10:25      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 13 Jan-22 10:23      MD5 Hash: CF130D10FD55FBC020EE091BAA3F78BA      Editor ID: 000-189-126-0

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	1.3750	1.2540	1.4960	1.3750	1.3100	1.4410	0.0380	5.53%	4.57%

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	0.9333	1.0000	0.9333

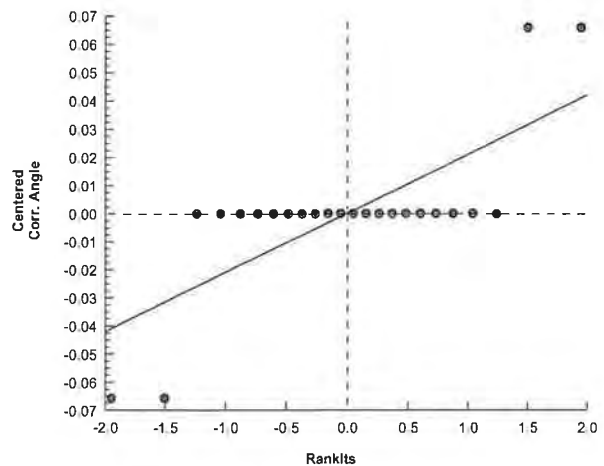
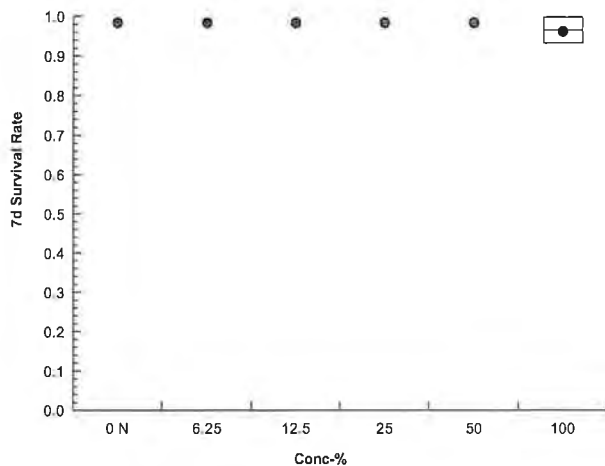
Angular (Corrected) Transformed Detail

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	1.3100	1.4410	1.3100

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	14/15	15/15	14/15

Graphics



Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 07-1138-4549	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 13 Jan-22 10:25	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 13 Jan-22 10:23	<b>MD5 Hash:</b> 978811DFE92544C74DD665241B9F6756	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 02-9505-1200	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-2750-3867	<b>Code:</b> VCF1221.122fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.0229	6.15%

Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-0.9811	2.407	0.023	6	CDF	0.9818	Non-Significant Effect
		12.5	0.5081	2.407	0.023	6	CDF	0.6440	Non-Significant Effect
		25	0.876	2.407	0.023	6	CDF	0.4775	Non-Significant Effect
		50	0.403	2.407	0.023	6	CDF	0.6888	Non-Significant Effect
		100	1.822	2.407	0.023	6	CDF	0.1401	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3723	0.25	>>	Yes	Passes Criteria
PMSD	0.0615	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0015636	0.0003127	5	1.728	0.1793	Non-Significant Effect
Error	0.003258	0.000181	18			
Total	0.0048216		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	7.868	15.09	0.1637	Equal Variances
	Levene Equality of Variance Test	1.891	4.248	0.1460	Equal Variances
	Mod Levene Equality of Variance Test	0.9496	4.248	0.4735	Equal Variances
Distribution	Anderson-Darling A2 Test	0.2213	3.878	0.8653	Normal Distribution
	D'Agostino Kurtosis Test	0.5459	2.576	0.5851	Normal Distribution
	D'Agostino Skewness Test	0.8688	2.576	0.3850	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.053	9.21	0.5907	Normal Distribution
	Kolmogorov-Smirnov D Test	0.09435	0.2056	0.9397	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9754	0.884	0.7982	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	0.3723	0.3471	0.3976	0.3703	0.3573	0.3913	0.007937	4.26%	0.00%
6.25		4	0.3817	0.366	0.3974	0.3823	0.3693	0.3927	0.004933	2.58%	-2.51%
12.5		4	0.3675	0.3453	0.3897	0.3723	0.3473	0.378	0.006962	3.79%	1.30%
25		4	0.364	0.3595	0.3685	0.3647	0.36	0.3667	0.001414	0.78%	2.24%
50		4	0.3685	0.3358	0.4012	0.3627	0.3507	0.398	0.01026	5.57%	1.03%
100		4	0.355	0.3381	0.3719	0.3567	0.342	0.3647	0.005323	3.00%	4.66%



Fathead Minnow 7-d Larval Survival and Growth Test

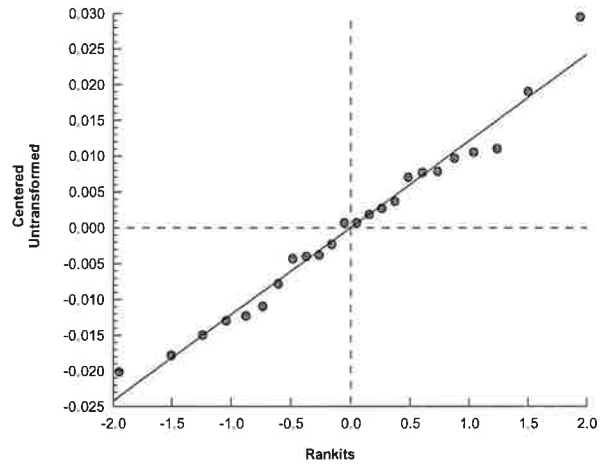
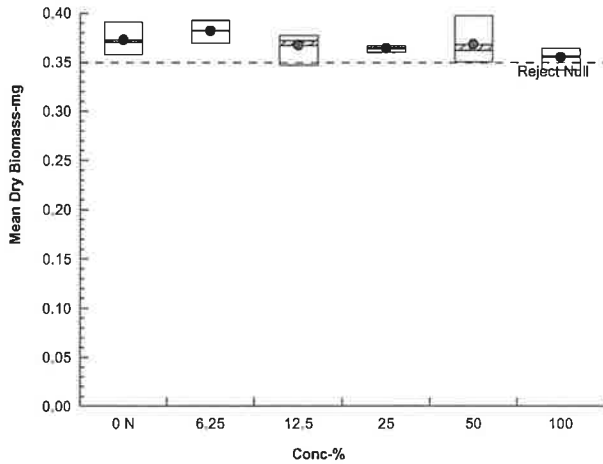
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-1138-4549      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv1.9.7  
 Analyzed: 13 Jan-22 10:25      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 13 Jan-22 10:23      MD5 Hash: 978811DFE92544C74DD665241B9F6756      Editor ID: 000-189-126-0

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.3793	0.3853	0.3927	0.3693
12.5		0.3753	0.3473	0.3693	0.378
25		0.3647	0.3667	0.3647	0.36
50		0.3607	0.3507	0.398	0.3647
100		0.3627	0.342	0.3647	0.3507

Graphics



# CETIS Analytical Report

Report Date: 13 Jan-22 10:26 (p 1 of 4)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID: 19-8849-2173	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7		Analyst:			
Analyzed: 13 Jan-22 10:25	Analysis: Linear Interpolation (ICPIN)	Status Level: 1		Diluent: Laboratory Water			
Edit Date: 13 Jan-22 10:23	MD5 Hash: CF130D10FD55FBC020EE091BAA3F78BA	Editor ID: 000-189-126-0		Brine: Not Applicable			
Batch ID: 02-9505-1200	Test Type: Growth-Survival (7d)			Source: Aquatic Biosystems, CO	Age: <24		
Start Date: 15 Dec-21 15:24	Protocol: EPA/821/R-02-013 (2002)						
Ending Date: 22 Dec-21 14:16	Species: Pimephales promelas						
Test Length: 6d 23h	Taxon: Actinopterygii						
Sample ID: 08-2750-3867	Code: VCF1221.122fml	Project: NPDES Stormwater Wet Season					
Sample Date: 14 Dec-21 09:15	Material: Sample Water	Source: Bioassay Report					
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-VR2					
Sample Age: 30h (2 °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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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	0.9667	0.9667	0.9333	1.0000	3.98%	3.33%	58/60	0.9667	3.33%

## 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	0.9333	1.0000	0.9333

## 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	14/15	15/15	14/15



**CETIS Analytical Report**

Report Date: 13 Jan-22 10:26 (p 3 of 4)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

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

<b>Analysis ID:</b> 16-1313-3839	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 13 Jan-22 10:25	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 13 Jan-22 10:23	<b>MD5 Hash:</b> 978811DFE92544C74DD665241B9F6756	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 02-9505-1200	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-2750-3867	<b>Code:</b> VCF1221.122fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	822767	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3723	0.25	>>	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC10	>100	---	---	<1	---	---
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	0.3723	0.3703	0.3573	0.3913	4.26%	0.00%	0.377	0.00%
6.25		4	0.3817	0.3823	0.3693	0.3927	2.58%	-2.51%	0.377	0.00%
12.5		4	0.3675	0.3723	0.3473	0.378	3.79%	1.30%	0.3675	2.52%
25		4	0.364	0.3647	0.36	0.3667	0.78%	2.24%	0.3662	2.85%
50		4	0.3685	0.3627	0.3507	0.398	5.57%	1.03%	0.3662	2.85%
100		4	0.355	0.3567	0.342	0.3647	3.00%	4.66%	0.355	5.84%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3793	0.3913	0.3613	0.3573
6.25		0.3793	0.3853	0.3927	0.3693
12.5		0.3753	0.3473	0.3693	0.378
25		0.3647	0.3667	0.3647	0.36
50		0.3607	0.3507	0.398	0.3647
100		0.3627	0.342	0.3647	0.3507

Fathead Minnow 7-d Larval Survival and Growth Test

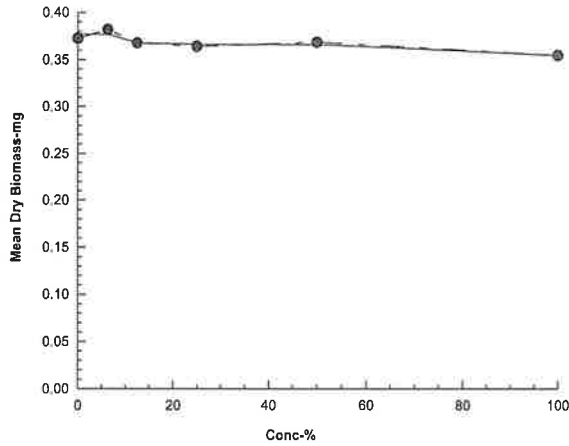
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-1313-3839  
Analyzed: 13 Jan-22 10:25  
Edit Date: 13 Jan-22 10:23

Endpoint: Mean Dry Biomass-mg  
Analysis: Linear Interpolation (ICPIN)  
MD5 Hash: 978811DFE92544C74DD665241B9F6756

CETIS Version: CETISv1.9.7  
Status Level: 1  
Editor ID: 000-189-126-0

Graphics



**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 1 of 8)

Test Code/ID: VCF1221.122fml / 13-7874-6809

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

<b>Batch ID:</b> 02-9505-1200	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24

<b>Sample ID:</b> 08-2750-3867	<b>Code:</b> VCF1221.122fml	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> 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	62.62	61.74	63.51	60	63	0.1326	1.061	1.69%	0
100		8	98	98	98	98	98	0	0	0.00%	0
Overall		16	80.31	70.57	90.05	60	98	4.57	18.28	22.76%	0 (0%)

Conductivity-µmhos											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	361.3	367	360	370	0.4249	3.399	0.93%	0
6.25		8	358.6	357.3	360	357	362	0.1997	1.598	0.45%	0
12.5		8	360.6	358.2	363.1	356	365	0.3656	2.925	0.81%	0
25		8	371.5	367.1	375.9	363	380	0.6547	5.237	1.41%	0
50		8	381.5	379	384	377	386	0.378	3.024	0.79%	0
100		8	416	413.2	418.8	410	420	0.4226	3.381	0.81%	0
Overall		48	375.4	369.5	381.3	356	420	2.911	20.17	5.37%	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	7.613	7.396	7.829	7.1	7.9	0.03235	0.2588	3.40%	0
6.25		8	7.5	7.268	7.732	7	7.8	0.03472	0.2777	3.70%	0
12.5		8	7.475	7.292	7.658	7.1	7.7	0.02735	0.2188	2.93%	0
25		8	7.425	7.217	7.633	7	7.7	0.03116	0.2493	3.36%	0
50		8	7.4	7.221	7.579	7	7.6	0.02673	0.2138	2.89%	0
100		8	7.4	7.2	7.6	7	7.7	0.02988	0.239	3.23%	0
Overall		48	7.469	7.398	7.539	7	7.9	0.035	0.2425	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	73	73	73	73	73	0	0	0.00%	0
100		8	157	157	157	157	157	0	0	0.00%	0
Overall		16	115	91.89	138.1	73	157	10.84	43.38	37.72%	0 (0%)

pH-Units											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.113	8.043	8.182	8	8.2	0.01043	0.08346	1.03%	0
6.25		8	7.963	7.886	8.039	7.8	8.1	0.01145	0.09161	1.15%	0
12.5		8	7.938	7.849	8.026	7.7	8	0.01326	0.1061	1.34%	0
25		8	7.888	7.75	8.025	7.5	8	0.02053	0.1642	2.08%	0
50		8	7.85	7.695	8.005	7.4	8	0.02315	0.1852	2.36%	0
100		8	7.85	7.695	8.005	7.4	8	0.02315	0.1852	2.36%	0
Overall		48	7.933	7.886	7.981	7.4	8.2	0.02351	0.1629	2.05%	0 (0%)



**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 3 of 8)

Test Code/ID: VCF1221.122fml / 13-7874-6809

Fathead Minnow 7-d Larval Survival and Growth Test	Aquatic Bioassay & Consulting Labs, Inc.
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Alkalinity (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				98					
0	N	2		63					
100				98					
0	N	3		63					
100				98					
0	N	4		63					
100				98					
0	N	5		63					
100				98					
0	N	6		63					
100				98					
0	N	7		63					
100				98					
0	N	8		63					
100				98					



**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 4 of 8)

Test Code/ID: VCF1221.122fml / 13-7874-6809

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

Conductivity-µmhos									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				358					
12.5				364					
25				372					
50				386					
100				413					
0	N	2		360					
6.25				357					
12.5				356					
25				370					
50				382					
100				410					
0	N	3		362					
6.25				357					
12.5				362					
25				377					
50				383					
100				416					
0	N	4		364					
6.25				358					
12.5				360					
25				372					
50				384					
100				415					
0	N	5		362					
6.25				359					
12.5				359					
25				370					
50				382					
100				420					
0	N	6		365					
6.25				359					
12.5				359					
25				368					
50				378					
100				417					
0	N	7		368					
6.25				359					
12.5				360					
25				363					
50				377					
100				417					
0	N	8		370					
6.25				362					
12.5				365					
25				380					
50				380					
100				420					

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 5 of 8)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

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

Dissolved Oxygen-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.6					
6.25				7.3					
12.5				7.3					
25				7.2					
50				7.2					
100				7.2					
0	N	2		7.6					
6.25				7.4					
12.5				7.4					
25				7.3					
50				7.3					
100				7.2					
0	N	3		7.4					
6.25				7.4					
12.5				7.4					
25				7.5					
50				7.5					
100				7.6					
0	N	4		7.8					
6.25				7.8					
12.5				7.7					
25				7.6					
50				7.5					
100				7.5					
0	N	5		7.9					
6.25				7.8					
12.5				7.7					
25				7.7					
50				7.6					
100				7.5					
0	N	6		7.8					
6.25				7.7					
12.5				7.7					
25				7.7					
50				7.6					
100				7.7					
0	N	7		7.7					
6.25				7.6					
12.5				7.5					
25				7.4					
50				7.5					
100				7.5					
0	N	8		7.1					
6.25				7					
12.5				7.1					
25				7					
50				7					
100				7					

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 6 of 8)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

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

Hardness (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		73					
100				157					
0	N	2		73					
100				157					
0	N	3		73					
100				157					
0	N	4		73					
100				157					
0	N	5		73					
100				157					
0	N	6		73					
100				157					
0	N	7		73					
100				157					
0	N	8		73					
100				157					

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 7 of 8)  
 Test Code/ID: VCF1221.122fml / 13-7874-6809

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

pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	2		8					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	3		8.2					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
0	N	4		8.1					
6.25				8					
12.5				8					
25				7.9					
50				7.9					
100				7.9					
0	N	5		8.1					
6.25				8					
12.5				8					
25				8					
50				7.9					
100				7.9					
0	N	6		8.2					
6.25				8.1					
12.5				8					
25				8					
50				7.9					
100				7.9					
0	N	7		8.1					
6.25				8					
12.5				8					
25				7.9					
50				7.9					
100				7.9					
0	N	8		8					
6.25				7.8					
12.5				7.7					
25				7.5					
50				7.4					
100				7.4					

*P*

**CETIS Measurement Report**

Report Date: 13 Jan-22 10:26 (p 8 of 8)

Test Code/ID: VCF1221.122fml / 13-7874-6809

Fathead Minnow 7-d Larval Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.					
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	2		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	3		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	4		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	5		24					
6.25				24.1					
12.5				24.2					
25				24.2					
50				24.1					
100				24.2					
0	N	6		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	7		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	8		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					



January 14, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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 Flood Control  
SAMPLE I.D.: ME-VR2  
DATE RECEIVED: 12/14/2021  
ABC LAB. NO.: VCF1221.122

#### 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:** 12 Jan-22 10:11 (p 1 of 2)  
**Test Code/ID:** VCF1221.122cer / 13-8352-3108

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
18-9503-1331	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
15-7530-6732	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	13.7%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
19-4173-4291	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC10	>100	---	---	<1	1
			✓ EC15	>100	---	---	<1	
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
14-8957-7552	Reproduction	Linear Interpolation (ICPIN)	✓ IC10	>100	---	---	<1	1
			✓ IC15	>100	---	---	<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			
18-9503-1331	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
19-4173-4291	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria	
14-8957-7552	Reproduction	Control Resp	24.6	15	>>	Yes	Passes Criteria	
15-7530-6732	Reproduction	Control Resp	24.6	15	>>	Yes	Passes Criteria	
15-7530-6732	Reproduction	PMSD	0.1365	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%
6.25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	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	22.66	26.54	21	29	0.8589	2.716	11.04%	0.00%
6.25		10	26.2	24.45	27.95	23	31	0.7717	2.44	9.31%	-6.50%
12.5		10	26.4	23.89	28.91	21	31	1.108	3.502	13.27%	-7.32%
25		10	27.7	24.7	30.7	22	34	1.325	4.191	15.13%	-12.60%
50		10	27.3	25.11	29.49	22	31	0.9667	3.057	11.20%	-10.98%
100		10	29.4	26.92	31.88	24	34	1.097	3.471	11.80%	-19.51%

*PASS*

**CETIS Summary Report**

Report Date: 12 Jan-22 10:11 (p 2 of 2)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: 6DFFCF255519977902535414E38EA216

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: 62444D8B8B492C7018AC0076E0C41472

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	27	25	29	22	21	24	26	21	27	24
6.25		31	27	26	25	26	29	24	24	27	23
12.5		28	28	25	31	30	22	21	24	30	25
25		22	34	26	24	22	30	32	31	29	27
50		28	30	26	27	28	23	22	31	31	27
100		34	33	26	33	32	29	28	26	24	29

**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: 12 Jan-22 10:11 (p 1 of 2)  
 Test Code/ID: VCF1221.122cer / 13-8352-3108

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 15-7530-6732	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> D95CCC51D69A819136A45F9CFDC9F641	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.358	13.65%

## Dunnett Multiple Comparison Test

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-1.091	2.289	3.358	18	CDF	0.9880	Non-Significant Effect
		12.5	-1.227	2.289	3.358	18	CDF	0.9922	Non-Significant Effect
		25	-2.113	2.289	3.358	18	CDF	0.9997	Non-Significant Effect
		50	-1.841	2.289	3.358	18	CDF	0.9991	Non-Significant Effect
		100	-3.272	2.289	3.358	18	CDF	1.0000	Non-Significant Effect

## Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	24.6	15	>>	Yes	Passes Criteria
PMSD	0.1365	0.13	0.47	Yes	Passes Criteria

## ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	130.733	26.1467	5	2.43	0.0465	Significant Effect
Error	581	10.7593	54			
Total	711.733		59			

## ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.24	15.09	0.6631	Equal Variances
	Levene Equality of Variance Test	1.345	3.377	0.2595	Equal Variances
	Mod Levene Equality of Variance Test	1.283	3.377	0.2847	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5069	3.878	0.2045	Normal Distribution
	D'Agostino Kurtosis Test	2.376	2.576	0.0175	Normal Distribution
	D'Agostino Skewness Test	0.3209	2.576	0.7483	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	5.747	9.21	0.0565	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08487	0.1331	0.3248	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9686	0.9459	0.1245	Normal Distribution

## Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	24.6	22.66	26.54	24.5	21	29	0.8589	11.04%	0.00%
6.25		10	26.2	24.45	27.95	26	23	31	0.7717	9.31%	-6.50%
12.5		10	26.4	23.89	28.91	26.5	21	31	1.108	13.27%	-7.32%
25		10	27.7	24.7	30.7	28	22	34	1.325	15.13%	-12.60%
50		10	27.3	25.11	29.49	27.5	22	31	0.9667	11.20%	-10.98%
100		10	29.4	26.92	31.88	29	24	34	1.097	11.80%	-19.51%

Ceriodaphnia 7-d Survival and Reproduction Test

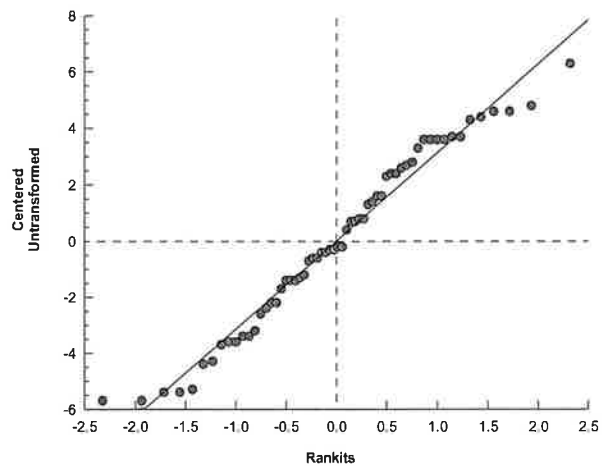
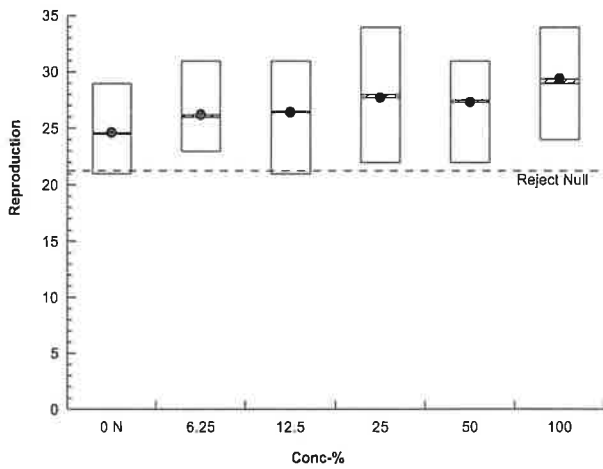
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 15-7530-6732      Endpoint: Reproduction      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 10:11      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 12 Jan-22 10:00      MD5 Hash: D95CCC51D69A819136A45F9CFDC9F641      Editor ID: 000-189-126-0

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	27	25	29	22	21	24	26	21	27	24
6.25		31	27	26	25	26	29	24	24	27	23
12.5		28	28	25	31	30	22	21	24	30	25
25		22	34	26	24	22	30	32	31	29	27
50		28	30	26	27	28	23	22	31	31	27
100		34	33	26	33	32	29	28	26	24	29

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 10:11 (p 1 of 4)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 19-4173-4291	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> 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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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**

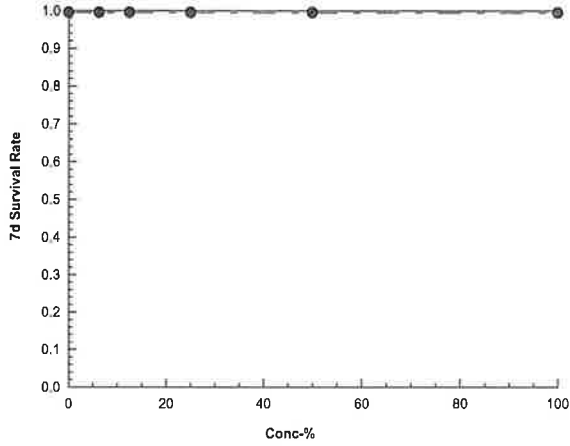
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100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

<b>Analysis ID:</b> 19-4173-4291	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 10:11 (p 3 of 4)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 14-8957-7552	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> D95CCC51D69A819136A45F9CFDC9F641	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1376343	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	TU	95% LCL	95% UCL
IC10	>100	---	---	<1	---	---
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	24.5	21	29	11.04%	0.00%	26.93	0.00%
6.25		10	26.2	26	23	31	9.31%	-6.50%	26.93	0.00%
12.5		10	26.4	26.5	21	31	13.27%	-7.32%	26.93	0.00%
25		10	27.7	28	22	34	15.13%	-12.60%	26.93	0.00%
50		10	27.3	27.5	22	31	11.20%	-10.98%	26.93	0.00%
100		10	29.4	29	24	34	11.80%	-19.51%	26.93	0.00%

**Reproduction Detail**

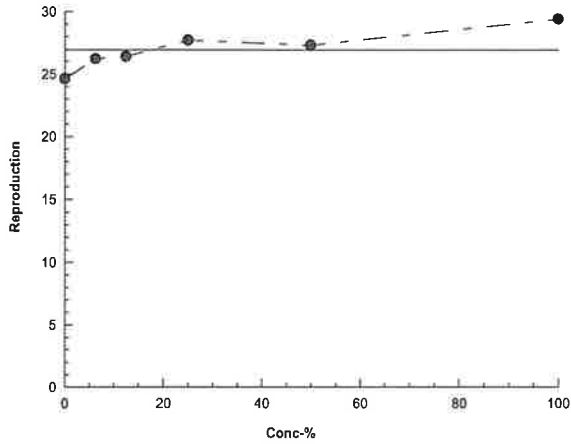
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	27	25	29	22	21	24	26	21	27	24
6.25		31	27	26	25	26	29	24	24	27	23
12.5		28	28	25	31	30	22	21	24	30	25
25		22	34	26	24	22	30	32	31	29	27
50		28	30	26	27	28	23	22	31	31	27
100		34	33	26	33	32	29	28	26	24	29

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-8957-7552	Endpoint: Reproduction	CETIS Version: CETISv1.9.7
Analyzed: 12 Jan-22 10:11	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 12 Jan-22 10:00	MD5 Hash: D95CCC51D69A819136A45F9CFDC9F641	Editor ID: 000-189-126-0

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 10:11 (p 1 of 2)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 18-9503-1331	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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**

**TAC Limits**

Attribute	Test Stat	Lower	Upper	Overlap	Decision
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**

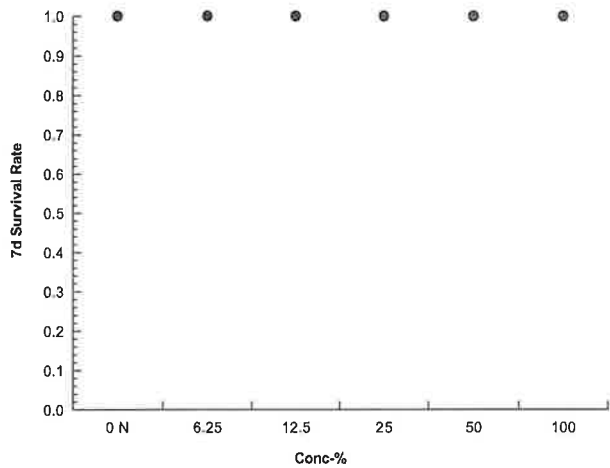
**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 18-9503-1331	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 10:11	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 10:00	<b>MD5 Hash:</b> 6DFFCF255519977902535414E38EA216	<b>Editor ID:</b> 000-189-126-0

**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: 12 Jan-22 10:11 (p 1 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

<b>Batch ID:</b> 21-1414-4784	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:24	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 22 Dec-21 14:16	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 23h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24

<b>Sample ID:</b> 08-8458-1689	<b>Code:</b> VCF1221.122cer	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> 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	62.62	61.74	63.51	60	63	0.1326	1.061	1.69%	0
100		8	98	98	98	98	98	0	0	0.00%	0
Overall		16	80.31	70.57	90.05	60	98	4.57	18.28	22.76%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	361.3	367	360	370	0.4249	3.399	0.93%	0
6.25		8	358.6	357.3	360	357	362	0.1997	1.598	0.45%	0
12.5		8	360.6	358.2	363.1	356	365	0.3656	2.925	0.81%	0
25		8	371.5	367.1	375.9	363	380	0.6547	5.237	1.41%	0
50		8	381.5	379	384	377	386	0.378	3.024	0.79%	0
100		8	416	413.2	418.8	410	420	0.4226	3.381	0.81%	0
Overall		48	375.4	369.5	381.3	356	420	2.911	20.17	5.37%	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	7.613	7.396	7.829	7.1	7.9	0.03235	0.2588	3.40%	0
6.25		8	7.5	7.268	7.732	7	7.8	0.03472	0.2777	3.70%	0
12.5		8	7.475	7.292	7.658	7.1	7.7	0.02735	0.2188	2.93%	0
25		8	7.425	7.217	7.633	7	7.7	0.03116	0.2493	3.36%	0
50		8	7.4	7.221	7.579	7	7.6	0.02673	0.2138	2.89%	0
100		8	7.4	7.2	7.6	7	7.7	0.02988	0.239	3.23%	0
Overall		48	7.469	7.398	7.539	7	7.9	0.035	0.2425	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	73	73	73	73	73	0	0	0.00%	0
100		8	157	157	157	157	157	0	0	0.00%	0
Overall		16	115	91.89	138.1	73	157	10.84	43.38	37.72%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.113	8.043	8.182	8	8.2	0.01043	0.08346	1.03%	0
6.25		8	7.963	7.886	8.039	7.8	8.1	0.01145	0.09161	1.15%	0
12.5		8	7.938	7.849	8.026	7.7	8	0.01326	0.1061	1.34%	0
25		8	7.888	7.75	8.025	7.5	8	0.02053	0.1642	2.08%	0
50		8	7.85	7.695	8.005	7.4	8	0.02315	0.1852	2.36%	0
100		8	7.85	7.695	8.005	7.4	8	0.02315	0.1852	2.36%	0
Overall		48	7.933	7.886	7.981	7.4	8.2	0.02351	0.1629	2.05%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 2 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
12.5		8	24.04	23.98	24.1	24	24.2	0.009295	0.07436	0.31%	0
25		8	24.04	23.98	24.1	24	24.2	0.009295	0.07436	0.31%	0
50		8	24.03	23.99	24.06	24	24.1	0.005778	0.04623	0.19%	0
100		8	24.04	23.98	24.1	24	24.2	0.009295	0.07436	0.31%	0
Overall		48	24.03	24.01	24.04	24	24.2	0.008283	0.05739	0.24%	0 (0%)



**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 3 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

<b>Ceriodaphnia 7-d Survival and Reproduction Test</b>	<b>Aquatic Bioassay &amp; Consulting Labs, Inc.</b>
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Alkalinity (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				98					
0	N	2		63					
100				98					
0	N	3		63					
100				98					
0	N	4		63					
100				98					
0	N	5		63					
100				98					
0	N	6		63					
100				98					
0	N	7		63					
100				98					
0	N	8		63					
100				98					

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 4 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

Ceriodaphnia 7-d Survival and Reproduction Test					Aquatic Bioassay & Consulting Labs, Inc.				
Conductivity-µmhos									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				358					
12.5				364					
25				372					
50				386					
100				413					
0	N	2		360					
6.25				357					
12.5				356					
25				370					
50				382					
100				410					
0	N	3		362					
6.25				357					
12.5				362					
25				377					
50				383					
100				416					
0	N	4		364					
6.25				358					
12.5				360					
25				372					
50				384					
100				415					
0	N	5		362					
6.25				359					
12.5				359					
25				370					
50				382					
100				420					
0	N	6		365					
6.25				359					
12.5				359					
25				368					
50				378					
100				417					
0	N	7		368					
6.25				359					
12.5				360					
25				363					
50				377					
100				417					
0	N	8		370					
6.25				362					
12.5				365					
25				380					
50				380					
100				420					

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 5 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

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

Dissolved Oxygen-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.6					
6.25				7.3					
12.5				7.3					
25				7.2					
50				7.2					
100				7.2					
0	N	2		7.6					
6.25				7.4					
12.5				7.4					
25				7.3					
50				7.3					
100				7.2					
0	N	3		7.4					
6.25				7.4					
12.5				7.4					
25				7.5					
50				7.5					
100				7.6					
0	N	4		7.8					
6.25				7.8					
12.5				7.7					
25				7.6					
50				7.5					
100				7.5					
0	N	5		7.9					
6.25				7.8					
12.5				7.7					
25				7.7					
50				7.6					
100				7.5					
0	N	6		7.8					
6.25				7.7					
12.5				7.7					
25				7.7					
50				7.6					
100				7.7					
0	N	7		7.7					
6.25				7.6					
12.5				7.5					
25				7.4					
50				7.5					
100				7.5					
0	N	8		7.1					
6.25				7					
12.5				7.1					
25				7					
50				7					
100				7					

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 6 of 8)  
 Test Code/ID: VCF1221.122cer / 13-8352-3108

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

Hardness (CaCO3)-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		73					
100				157					
0	N	2		73					
100				157					
0	N	3		73					
100				157					
0	N	4		73					
100				157					
0	N	5		73					
100				157					
0	N	6		73					
100				157					
0	N	7		73					
100				157					
0	N	8		73					
100				157					

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 7 of 8)  
 Test Code/ID: VCF1221.122cer / 13-8352-3108

Ceriodaphnia 7-d Survival and Reproduction Test						Aquatic Bioassay & Consulting Labs, Inc.			
pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25			7.9						
12.5			7.9						
25			7.9						
50			7.9						
100			7.9						
0	N	2		8					
6.25			7.9						
12.5			7.9						
25			7.9						
50			7.9						
100			7.9						
0	N	3		8.2					
6.25			8						
12.5			8						
25			8						
50			8						
100			8						
0	N	4		8.1					
6.25			8						
12.5			8						
25			7.9						
50			7.9						
100			7.9						
0	N	5		8.1					
6.25			8						
12.5			8						
25			8						
50			7.9						
100			7.9						
0	N	6		8.2					
6.25			8.1						
12.5			8						
25			8						
50			7.9						
100			7.9						
0	N	7		8.1					
6.25			8						
12.5			8						
25			7.9						
50			7.9						
100			7.9						
0	N	8		8					
6.25			7.8						
12.5			7.7						
25			7.5						
50			7.4						
100			7.4						

**CETIS Measurement Report**

Report Date: 12 Jan-22 10:11 (p 8 of 8)

Test Code/ID: VCF1221.122cer / 13-8352-3108

Ceriodaphnia 7-d Survival and Reproduction Test					Aquatic Bioassay & Consulting Labs, Inc.				
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	2		24					
6.25				24.1					
12.5				24.1					
25				24.1					
50				24.1					
100				24.1					
0	N	3		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	4		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	5		24					
6.25				24.1					
12.5				24.2					
25				24.2					
50				24.1					
100				24.2					
0	N	6		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	7		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					
0	N	8		24					
6.25				24					
12.5				24					
25				24					
50				24					
100				24					





January 14, 2022

Mr. Arne Anselm  
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 *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:

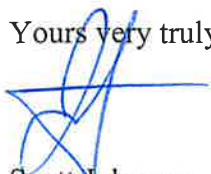
CLIENT:	Ventura County Flood Control
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.122

#### ACUTE HYALELLA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample  
EC25 = >100.00 %  
EC50 = >100.00 %  
\*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: 12 Jan-22 13:16 (p 1 of 1)  
 Test Code/ID: VCF1221.122ahya / 03-4627-3658

## Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 04-5935-6498	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:35	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 0h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 15-7069-9852	<b>Code:</b> VCF1221.122ahya	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
13-8015-7439	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
16-1547-2144	96h Survival Rate	Linear Interpolation (ICPIN)		EC10	>100	---	---	<1	1
				EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

## 96h Survival Rate Detail

MD5: E88740A7CB88EC46B4EC0A60E4B8AEB7

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

*PA35*

**CETIS Analytical Report**

Report Date: 12 Jan-22 13:16 (p 1 of 2)  
 Test Code/ID: VCF1221.122ahya / 03-4627-3658

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID:	13-8015-7439	Endpoint:	96h Survival Rate	CETIS Version:	CETISv1.9.7
Analyzed:	12 Jan-22 13:15	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1
Edit Date:	12 Jan-22 13:14	MD5 Hash:	E88740A7CB88EC46B4ECO60E4B8AEB	Editor ID:	000-189-126-0
Batch ID:	04-5935-6498	Test Type:	Survival (96h)	Analyst:	
Start Date:	15 Dec-21 15:30	Protocol:	EPA/821/R-02-012 (2002)	Diluent:	Laboratory Water
Ending Date:	19 Dec-21 15:35	Species:	Hyalella azteca	Brine:	Not Applicable
Test Length:	4d 0h	Taxon:	Malacostraca	Source:	Aquatic Biosystems, CO
				Age:	
Sample ID:	15-7069-9852	Code:	VCF1221.122ahya	Project:	NPDES Stormwater Wet Season
Sample Date:	14 Dec-21 09:15	Material:	Sample Water	Source:	Bioassay Report
Receipt Date:	14 Dec-21 15:00	CAS (PC):		Station:	ME-VR2
Sample Age:	30h (6.5 °C)	Client:	Ventura County Watershed Protection Distri		

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

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	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: 13-8015-7439      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 13:15      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 12 Jan-22 13:14      MD5 Hash: E88740A7CB88EC46B4ECO6A60E4B8AEB      Editor ID: 000-189-126-0

**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

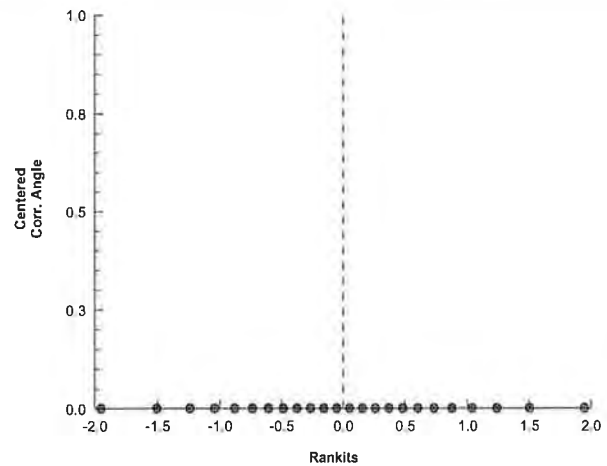
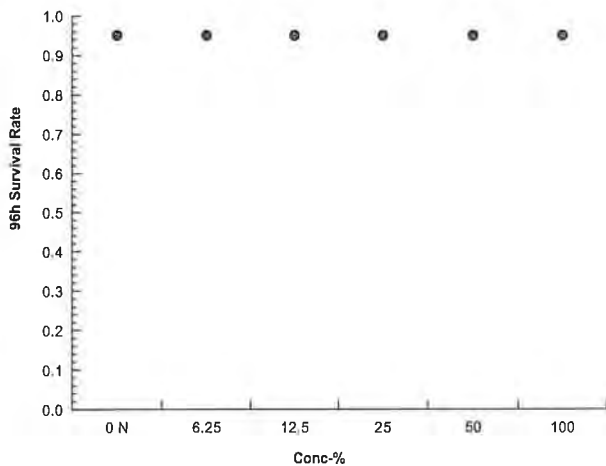
**Angular (Corrected) Transformed Detail**

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: 12 Jan-22 13:16 (p 1 of 2)

Test Code/ID: VCF1221.122ahya / 03-4627-3658

Hyalella 96-h Acute Survival Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 16-1547-2144	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.7			
Analyzed: 12 Jan-22 13:15	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 12 Jan-22 13:14	MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB	Editor ID: 000-189-126-0			
Batch ID: 04-5935-6498	Test Type: Survival (96h)	Analyst:			
Start Date: 15 Dec-21 15:30	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 19 Dec-21 15:35	Species: Hyalella azteca	Brine: Not Applicable			
Test Length: 4d 0h	Taxon: Malacostraca	Source: Aquatic Biosystems, CO Age:			
Sample ID: 15-7069-9852	Code: VCF1221.122ahya	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 09:15	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-VR2			
Sample Age: 30h (6.5 °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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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: 12 Jan-22 13:16 (p 2 of 2)

Test Code/ID: VCF1221.122ahya / 03-4627-3658

## Hyalella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-1547-2144

Endpoint: 96h Survival Rate

CETIS Version: CETISv1.9.7

Analyzed: 12 Jan-22 13:15

Analysis: Linear Interpolation (ICPIN)

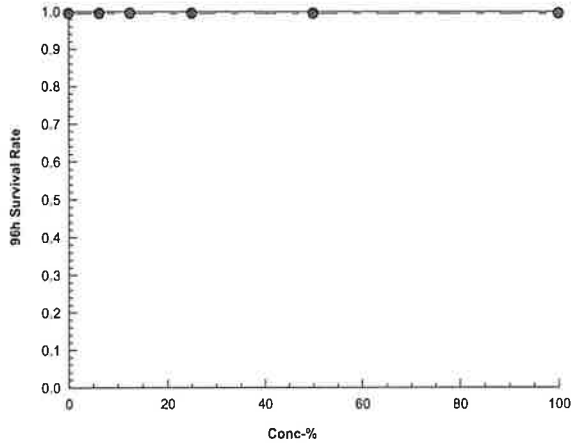
Status Level: 1

Edit Date: 12 Jan-22 13:14

MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB

Editor ID: 000-189-126-0

### Graphics



**CETIS Measurement Report**

Report Date: 12 Jan-22 13:16 (p 1 of 4)  
 Test Code/ID: VCF1221.122ahya / 03-4627-3658

**Hyalella 96-h Acute Survival Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-5935-6498	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:30	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:35	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 0h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 15-7069-9852	<b>Code:</b> VCF1221.122ahya	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (6.5 °C)	<b>Client:</b> 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	73	73	73	73	73	0	0	0.00%	0
Overall		6	66.5	59.03	73.97	60	73	2.907	7.12	10.71%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	362.3	356.1	368.6	360	365	0.8389	2.517	0.69%	0
6.25		3	358	355.5	360.5	357	359	0.3333	1	0.28%	0
12.5		3	359.7	349.6	369.7	356	364	1.347	4.041	1.12%	0
25		3	370.7	367.8	373.5	370	372	0.3849	1.155	0.31%	0
50		3	383.3	377.6	389.1	382	386	0.7698	2.309	0.60%	0
100		3	414.3	401.6	427.1	410	420	1.711	5.132	1.24%	0
Overall		18	374.7	364.6	384.9	356	420	4.807	20.4	5.44%	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	7.433	6.716	8.15	7.1	7.6	0.09623	0.2887	3.88%	0
6.25		3	7.267	6.887	7.646	7.1	7.4	0.05092	0.1528	2.10%	0
12.5		3	7.233	6.716	7.75	7	7.4	0.06939	0.2082	2.88%	0
25		3	7.2	6.952	7.448	7.1	7.3	0.03333	0.1	1.39%	0
50		3	7.233	7.09	7.377	7.2	7.3	0.01924	0.05772	0.80%	0
100		3	7.167	7.023	7.31	7.1	7.2	0.01924	0.05773	0.81%	0
Overall		18	7.256	7.173	7.338	7	7.6	0.03896	0.1653	2.28%	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	98	98	98	98	98	0	0	0.00%	0
100		3	157	157	157	157	157	0	0	0.00%	0
Overall		6	127.5	93.59	161.4	98	157	13.19	32.32	25.35%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
6.25		3	7.933	7.79	8.077	7.9	8	0.01924	0.05772	0.73%	0
12.5		3	7.933	7.79	8.077	7.9	8	0.01924	0.05772	0.73%	0
25		3	7.9	7.896	7.904	7.9	7.9	0	0	0.00%	0
50		3	7.9	7.896	7.904	7.9	7.9	0	0	0.00%	0
100		3	7.9	7.896	7.904	7.9	7.9	0	0	0.00%	0
Overall		18	7.944	7.902	7.987	7.9	8.2	0.02017	0.08556	1.08%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:16 (p 2 of 4)  
 Test Code/ID: VCF1221.122ahya / 03-4627-3658

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%)



**CETIS Measurement Report**

Report Date: 12 Jan-22 13:16 (p 3 of 4)

Test Code/ID: VCF1221.122ahya / 03-4627-3658

Hyalella 96-h Acute Survival Test										Aquatic Bioassay & Consulting Labs, Inc.
<b>Alkalinity (CaCO3)-mg/L</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		60						
100				73						
0	N	2		60						
100				73						
0	N	3		60						
100				73						
<b>Conductivity-µmhos</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		362						
6.25				358						
12.5				364						
25				372						
50				386						
100				413						
0	N	2		360						
6.25				357						
12.5				356						
25				370						
50				382						
100				410						
0	N	3		365						
6.25				359						
12.5				359						
25				370						
50				382						
100				420						
<b>Dissolved Oxygen-mg/L</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		7.6						
6.25				7.3						
12.5				7.3						
25				7.2						
50				7.2						
100				7.2						
0	N	2		7.6						
6.25				7.4						
12.5				7.4						
25				7.3						
50				7.3						
100				7.2						
0	N	3		7.1						
6.25				7.1						
12.5				7						
25				7.1						
50				7.2						
100				7.1						

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:16 (p 4 of 4)

Test Code/ID: VCF1221.122ahya / 03-4627-3658

Hyalella 96-h Acute Survival Test					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		98					
100				157					
0	N	2		98					
100				157					
0	N	3		98					
100				157					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	2		8					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	3		8.1					
6.25				8					
12.5				8					
25				7.9					
50				7.9					
100				7.9					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



January 14, 2022

Mr. Arne Anselm  
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 *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 Flood Control
SAMPLE I.D.:	ME-VR2
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.122

#### ACUTE CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 95% Survival in 100% Sample  
EC25 = >100.00 %  
EC50 = >100.00 %  
\*TU(a) = 0.41

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

Yours very truly,



Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 12 Jan-22 13:24 (p 1 of 1)

Test Code/ID: VCF1221.122achi / 16-5522-9994

**Chironomus 96-Hour Acute Survival Bioassay**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 10-5425-5304	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:30	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 0h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 08-1369-5531	<b>Code:</b> VCF1221.122achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
17-7981-9249	96h Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	13.0%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
04-8349-5734	96h Survival Rate	Linear Interpolation (ICPIN)	EC10	>100	---	---	<1	1
			EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%
100		4	0.9500	0.7909	1.1090	0.8000	1.0000	0.0500	0.1000	10.53%	5.00%

**96h Survival Rate Detail**

MD5: 7627EFB233F2B44E4401213195986848

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	0.8000
25		1.0000	1.0000	1.0000	1.0000
50		0.8000	1.0000	1.0000	1.0000
100		1.0000	0.8000	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	4/5
25		5/5	5/5	5/5	5/5
50		4/5	5/5	5/5	5/5
100		5/5	4/5	5/5	5/5

PASS

**CETIS Analytical Report**

Report Date: 12 Jan-22 13:24 (p 1 of 2)  
 Test Code/ID: VCF1221.122achi / 16-5522-9994

**Chironomus 96-Hour Acute Survival Bioassay**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 17-7981-9249	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 13:23	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 13:21	<b>MD5 Hash:</b> 7627EFB233F2B44E4401213195986848	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 10-5425-5304	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:30	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 0h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 08-1369-5531	<b>Code:</b> VCF1221.122achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.13	13.00%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	16	10	1	6	CDF	0.6105	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	16	10	1	6	CDF	0.6105	Non-Significant Effect
		100	16	10	1	6	CDF	0.6105	Non-Significant Effect

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0212655	0.0042531	5	0.6	0.7006	Non-Significant Effect
Error	0.127593	0.0070885	18			
Total	0.148858		23			

**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	5.4	4.248	0.0033	Unequal Variances
	Mod Levene Equality of Variance Test	0.6	4.248	0.7006	Equal Variances
Distribution	Anderson-Darling A2 Test	3.596	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	1.995	2.576	0.0460	Normal Distribution
	D'Agostino Skewness Test	3.217	2.576	0.0013	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	14.33	9.21	0.0008	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.375	0.2056	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.6694	0.884	<1.0E-05	Non-Normal Distribution

**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	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%
100		4	0.9500	0.7909	1.0000	1.0000	0.8000	1.0000	0.0500	10.53%	5.00%

**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	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%
25		4	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		4	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%
100		4	1.2860	1.0960	1.4750	1.3450	1.1070	1.3450	0.0595	9.26%	4.43%

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 17-7981-9249      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 13:23      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 12 Jan-22 13:21      MD5 Hash: 7627EFB233F2B44E4401213195986848      Editor ID: 000-189-126-0

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	0.8000
25		1.0000	1.0000	1.0000	1.0000
50		0.8000	1.0000	1.0000	1.0000
100		1.0000	0.8000	1.0000	1.0000

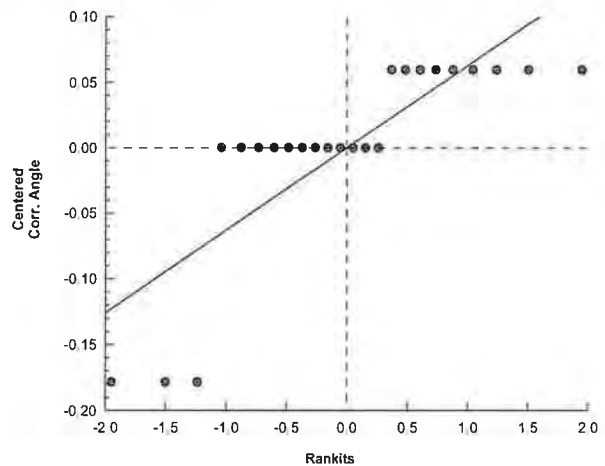
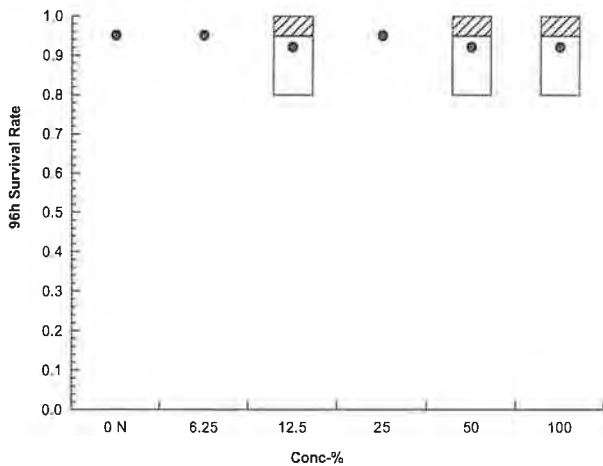
Angular (Corrected) Transformed Detail

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	1.1070
25		1.3450	1.3450	1.3450	1.3450
50		1.1070	1.3450	1.3450	1.3450
100		1.3450	1.1070	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	4/5
25		5/5	5/5	5/5	5/5
50		4/5	5/5	5/5	5/5
100		5/5	4/5	5/5	5/5

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 13:24 (p 1 of 2)  
 Test Code/ID: VCF1221.122achi / 16-5522-9994

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 04-8349-5734	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.7	Analyst:		
Analyzed: 12 Jan-22 13:23	Analysis: Linear Interpolation (ICPIN)	Status Level: 1	Diluent: Laboratory Water		
Edit Date: 12 Jan-22 13:21	MD5 Hash: 7627EFB233F2B44E4401213195986848	Editor ID: 000-189-126-0	Brine: Not Applicable		
Batch ID: 10-5425-5304	Test Type: Survival (96h)		Source: Aquatic Biosystems, CO	Age:	
Start Date: 15 Dec-21 15:25	Protocol: EPA/821/R-02-012 (2002)				
Ending Date: 19 Dec-21 15:30	Species: Chironomus dilutus				
Test Length: 4d 0h	Taxon: Insecta				
Sample ID: 08-1369-5531	Code: VCF1221.122achi	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 09:15	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-VR2			
Sample Age: 30h (2 °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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9750	2.50%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	20/20	0.9750	2.50%
50		4	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9500	5.00%
100		4	0.9500	1.0000	0.8000	1.0000	10.53%	5.00%	19/20	0.9500	5.00%

**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	0.8000
25		1.0000	1.0000	1.0000	1.0000
50		0.8000	1.0000	1.0000	1.0000
100		1.0000	0.8000	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	4/5
25		5/5	5/5	5/5	5/5
50		4/5	5/5	5/5	5/5
100		5/5	4/5	5/5	5/5





**CETIS Measurement Report**

Report Date: 12 Jan-22 13:24 (p 1 of 4)

Test Code/ID: VCF1221.122achi / 16-5522-9994

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

<b>Batch ID:</b> 10-5425-5304	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:25	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 19 Dec-21 15:30	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 0h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 08-1369-5531	<b>Code:</b> VCF1221.122achi	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 09:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 30h (2 °C)	<b>Client:</b> 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	62	57.7	66.3	60	63	0.5774	1.732	2.79%	0
100		3	73	73	73	73	73	0	0	0.00%	0
Overall		6	67.5	61.07	73.93	60	73	2.5	6.124	9.07%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	363	358.7	367.3	362	365	0.5774	1.732	0.48%	0
6.25		3	358	355.5	360.5	357	359	0.3333	1	0.28%	0
12.5		3	363.7	349.5	377.8	359	370	1.895	5.686	1.56%	0
25		3	373	364	382	370	377	1.202	3.606	0.97%	0
50		3	383	375.5	390.5	380	386	1	3	0.78%	0
100		3	416.3	407.6	425.1	413	420	1.171	3.512	0.84%	0
Overall		18	376.2	366	386.4	357	420	4.827	20.48	5.44%	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	7.433	6.716	8.15	7.1	7.6	0.09623	0.2887	3.88%	0
6.25		3	7.267	6.887	7.646	7.1	7.4	0.05092	0.1528	2.10%	0
12.5		3	7.233	6.716	7.75	7	7.4	0.06939	0.2082	2.88%	0
25		3	7.267	6.75	7.784	7.1	7.5	0.06939	0.2082	2.86%	0
50		3	7.3	6.87	7.73	7.2	7.5	0.05773	0.1732	2.37%	0
100		3	7.3	6.643	7.957	7.1	7.6	0.08819	0.2646	3.62%	0
Overall		18	7.3	7.202	7.398	7	7.6	0.04644	0.197	2.70%	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	98	98	98	98	98	0	0	0.00%	0
100		3	157	157	157	157	157	0	0	0.00%	0
Overall		6	127.5	93.59	161.4	98	157	13.19	32.32	25.35%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.1	7.852	8.348	8	8.2	0.03334	0.1	1.23%	0
6.25		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
12.5		3	7.967	7.823	8.11	7.9	8	0.01924	0.05773	0.72%	0
25		3	7.933	7.79	8.077	7.9	8	0.01924	0.05772	0.73%	0
50		3	7.933	7.79	8.077	7.9	8	0.01924	0.05772	0.73%	0
100		3	7.933	7.79	8.077	7.9	8	0.01924	0.05772	0.73%	0
Overall		18	7.972	7.931	8.013	7.9	8.2	0.01948	0.08264	1.04%	0 (0%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:24 (p 2 of 4)  
 Test Code/ID: VCF1221.122achi / 16-5522-9994

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%)

# CETIS Measurement Report

Report Date: 12 Jan-22 13:24 (p 3 of 4)

Test Code/ID: VCF1221.122achi / 16-5522-9994

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Alkalinity (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				73					
0	N	2		63					
100				73					
0	N	3		63					
100				73					
<b>Conductivity-µmhos</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		362					
6.25				358					
12.5				370					
25				372					
50				386					
100				413					
0	N	2		362					
6.25				357					
12.5				362					
25				377					
50				383					
100				416					
0	N	3		365					
6.25				359					
12.5				359					
25				370					
50				380					
100				420					
<b>Dissolved Oxygen-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.6					
6.25				7.3					
12.5				7.3					
25				7.2					
50				7.2					
100				7.2					
0	N	2		7.6					
6.25				7.4					
12.5				7.4					
25				7.5					
50				7.5					
100				7.6					
0	N	3		7.1					
6.25				7.1					
12.5				7					
25				7.1					
50				7.2					
100				7.1					

P

**CETIS Measurement Report**

Report Date: 12 Jan-22 13:24 (p 4 of 4)

Test Code/ID: VCF1221.122achi / 16-5522-9994

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		98					
100				157					
0	N	2		98					
100				157					
0	N	3		98					
100				157					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.9					
12.5				7.9					
25				7.9					
50				7.9					
100				7.9					
0	N	2		8					
6.25				8					
12.5				8					
25				8					
50				8					
100				8					
0	N	3		8.1					
6.25				8					
12.5				8					
25				7.9					
50				7.9					
100				7.9					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



January 14, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

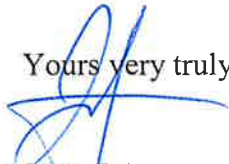
We are pleased to present the enclosed bioassay report. The test was conducted under guidelines prescribed in *Short-Term Methods for Measuring the Chronic Toxicity of Effluents and Receiving Waters to West Coast Estuarine Organisms, EPA/821/R-02-014*. Results were as follows:

CLIENT: Ventura County Flood Control  
SAMPLE I.D.: ME-SCR  
DATE RECEIVED: 12/14/2021  
ABC LAB. NO.: VCF1221.123

**CHRONIC TOPSMELT SURVIVAL AND 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: 14 Jan-22 10:34 (p 1 of 2)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

**Pacific Topsmelt 7-d Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 01-1989-3478	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 15:02	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 22 Dec-21 13:22	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 6d 22h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 06-8334-2998	<b>Code:</b> VCF1221.123tops	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 28h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
20-4470-6096	7d Survival Rate	Steel Many-One Rank Sum Test		100	>100	---	8.2%	1	1
08-6285-8497	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test		100	>100	---	16.6%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
19-9414-9280	7d Survival Rate	Linear Interpolation (ICPIN)		✓ EC10	>100	---	---	<1	1
				✓ EC15	>100	---	---	<1	
				✓ EC20	>100	---	---	<1	
				✓ EC25	>100	---	---	<1	
				✓ EC40	>100	---	---	<1	
				✓ EC50	>100	---	---	<1	
12-0883-1689	Mean Dry Biomass-mg	Linear Interpolation (ICPIN)		✓ IC10	>100	---	---	<1	1
				✓ IC15	>100	---	---	<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		
19-9414-9280	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
20-4470-6096	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
08-6285-8497	Mean Dry Biomass-mg	Control Resp	1.067	0.85	>>	Yes	Passes Criteria
12-0883-1689	Mean Dry Biomass-mg	Control Resp	1.067	0.85	>>	Yes	Passes Criteria
20-4470-6096	7d Survival Rate	PMSD	0.08202	<<	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%
6.25		5	0.9600	0.8489	1.0710	0.8000	1.0000	0.0400	0.0894	9.32%	4.00%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	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	5	1.067	0.8084	1.326	0.904	1.414	0.09322	0.2084	19.53%	0.00%
6.25		5	1.026	0.8926	1.159	0.926	1.184	0.04805	0.1075	10.47%	3.86%
12.5		5	0.9196	0.7853	1.054	0.804	1.054	0.04837	0.1082	11.76%	13.83%
25		5	0.9832	0.8655	1.101	0.862	1.122	0.04239	0.09478	9.64%	7.87%
50		5	1.021	0.9247	1.118	0.938	1.126	0.03476	0.07773	7.61%	4.31%
100		5	0.984	0.9173	1.051	0.932	1.058	0.02403	0.05374	5.46%	7.80%

**CETIS Summary Report**

Report Date: 14 Jan-22 10:34 (p 2 of 2)

Test Code/ID: VCF1221.123tops / 05-9834-0790

**Pacific Topsmelt 7-d Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: D28893FA667B9042AC679B353EDED42F

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	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

**Mean Dry Biomass-mg Detail**

MD5: EF7D2218CDF8B32EBE8690F2CA66A050

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.974	1.414	0.938	1.106	0.904
6.25		0.926	1.01	0.934	1.184	1.076
12.5		0.882	1.054	0.804	1.012	0.846
25		0.862	1.122	0.966	1.012	0.954
50		0.962	1.126	0.938	1.072	1.008
100		0.962	1.058	1.022	0.932	0.946

**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	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

**CETIS Analytical Report**

Report Date: 14 Jan-22 10:34 (p 1 of 4)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	20-4470-6096	Endpoint:	7d Survival Rate	CETIS Version:	CETISv1.9.7		
Analyzed:	14 Jan-22 10:33	Analysis:	Nonparametric-Control vs Treatments	Status Level:	1		
Edit Date:	14 Jan-22 10:29	MD5 Hash:	D28893FA667B9042AC679B353EDED42F	Editor ID:	000-189-126-0		
Batch ID:	01-1989-3478	Test Type:	Growth-Survival (7d)	Analyst:			
Start Date:	15 Dec-21 15:02	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Seawater		
Ending Date:	22 Dec-21 13:22	Species:	Atherinops affinis	Brine:	Not Applicable		
Test Length:	6d 22h	Taxon:	Actinopterygii	Source:	Aquatic Biosystems, CO	Age:	
Sample ID:	06-8334-2998	Code:	VCF1221.123tops	Project:	NPDES Stormwater Wet Season		
Sample Date:	14 Dec-21 11:00	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	14 Dec-21 15:00	CAS (PC):		Station:	ME-SCR		
Sample Age:	28h (6 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.08202	8.20%

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	25	16	1	8	CDF	0.6353	Non-Significant Effect
		12.5	27.5	16	1	8	CDF	0.8333	Non-Significant Effect
		25	27.5	16	1	8	CDF	0.8333	Non-Significant Effect
		50	27.5	16	1	8	CDF	0.8333	Non-Significant Effect
		100	27.5	16	1	8	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
PMSD	0.08202	<<	0.25	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0094513	0.0018903	5	1	0.4389	Non-Significant Effect
Error	0.0453663	0.0018903	24			
Total	0.0548176		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	7.111	3.895	0.0003	Unequal Variances
	Mod Levene Equality of Variance Test	1	4.248	0.4457	Equal Variances
Distribution	Anderson-Darling A2 Test	7.95	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	4.912	2.576	<1.0E-05	Non-Normal Distribution
	D'Agostino Skewness Test	5.58	2.576	<1.0E-05	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	55.27	9.21	<1.0E-05	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.4667	0.1853	<1.0E-05	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.4063	0.9031	<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	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%



Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 20-4470-6096      Endpoint: 7d Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 14 Jan-22 10:33      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 14 Jan-22 10:29      MD5 Hash: D28893FA667B9042AC679B353EDED42F      Editor ID: 000-189-126-0

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	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

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	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

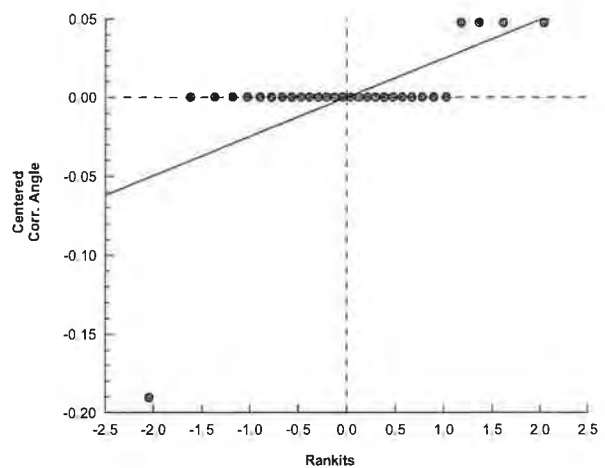
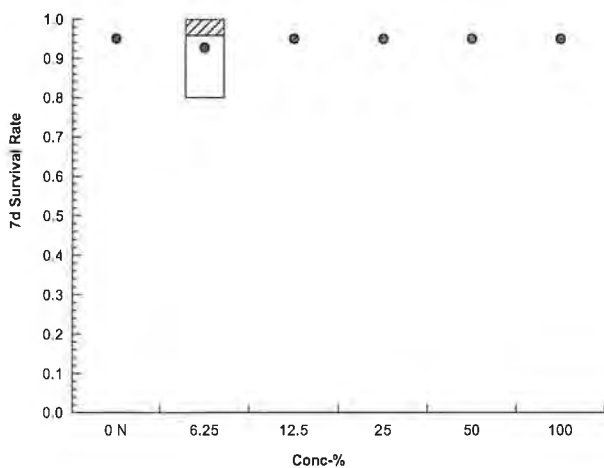
Angular (Corrected) Transformed Detail

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	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	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	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

Graphics



**CETIS Analytical Report**

Report Date: 14 Jan-22 10:34 (p 3 of 4)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 08-6285-8497	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv1.9.7			
Analyzed: 14 Jan-22 10:33	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 14 Jan-22 10:29	MD5 Hash: EF7D2218CDF8B32EBE8690F2CA66A050	Editor ID: 000-189-126-0			
Batch ID: 01-1989-3478	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 15 Dec-21 15:02	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 22 Dec-21 13:22	Species: Atherinops affinis	Brine: Not Applicable			
Test Length: 6d 22h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age:			
Sample ID: 06-8334-2998	Code: VCF1221.123tops	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 11:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-SCR			
Sample Age: 28h (6 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.1774	16.62%

Dunnnett Multiple Comparison Test									
Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	0.5486	2.362	0.177	8	CDF	0.6256	Non-Significant Effect
		12.5	1.965	2.362	0.177	8	CDF	0.1057	Non-Significant Effect
		25	1.118	2.362	0.177	8	CDF	0.3683	Non-Significant Effect
		50	0.6125	2.362	0.177	8	CDF	0.5969	Non-Significant Effect
		100	1.108	2.362	0.177	8	CDF	0.3728	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1.067	0.85	>>	Yes	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	0.0632172	0.0126434	5	0.8967	0.4992	Non-Significant Effect	
Error	0.338418	0.0141007	24				
Total	0.401635		29				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	7.821	15.09	0.1664	Equal Variances	
	Levene Equality of Variance Test	1.902	3.895	0.1314	Equal Variances	
	Mod Levene Equality of Variance Test	0.8578	4.248	0.5277	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.5713	3.878	0.1420	Normal Distribution	
	D'Agostino Kurtosis Test	2.018	2.576	0.0436	Normal Distribution	
	D'Agostino Skewness Test	2.55	2.576	0.0108	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	10.58	9.21	0.0050	Non-Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1486	0.1853	0.0892	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9267	0.9031	0.0402	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	1.067	0.8084	1.326	0.974	0.904	1.414	0.09322	19.53%	0.00%
6.25		5	1.026	0.8926	1.159	1.01	0.926	1.184	0.04805	10.47%	3.86%
12.5		5	0.9196	0.7853	1.054	0.882	0.804	1.054	0.04837	11.76%	13.83%
25		5	0.9832	0.8655	1.101	0.966	0.862	1.122	0.04239	9.64%	7.87%
50		5	1.021	0.9247	1.118	1.008	0.938	1.126	0.03476	7.61%	4.31%
100		5	0.984	0.9173	1.051	0.962	0.932	1.058	0.02403	5.46%	7.80%



**CETIS Analytical Report**

Report Date: 14 Jan-22 10:34 (p 1 of 4)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 19-9414-9280	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7	Analyst:		
Analyzed: 14 Jan-22 10:33	Analysis: Linear Interpolation (ICPIN)	Status Level: 1	Diluent: Laboratory Seawater		
Edit Date: 14 Jan-22 10:29	MD5 Hash: D28893FA667B9042AC679B353EDED42F	Editor ID: 000-189-126-0	Brine: Not Applicable		
Batch ID: 01-1989-3478	Test Type: Growth-Survival (7d)	Analyst:	Source: Aquatic Biosystems, CO	Age:	
Start Date: 15 Dec-21 15:02	Protocol: EPA/600/R-95/136 (1995)				
Ending Date: 22 Dec-21 13:22	Species: Atherinops affinis				
Test Length: 6d 22h	Taxon: Actinopterygii				
Sample ID: 06-8334-2998	Code: VCF1221.123tops	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 11:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-SCR			
Sample Age: 28h (6 °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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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	0.9920	0.80%
12.5		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	0.9920	0.80%
25		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	0.9920	0.80%
50		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	0.9920	0.80%
100		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	0.9920	0.80%

**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	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		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
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	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

CETIS Analytical Report

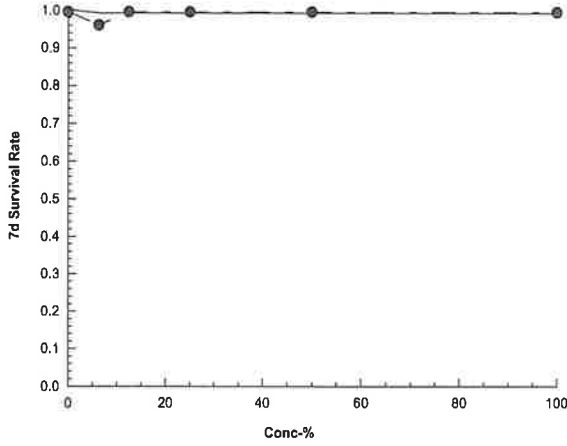
Report Date: 14 Jan-22 10:34 (p 2 of 4)  
Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-9414-9280	Endpoint: 7d Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 14 Jan-22 10:33	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 14 Jan-22 10:29	MD5 Hash: D28893FA667B9042AC679B353EDED42F	Editor ID: 000-189-126-0

Graphics





# CETIS Analytical Report

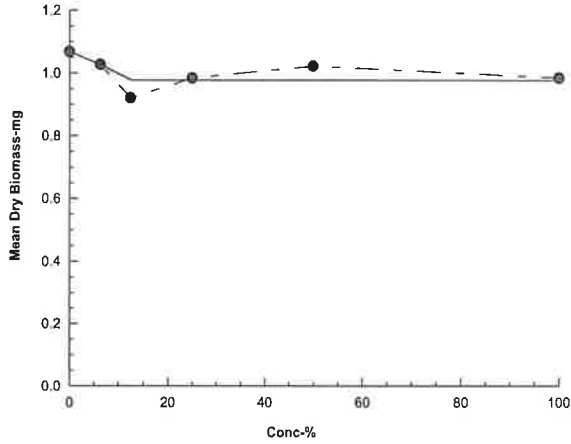
Report Date: 14 Jan-22 10:34 (p 4 of 4)  
Test Code/ID: VCF1221.123tops / 05-9834-0790

## Pacific Topmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	12-0883-1689	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1.9.7
Analyzed:	14 Jan-22 10:33	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	14 Jan-22 10:29	MD5 Hash:	EF7D2218CDF8B32EBE8690F2CA66A050	Editor ID:	000-189-126-0

### Graphics



**CETIS Measurement Report**

Report Date: 14 Jan-22 10:34 (p 1 of 5)

Test Code/ID: VCF1221.123tops / 05-9834-0790

<b>Pacific Topsmelt 7-d Survival and Growth Test</b>			<b>Aquatic Bioassay &amp; Consulting Labs, Inc.</b>		
<b>Batch ID:</b> 01-1989-3478	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>			
<b>Start Date:</b> 15 Dec-21 15:02	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater			
<b>Ending Date:</b> 22 Dec-21 13:22	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable			
<b>Test Length:</b> 6d 22h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO	<b>Age:</b>		
<b>Sample ID:</b> 06-8334-2998	<b>Code:</b> VCF1221.123tops	<b>Project:</b> NPDES Stormwater Wet Season			
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report			
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR			
<b>Sample Age:</b> 28h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri				

<b>Dissolved Oxygen-mg/L</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.3	7.121	7.479	7	7.6	0.02673	0.2138	2.93%	0
6.25		8	7.25	7.05	7.45	6.9	7.5	0.02988	0.239	3.30%	0
12.5		8	7.25	7.077	7.423	7	7.5	0.02588	0.207	2.86%	0
25		8	7.238	7.077	7.398	7	7.5	0.02403	0.1923	2.66%	0
50		8	7.275	7.081	7.469	7	7.6	0.02893	0.2315	3.18%	0
100		8	7.287	7.062	7.513	7	7.7	0.0337	0.2696	3.70%	0
Overall		48	7.267	7.204	7.329	6.9	7.7	0.03113	0.2157	2.97%	0 (0%)

<b>pH-Units</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.7	7.7	7.7	7.7	7.7	0	0	0.00%	0
6.25		8	7.662	7.6	7.725	7.5	7.7	0.0093	0.0744	0.97%	0
12.5		8	7.637	7.575	7.7	7.5	7.7	0.0093	0.0744	0.97%	0
25		8	7.625	7.551	7.699	7.5	7.7	0.01108	0.08864	1.16%	0
50		8	7.612	7.53	7.695	7.5	7.7	0.01239	0.0991	1.30%	0
100		8	7.6	7.523	7.677	7.5	7.7	0.01157	0.09258	1.22%	0
Overall		48	7.64	7.616	7.663	7.5	7.7	0.01181	0.08184	1.07%	0 (0%)

<b>Salinity-ppt</b>											
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%)

<b>Temperature-°C</b>											
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%)



# CETIS Measurement Report

Report Date: 14 Jan-22 10:34 (p 2 of 5)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

<b>Pacific Topsmelt 7-d Survival and Growth Test</b>	<b>Aquatic Bioassay &amp; Consulting Labs, Inc.</b>
--	---

Dissolved Oxygen-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.3					
6.25					6.9				
12.5					7				
25					7				
50					7				
100					7				
0	N	2		7.2					
6.25					7.3				
12.5					7.3				
25					7.2				
50					7.2				
100					7.1				
0	N	3		7.2					
6.25					7				
12.5					7				
25					7				
50					7				
100					7				
0	N	4		7.5					
6.25					7.5				
12.5					7.5				
25					7.4				
50					7.5				
100					7.4				
0	N	5		7.6					
6.25					7.5				
12.5					7.5				
25					7.4				
50					7.4				
100					7.5				
0	N	6		7.5					
6.25					7.5				
12.5					7.4				
25					7.5				
50					7.6				
100					7.7				
0	N	7		7					
6.25					7.2				
12.5					7.2				
25					7.3				
50					7.4				
100					7.5				
0	N	8		7.1					
6.25					7.1				
12.5					7.1				
25					7.1				
50					7.1				
100					7.1				

**CETIS Measurement Report**

Report Date: 14 Jan-22 10:34 (p 3 of 5)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

**Pacific Topsmelt 7-d Survival and Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.7					
6.25			7.5						
12.5			7.5						
25			7.5						
50			7.5						
100			7.5						
0	N	2		7.7					
6.25			7.7						
12.5			7.7						
25			7.7						
50			7.7						
100			7.7						
0	N	3		7.7					
6.25			7.6						
12.5			7.6						
25			7.6						
50			7.6						
100			7.6						
0	N	4		7.7					
6.25			7.7						
12.5			7.7						
25			7.7						
50			7.7						
100			7.7						
0	N	5		7.7					
6.25			7.7						
12.5			7.7						
25			7.7						
50			7.7						
100			7.7						
0	N	6		7.7					
6.25			7.7						
12.5			7.6						
25			7.6						
50			7.5						
100			7.5						
0	N	7		7.7					
6.25			7.7						
12.5			7.6						
25			7.5						
50			7.5						
100			7.5						
0	N	8		7.7					
6.25			7.7						
12.5			7.7						
25			7.7						
50			7.7						
100			7.6						

**CETIS Measurement Report**

Report Date: 14 Jan-22 10:34 (p 4 of 5)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test						Aquatic Bioassay & Consulting Labs, Inc.			
Salinity-ppt									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	2		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	3		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	4		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	5		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	6		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	7		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	8		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						

**CETIS Measurement Report**

Report Date: 14 Jan-22 10:34 (p 5 of 5)  
 Test Code/ID: VCF1221.123tops / 05-9834-0790

Pacific Topsmelt 7-d Survival and Growth Test				Aquatic Bioassay & Consulting Labs, Inc.						
Temperature-°C										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	2		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	3		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	4		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	5		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	6		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	7		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							
0	N	8		21						
6.25			21							
12.5			21							
25			21							
50			21							
100			21							



January 14, 2022

Mr. Arnie Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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:	County of Ventura
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.123

#### CHRONIC KELP GERMINATION AND GROWTH BIOASSAY

GERMINATION	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

TUBE LENGTH	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,

Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 12 Jan-22 15:11 (p 1 of 2)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

## Macrocyctis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 16-6342-4820	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 16:01	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 17 Dec-21 16:01	<b>Species:</b> Macrocyctis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> David Gutoff <b>Age:</b>
<b>Sample ID:</b> 16-1822-1613	<b>Code:</b> VCF1221.123klp	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
05-6402-7479	Germination Rate	Dunnett Multiple Comparison Test	100	>100	---	3.3%	1	1
07-0983-2671	Mean Length	Dunnett Multiple Comparison Test	100	>100	---	1.1%	1	1

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
08-9593-0374	Germination Rate	Linear Interpolation (ICPIN)	✓ EC10	>100	---	---	<1	1
			✓ EC15	>100	---	---	<1	
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
01-1062-4181	Mean Length	Linear Interpolation (ICPIN)	✓ IC10	>100	---	---	<1	1
			✓ IC15	>100	---	---	<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			
05-6402-7479	Germination Rate	Control Resp	0.922	0.7	>>	Yes	Passes Criteria	
08-9593-0374	Germination Rate	Control Resp	0.922	0.7	>>	Yes	Passes Criteria	
01-1062-4181	Mean Length	Control Resp	13.1	10	>>	Yes	Passes Criteria	
07-0983-2671	Mean Length	Control Resp	13.1	10	>>	Yes	Passes Criteria	
05-6402-7479	Germination Rate	PMSD	0.03299	<<	0.2	No	Passes Criteria	
07-0983-2671	Mean Length	PMSD	0.01102	<<	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	0.9220	0.9016	0.9424	0.9000	0.9400	0.0073	0.0164	1.78%	0.00%
6.25		5	0.9220	0.8951	0.9489	0.9000	0.9500	0.0097	0.0217	2.35%	0.00%
12.5		5	0.9320	0.9136	0.9504	0.9100	0.9500	0.0066	0.0148	1.59%	-1.08%
25		5	0.9240	0.8968	0.9512	0.9100	0.9600	0.0098	0.0219	2.37%	-0.22%
50		5	0.9260	0.9034	0.9486	0.9100	0.9500	0.0081	0.0182	1.96%	-0.43%
100		5	0.9460	0.9293	0.9627	0.9300	0.9600	0.0060	0.0134	1.42%	-2.60%

## Mean Length Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	13.1	13.01	13.19	13	13.2	0.03162	0.07071	0.54%	0.00%
6.25		5	13.22	13.12	13.32	13.1	13.3	0.03742	0.08367	0.63%	-0.92%
12.5		5	13.12	13.02	13.22	13	13.2	0.03742	0.08367	0.64%	-0.15%
25		5	13.18	13.08	13.28	13.1	13.3	0.03742	0.08367	0.63%	-0.61%
50		5	13.14	13	13.28	13	13.3	0.05099	0.114	0.87%	-0.31%
100		5	13.12	12.96	13.28	13	13.3	0.05831	0.1304	0.99%	-0.15%

PASS

# CETIS Summary Report

Report Date: 12 Jan-22 15:11 (p 2 of 2)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Germination Rate Detail

MD5: 6B9721B04B4A481EE127926748FFC642

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

### Mean Length Detail

MD5: 53913BBFA8C6FBF35320CA4F337CF6D2

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

### Germination Rate Binomials

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

**CETIS Analytical Report**

Report Date: 12 Jan-22 15:11 (p 1 of 4)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

**Macrocystis Germination and Germ Tube Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 05-6402-7479	<b>Endpoint:</b> Germination Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 15:10	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 15:06	<b>MD5 Hash:</b> 6B9721B04B4A481EE127926748FFC642	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 16-6342-4820	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 16:01	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 17 Dec-21 16:01	<b>Species:</b> Macrocystis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> David Gutoff <b>Age:</b>
<b>Sample ID:</b> 16-1822-1613	<b>Code:</b> VCF1221.123klp	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	--	1	0.03042	3.30%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-0.04686	2.362	0.054	8	CDF	0.8468	Non-Significant Effect
		12.5	-0.8475	2.362	0.054	8	CDF	0.9747	Non-Significant Effect
		25	-0.2311	2.362	0.054	8	CDF	0.8926	Non-Significant Effect
		50	-0.355	2.362	0.054	8	CDF	0.9171	Non-Significant Effect
		100	-2.149	2.362	0.054	8	CDF	0.9996	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.922	0.7	>>	Yes	Passes Criteria
PMSD	0.03299	<<	0.2	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0085684	0.0017137	5	1.329	0.2857	Non-Significant Effect
Error	0.0309469	0.0012895	24			
Total	0.0395153		29			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	1.272	15.09	0.9378	Equal Variances
	Levene Equality of Variance Test	0.6259	3.895	0.6816	Equal Variances
	Mod Levene Equality of Variance Test	0.118	4.248	0.9867	Equal Variances
Distribution	Anderson-Darling A2 Test	0.9352	3.878	0.0178	Normal Distribution
	D'Agostino Kurtosis Test	1.108	2.576	0.2679	Normal Distribution
	D'Agostino Skewness Test	1.299	2.576	0.1941	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	2.914	9.21	0.2330	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1574	0.1853	0.0558	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9241	0.9031	0.0344	Normal Distribution

**Germination Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9220	0.9016	0.9424	0.9300	0.9000	0.9400	0.0073	1.78%	0.00%
6.25		5	0.9220	0.8951	0.9489	0.9100	0.9000	0.9500	0.0097	2.35%	0.00%
12.5		5	0.9320	0.9136	0.9504	0.9300	0.9100	0.9500	0.0066	1.59%	-1.08%
25		5	0.9240	0.8968	0.9512	0.9100	0.9100	0.9600	0.0098	2.37%	-0.22%
50		5	0.9260	0.9034	0.9486	0.9200	0.9100	0.9500	0.0081	1.96%	-0.43%
100		5	0.9460	0.9293	0.9627	0.9400	0.9300	0.9600	0.0060	1.42%	-2.60%



Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-6402-7479      Endpoint: Germination Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 15:10      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 12 Jan-22 15:06      MD5 Hash: 6B9721B04B4A481EE127926748FFC642      Editor ID: 000-189-126-0

Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.2890	1.2510	1.3270	1.3030	1.2490	1.3230	0.0136	2.36%	0.00%
6.25		5	1.2900	1.2380	1.3420	1.2660	1.2490	1.3450	0.0187	3.24%	-0.08%
12.5		5	1.3080	1.2720	1.3450	1.3030	1.2660	1.3450	0.0131	2.24%	-1.49%
25		5	1.2940	1.2380	1.3500	1.2660	1.2660	1.3690	0.0201	3.48%	-0.41%
50		5	1.2970	1.2530	1.3410	1.2840	1.2660	1.3450	0.0160	2.75%	-0.63%
100		5	1.3380	1.3000	1.3750	1.3230	1.3030	1.3690	0.0135	2.25%	-3.79%

Germination Rate Detail

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

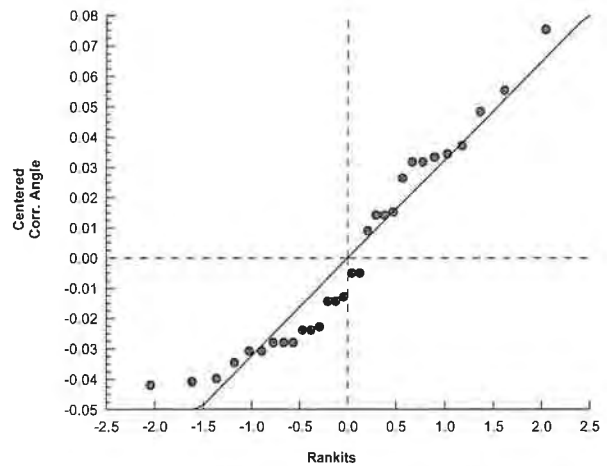
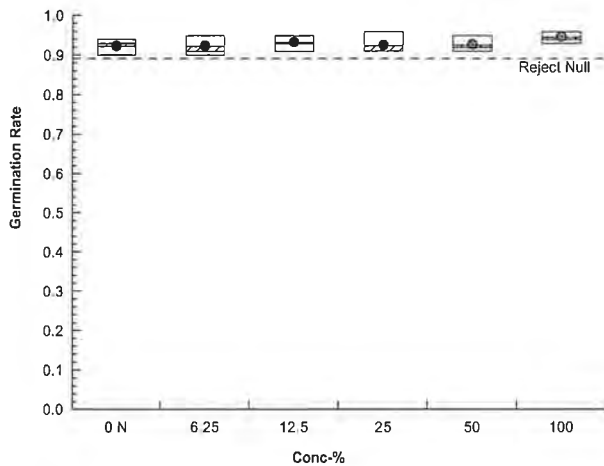
Angular (Corrected) Transformed Detail

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

Germination Rate Binomials

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

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 15:11 (p 3 of 4)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 07-0983-2671	Endpoint: Mean Length	CETIS Version: CETISv1.9.7			
Analyzed: 12 Jan-22 15:10	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 12 Jan-22 15:06	MD5 Hash: 53913BBFA8C66BFBF35320CA4F337CF6D2	Editor ID: 000-189-126-0			
Batch ID: 16-6342-4820	Test Type: Growth-Germination	Analyst:			
Start Date: 15 Dec-21 16:01	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 17 Dec-21 16:01	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: David Gutoff <b>Age:</b>			
Sample ID: 16-1822-1613	Code: VCF1221.123klp	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 11:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-SCR			
Sample Age: 29h (6 °C)	Client: Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.1443	1.10%

Dunnnett Multiple Comparison Test									
Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	-1.964	2.362	0.144	8	CDF	0.9992	Non-Significant Effect
		12.5	-0.3273	2.362	0.144	8	CDF	0.9121	Non-Significant Effect
		25	-1.309	2.362	0.144	8	CDF	0.9932	Non-Significant Effect
		50	-0.6547	2.362	0.144	8	CDF	0.9586	Non-Significant Effect
		100	-0.3273	2.362	0.144	8	CDF	0.9121	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.1	10	>>	Yes	Passes Criteria
PMSD	0.01102	<<	0.2	No	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	0.0506666	0.0101333	5	1.086	0.3934	Non-Significant Effect	
Error	0.224	0.0093333	24				
Total	0.274666		29				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	2.028	15.09	0.8453	Equal Variances	
	Levene Equality of Variance Test	0.9658	3.895	0.4582	Equal Variances	
	Mod Levene Equality of Variance Test	0.8	4.248	0.5640	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.5061	3.878	0.2054	Normal Distribution	
	D'Agostino Kurtosis Test	1.057	2.576	0.2905	Normal Distribution	
	D'Agostino Skewness Test	0.4848	2.576	0.6278	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	1.353	9.21	0.5085	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1187	0.1853	0.3364	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9555	0.9031	0.2360	Normal Distribution	

Mean Length Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	13.1	13.01	13.19	13.1	13	13.2	0.03163	0.54%	0.00%
6.25		5	13.22	13.12	13.32	13.2	13.1	13.3	0.03741	0.63%	-0.92%
12.5		5	13.12	13.02	13.22	13.1	13	13.2	0.03742	0.64%	-0.15%
25		5	13.18	13.08	13.28	13.2	13.1	13.3	0.03741	0.63%	-0.61%
50		5	13.14	13	13.28	13.1	13	13.3	0.05099	0.87%	-0.31%
100		5	13.12	12.96	13.28	13.1	13	13.3	0.05831	0.99%	-0.15%

Macrocystis Germination and Germ Tube Growth Test

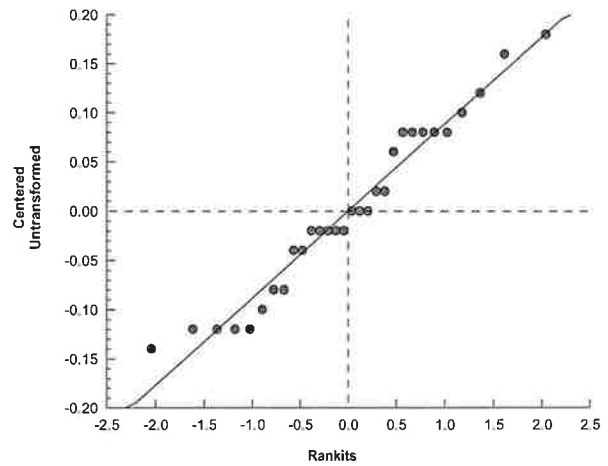
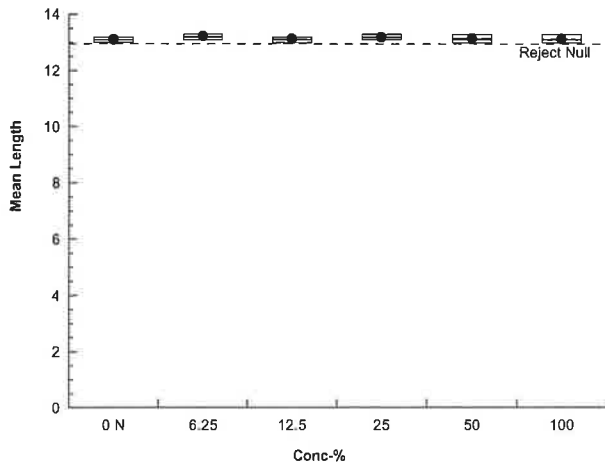
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-0983-2671	Endpoint: Mean Length	CETIS Version: CETISv1.9.7
Analyzed: 12 Jan-22 15:10	Analysis: Parametric-Control vs Treatments	Status Level: 1
Edit Date: 12 Jan-22 15:06	MD5 Hash: 53913BBFA8C6FBF35320CA4F337CF6D2	Editor ID: 000-189-126-0

Mean Length Detail

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

Graphics



**CETIS Analytical Report**

Report Date: 12 Jan-22 15:11 (p 1 of 4)

Test Code/ID: VCF1221.123klp / 02-3903-2962

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 08-9593-0374	Endpoint: Germination Rate	CETIS Version: CETISv1.9.7			
Analyzed: 12 Jan-22 15:10	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 12 Jan-22 15:06	MD5 Hash: 6B9721B04B4A481EE127926748FFC642	Editor ID: 000-189-126-0			
Batch ID: 16-6342-4820	Test Type: Growth-Germination	Analyst:			
Start Date: 15 Dec-21 16:01	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 17 Dec-21 16:01	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: David Gutoff	Age:		
Sample ID: 16-1822-1613	Code: VCF1221.123klp	Project: NPDES Stormwater Wet Season			
Sample Date: 14 Dec-21 11:00	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 14 Dec-21 15:00	CAS (PC):	Station: ME-SCR			
Sample Age: 29h (6 °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	0.922	0.7	>>	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	Mean	%Effect
0	N	5	0.9220	0.9300	0.9000	0.9400	1.78%	0.00%	461/500	0.9287	0.00%
6.25		5	0.9220	0.9100	0.9000	0.9500	2.35%	0.00%	461/500	0.9287	0.00%
12.5		5	0.9320	0.9300	0.9100	0.9500	1.59%	-1.08%	466/500	0.9287	0.00%
25		5	0.9240	0.9100	0.9100	0.9600	2.37%	-0.22%	462/500	0.9287	0.00%
50		5	0.9260	0.9200	0.9100	0.9500	1.96%	-0.43%	463/500	0.9287	0.00%
100		5	0.9460	0.9400	0.9300	0.9600	1.42%	-2.60%	473/500	0.9287	0.00%

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

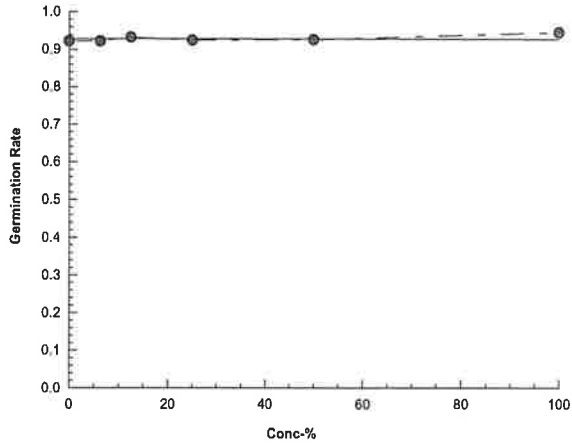
Germination Rate Binomials						
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	90/100	91/100	93/100	94/100	93/100
6.25		90/100	91/100	95/100	91/100	94/100
12.5		93/100	91/100	93/100	95/100	94/100
25		91/100	91/100	91/100	96/100	93/100
50		91/100	95/100	91/100	92/100	94/100
100		94/100	96/100	94/100	96/100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

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

**Analysis ID:** 08-9593-0374      **Endpoint:** Germination Rate      **CETIS Version:** CETISv1.9.7  
**Analyzed:** 12 Jan-22 15:10      **Analysis:** Linear Interpolation (ICPIN)      **Status Level:** 1  
**Edit Date:** 12 Jan-22 15:06      **MD5 Hash:** 6B9721B04B4A481EE127926748FFC642      **Editor ID:** 000-189-126-0

Graphics



# CETIS Analytical Report

Report Date: 12 Jan-22 15:11 (p 3 of 4)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 01-1062-4181	<b>Endpoint:</b> Mean Length	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 12 Jan-22 15:10	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 12 Jan-22 15:06	<b>MD5 Hash:</b> 53913BBFA8C6FBF35320CA4F337CF6D2	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 16-6342-4820	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 16:01	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 17 Dec-21 16:01	<b>Species:</b> Macrocystis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> David Gutoff <b>Age:</b>
<b>Sample ID:</b> 16-1822-1613	<b>Code:</b> VCF1221.123klp	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

### Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1907681	280	Yes	Two-Point Interpolation

### Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.1	10	>>	Yes	Passes Criteria

### Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
IC10	>100	---	---	<1	---	---
IC15	>100	---	---	<1	---	---
IC20	>100	---	---	<1	---	---
IC25	>100	---	---	<1	---	---
IC40	>100	---	---	<1	---	---
IC50	>100	---	---	<1	---	---

### Mean Length Summary

Conc-%	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	5	13.1	13.1	13	13.2	0.54%	0.00%	13.16	0.00%
6.25		5	13.22	13.2	13.1	13.3	0.63%	-0.92%	13.16	0.00%
12.5		5	13.12	13.1	13	13.2	0.64%	-0.15%	13.15	0.08%
25		5	13.18	13.2	13.1	13.3	0.63%	-0.61%	13.15	0.08%
50		5	13.14	13.1	13	13.3	0.87%	-0.31%	13.14	0.15%
100		5	13.12	13.1	13	13.3	0.99%	-0.15%	13.12	0.30%

### Mean Length Detail

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

# CETIS Analytical Report

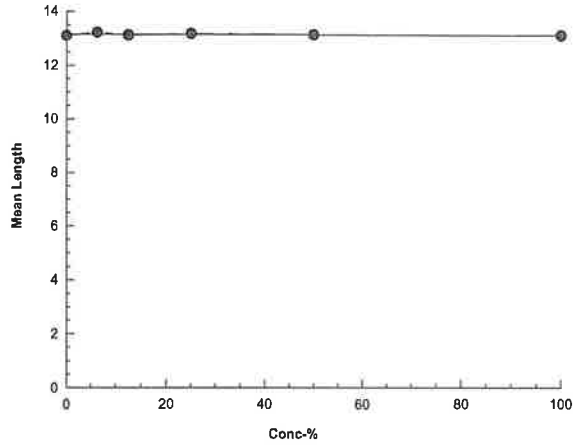
Report Date: 12 Jan-22 15:11 (p 4 of 4)  
Test Code/ID: VCF1221.123klp / 02-3903-2962

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-1062-4181	Endpoint: Mean Length	CETIS Version: CETISv1.9.7
Analyzed: 12 Jan-22 15:10	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 12 Jan-22 15:06	MD5 Hash: 53913BBFA8C6FBF35320CA4F337CF6D2	Editor ID: 000-189-126-0

### Graphics







**CETIS Measurement Report**

Report Date: 12 Jan-22 15:11 (p 2 of 3)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

**Macrocyctis Germination and Germ Tube Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

Dissolved Oxygen-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		6.6					
6.25			6.4						
12.5			6.5						
25			6.4						
50			6.4						
100			6.2						
0	N	2		6.4					
6.25			6.5						
12.5			6.4						
25			6.4						
50			6.4						
100			6.2						
pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25			8						
12.5			8.1						
25			8.1						
50			8.1						
100			8.1						
0	N	2		8.2					
6.25			8						
12.5			8.1						
25			8.1						
50			8.1						
100			8.1						
Salinity-ppt									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						
0	N	2		34					
6.25			34						
12.5			34						
25			34						
50			34						
100			34						

**CETIS Measurement Report**

Report Date: 12 Jan-22 15:11 (p 3 of 3)  
 Test Code/ID: VCF1221.123klp / 02-3903-2962

Macrocyctis Germination and Germ Tube Growth Test					Aquatic Bioassay & Consulting Labs, Inc.				
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		15.6					
6.25			15.6						
12.5			15.6						
25			15.6						
50			15.6						
100			15.6						
0	N	2		15.6					
6.25			15.6						
12.5			15.6						
25			15.6						
50			15.6						
100			15.6						



January 14, 2022

Mr. Arnie Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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:

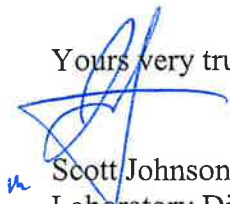
CLIENT:	County of Ventura
SAMPLE I.D.:	ME-SCR
DATE RECEIVED:	12/14/2021
ABC LAB. NO.:	VCF1221.123

#### CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

NOEC = 100.00 %  
TUc = 1.00

IC25 = >100.00 %  
IC50 = >100.00 %

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 12 Jan-22 15:04 (p 1 of 1)  
 Test Code/ID: VCF1221.123urc / 19-7786-7736

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

<b>Batch ID:</b> 15-3433-9223	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 16:01	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 15 Dec-21 16:41	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <span style="float: right;"><b>Age:</b></span>
<b>Sample ID:</b> 08-2027-3834	<b>Code:</b> VCF1221.123urc	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
00-6563-9697	Fertilization Rate	Dunnett Multiple Comparison Test		100	>100	---	2.31%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
01-1997-7145	Fertilization Rate	Linear Interpolation (ICPIN)		EC10	>100	---	---	<1	1
				EC15	>100	---	---	<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		
00-6563-9697	Fertilization Rate	Control Resp	0.96	0.7	>>	Yes	Passes Criteria
01-1997-7145	Fertilization Rate	Control Resp	0.96	0.7	>>	Yes	Passes Criteria
00-6563-9697	Fertilization Rate	PMSD	0.0231	<<	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	0.9600	0.9470	0.9730	0.9500	0.9700	0.0041	0.0082	0.85%	0.00%
6.25		4	0.9325	0.9053	0.9597	0.9100	0.9500	0.0085	0.0171	1.83%	2.86%
12.5		4	0.9475	0.9236	0.9714	0.9300	0.9600	0.0075	0.0150	1.58%	1.30%
25		4	0.9350	0.9045	0.9655	0.9100	0.9500	0.0096	0.0192	2.05%	2.60%
50		4	0.9300	0.9075	0.9525	0.9100	0.9400	0.0071	0.0141	1.52%	3.12%
100		4	0.9400	0.9216	0.9584	0.9300	0.9500	0.0058	0.0116	1.23%	2.08%

**Fertilization Rate Detail**

MD5: 7A6558AA5E230A76D642D02260D125F1

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

**Fertilization Rate Binomials**

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

*PAS 5*

# CETIS Analytical Report

Report Date: 12 Jan-22 15:04 (p 1 of 2)  
 Test Code/ID: VCF1221.123urc / 19-7786-7736

Purple Sea Urchin Sperm Cell Fertilization Test				Aquatic Bioassay & Consulting Labs, Inc.			
Analysis ID:	00-6563-9697	Endpoint:	Fertilization Rate	CETIS Version:	CETISv1.9.7		
Analyzed:	12 Jan-22 15:04	Analysis:	Parametric-Control vs Treatments	Status Level:	1		
Edit Date:	12 Jan-22 15:01	MD5 Hash:	7A6558AA5E230A76D642D02260D125F1	Editor ID:	000-189-126-0		
Batch ID:	15-3433-9223	Test Type:	Fertilization	Analyst:			
Start Date:	15 Dec-21 16:01	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Seawater		
Ending Date:	15 Dec-21 16:41	Species:	Strongylocentrotus purpuratus	Brine:	Not Applicable		
Test Length:	40m	Taxon:	Echinoidea	Source:	Ventura Dive	Age:	
Sample ID:	08-2027-3834	Code:	VCF1221.123urc	Project:	NPDES Stormwater Wet Season		
Sample Date:	14 Dec-21 11:00	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	14 Dec-21 15:00	CAS (PC):		Station:	ME-SCR		
Sample Age:	29h (6 °C)	Client:	Ventura County Watershed Protection Distri				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.02217	2.31%

Dunnnett Multiple Comparison Test									
Control	vs	Conc-%	Test Stat	Critical	MSD	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25*	2.845	2.407	0.051	6	CDF	0.0211	Significant Effect
		12.5	1.353	2.407	0.051	6	CDF	0.2783	Non-Significant Effect
		25*	2.588	2.407	0.051	6	CDF	0.0353	Significant Effect
		50*	3.102	2.407	0.051	6	CDF	0.0125	Significant Effect
		100	2.156	2.407	0.051	6	CDF	0.0794	Non-Significant Effect

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.96	0.7	>>	Yes	Passes Criteria
PMSD	0.0231	<<	0.25	No	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	0.0122624	0.0024525	5	2.687	0.0553	Non-Significant Effect	
Error	0.01643	0.0009128	18				
Total	0.0286924		23				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	1.3	15.09	0.9349	Equal Variances	
	Levene Equality of Variance Test	0.9037	4.248	0.5001	Equal Variances	
	Mod Levene Equality of Variance Test	0.7313	4.248	0.6092	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.7814	3.878	0.0423	Normal Distribution	
	D'Agostino Kurtosis Test	1.985	2.576	0.0471	Normal Distribution	
	D'Agostino Skewness Test	0.8218	2.576	0.4112	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	4.616	9.21	0.0994	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1825	0.2056	0.0377	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9177	0.884	0.0520	Normal Distribution	

Fertilization Rate Summary											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9600	0.9470	0.9730	0.9600	0.9500	0.9700	0.0041	0.85%	0.00%
6.25		4	0.9325	0.9053	0.9597	0.9350	0.9100	0.9500	0.0085	1.83%	2.86%
12.5		4	0.9475	0.9236	0.9714	0.9500	0.9300	0.9600	0.0075	1.58%	1.30%
25		4	0.9350	0.9045	0.9655	0.9400	0.9100	0.9500	0.0096	2.05%	2.60%
50		4	0.9300	0.9075	0.9525	0.9350	0.9100	0.9400	0.0071	1.52%	3.12%
100		4	0.9400	0.9216	0.9584	0.9400	0.9300	0.9500	0.0058	1.23%	2.08%

# CETIS Analytical Report

Report Date: 12 Jan-22 15:04 (p 2 of 2)

Test Code/ID: VCF1221.123urc / 19-7786-7736

## Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-6563-9697  
 Analyzed: 12 Jan-22 15:04  
 Edit Date: 12 Jan-22 15:01

Endpoint: Fertilization Rate  
 Analysis: Parametric-Control vs Treatments  
 MD5 Hash: 7A6558AA5E230A76D642D02260D125F1

CETIS Version: CETISv1.9.7  
 Status Level: 1  
 Editor ID: 000-189-126-0

### Angular (Corrected) Transformed Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	1.3700	1.3370	1.4040	1.3690	1.3450	1.3970	0.0105	1.53%	0.00%
6.25		4	1.3090	1.2560	1.3630	1.3130	1.2660	1.3450	0.0168	2.57%	4.44%
12.5		4	1.3410	1.2880	1.3950	1.3460	1.3030	1.3690	0.0168	2.50%	2.11%
25		4	1.3150	1.2540	1.3760	1.3240	1.2660	1.3450	0.0191	2.90%	4.04%
50		4	1.3040	1.2610	1.3470	1.3130	1.2660	1.3230	0.0135	2.07%	4.84%
100		4	1.3240	1.2850	1.3630	1.3240	1.3030	1.3450	0.0122	1.84%	3.36%

### Fertilization Rate Detail

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

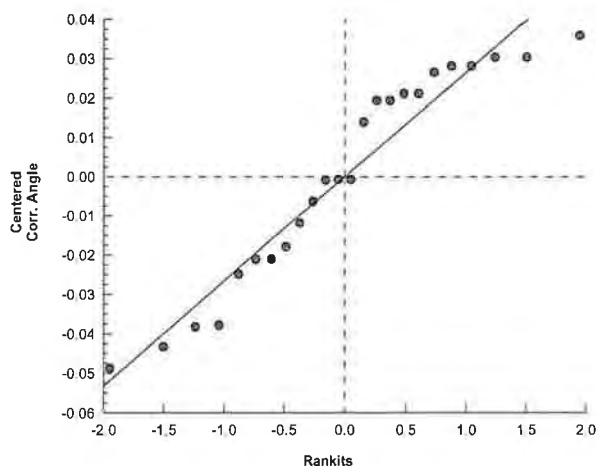
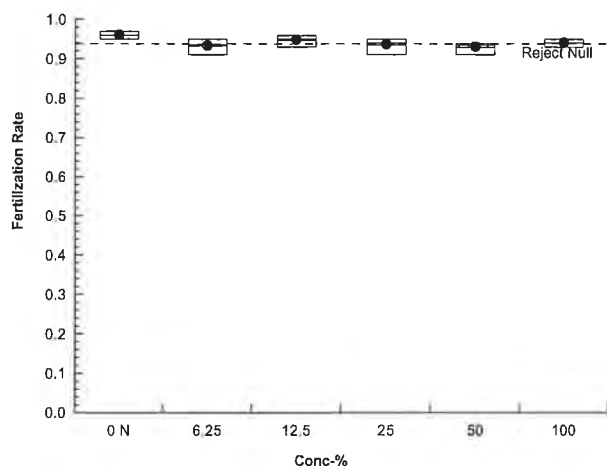
### Angular (Corrected) Transformed Detail

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

### Fertilization Rate Binomials

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

### Graphics



# CETIS Analytical Report

Report Date: 12 Jan-22 15:04 (p 1 of 2)  
 Test Code/ID: VCF1221.123urc / 19-7786-7736

## Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-1997-7145      Endpoint: Fertilization Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 12 Jan-22 15:04      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 12 Jan-22 15:01      MD5 Hash: 7A6558AA5E230A76D642D02260D125F1      Editor ID: 000-189-126-0

Batch ID: 15-3433-9223      Test Type: Fertilization      Analyst:  
 Start Date: 15 Dec-21 16:01      Protocol: EPA/600/R-95/136 (1995)      Diluent: Laboratory Seawater  
 Ending Date: 15 Dec-21 16:41      Species: Strongylocentrotus purpuratus      Brine: Not Applicable  
 Test Length: 40m      Taxon: Echinoidea      Source: Ventura Dive      Age:

Sample ID: 08-2027-3834      Code: VCF1221.123urc      Project: NPDES Stormwater Wet Season  
 Sample Date: 14 Dec-21 11:00      Material: Sample Water      Source: Bioassay Report  
 Receipt Date: 14 Dec-21 15:00      CAS (PC):      Station: ME-SCR  
 Sample Age: 29h (6 °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	0.96	0.7	>>	Yes	Passes Criteria

### Point Estimates

Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	Mean	%Effect
0	N	4	0.9600	0.9600	0.9500	0.9700	0.85%	0.00%	384/400	0.9600	0.00%
6.25		4	0.9325	0.9350	0.9100	0.9500	1.83%	2.86%	373/400	0.9400	2.08%
12.5		4	0.9475	0.9500	0.9300	0.9600	1.58%	1.30%	379/400	0.9400	2.08%
25		4	0.9350	0.9400	0.9100	0.9500	2.05%	2.60%	374/400	0.9350	2.60%
50		4	0.9300	0.9350	0.9100	0.9400	1.52%	3.12%	372/400	0.9350	2.60%
100		4	0.9400	0.9400	0.9300	0.9500	1.23%	2.08%	376/400	0.9350	2.60%

### Fertilization Rate Detail

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

### Fertilization Rate Binomials

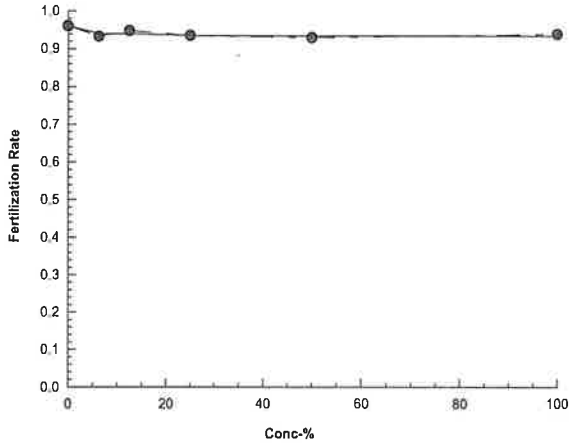
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	96/100	97/100	96/100	95/100
6.25		95/100	91/100	93/100	94/100
12.5		93/100	94/100	96/100	96/100
25		93/100	95/100	91/100	95/100
50		91/100	93/100	94/100	94/100
100		95/100	93/100	95/100	93/100

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 01-1997-7145      Endpoint: Fertilization Rate      CETIS Version: CETISv1.9.7  
Analyzed: 12 Jan-22 15:04      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 12 Jan-22 15:01      MD5 Hash: 7A6558AA5E230A76D642D02260D125F1      Editor ID: 000-189-126-0

Graphics





**CETIS Measurement Report**

Report Date: 12 Jan-22 15:04 (p 1 of 3)  
 Test Code/ID: VCF1221.123urc / 19-7786-7736

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

<b>Batch ID:</b> 15-3433-9223	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 15 Dec-21 16:01	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 15 Dec-21 16:41	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 08-2027-3834	<b>Code:</b> VCF1221.123urc	<b>Project:</b> NPDES Stormwater Wet Season
<b>Sample Date:</b> 14 Dec-21 11:00	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 14 Dec-21 15:00	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Parameter Acceptability Criteria		TAC Limits				Overlap	Decision
Parameter	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	6.5	5.229	7.771	6.4	6.6	0.07071	0.1414	2.18%	0
6.25		2	6.45	5.815	7.085	6.4	6.5	0.03536	0.07072	1.10%	0
12.5		2	6.45	5.815	7.085	6.4	6.5	0.03536	0.07072	1.10%	0
25		2	6.4	6.384	6.416	6.4	6.4	0	0	0.00%	0
50		2	6.4	6.384	6.416	6.4	6.4	0	0	0.00%	0
100		2	6.2	6.187	6.213	6.2	6.2	0	0	0.00%	0
Overall		12	6.4	6.328	6.472	6.2	6.6	0.03257	0.1128	1.76%	0 (0%)

pH-Units											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	8.2	8.187	8.213	8.2	8.2	0	0	0.00%	0
6.25		2	8	8	8	8	8	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	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
100		2	8.1	8.082	8.118	8.1	8.1	0	0	0.00%	0
Overall		12	8.1	8.062	8.138	8	8.2	0.01741	0.0603	0.74%	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%)

**CETIS Measurement Report**

Report Date: 12 Jan-22 15:04 (p 2 of 3)  
 Test Code/ID: VCF1221.123urc / 19-7786-7736

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

Dissolved Oxygen-mg/L									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		6.6					
6.25				6.4					
12.5				6.5					
25				6.4					
50				6.4					
100				6.2					
0	N	2		6.4					
6.25				6.5					
12.5				6.4					
25				6.4					
50				6.4					
100				6.2					

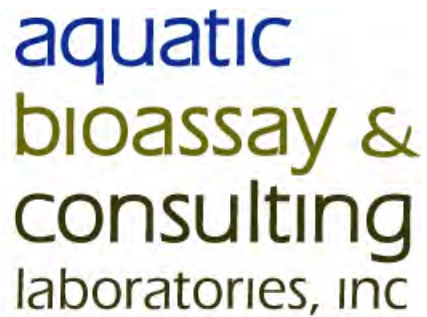
pH-Units									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				8					
12.5				8.1					
25				8.1					
50				8.1					
100				8.1					
0	N	2		8.2					
6.25				8					
12.5				8.1					
25				8.1					
50				8.1					
100				8.1					

Salinity-ppt									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		34					
6.25				34					
12.5				34					
25				34					
50				34					
100				34					
0	N	2		34					
6.25				34					
12.5				34					
25				34					
50				34					
100				34					

# CETIS Measurement Report

Report Date: 12 Jan-22 15:04 (p 3 of 3)  
Test Code/ID: VCF1221.123urc / 19-7786-7736

Purple Sea Urchin Sperm Cell Fertilization Test				Aquatic Bioassay & Consulting Labs, Inc.					
Temperature-°C									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		15.6					
6.25				15.6					
12.5				15.6					
25				15.6					
50				15.6					
100				15.6					
0	N	2		15.6					
6.25				15.6					
12.5				15.6					
25				15.6					
50				15.6					
100				15.6					



## **Toxicity Report for Ventura County Watershed Protection District**

### Most Sensitive Species Testing

PROJECT: 2021/22-3 (Wet)  
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  
DATE RECEIVED: 3/28/2022  
DATE REPORTED: 4/27/2022 Preliminary Results, 5/5/2022 Final Report  
ABC LAB NO.: VCF0322.207, .208, .210

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 and ME-VR2. 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 March 28<sup>th</sup>, 2022 and delivered the same day. Testing was conducted at Aquatic Bioassay and Consulting Labs, Inc. in Ventura California from March 28<sup>th</sup>, through April 21<sup>st</sup>, 2022.

## MATERIALS AND METHODS

### Test Material

Test material consisted of 3 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	96.67	No	Pass	3.33
		Biomass (mg)	0.3398	0.3243	No	Pass	4.56
ME-CC	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-	26.30	30.20	No	Pass	-14.83
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)	0.3398	0.3423	No	Pass	-0.74
ME-VR2	Chronic Ceriodaphnia	Survival (%)	100.00	100.00	No	Pass	0.00
		Reproduction #-Neonates	25.70	31.90	No	Pass	-24.12
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
ME-SCR	Chronic Topsmelt	Survival (%)	100.00	100.00	No	Pass	0.00
		Biomass (mg)	1.427	1.417	No	Pass	0.67

\*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
ME-SCR	Chronic Kelp	Germination (%)	93.80	94.60	No	Pass	-0.85
		Tube Length	13.16	13.20	No	Pass	-0.30
ME-SCR	Chronic Urchin	Fertilization (%)	94.50	95.00	No	Pass	-0.79

\*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 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 most sensitive species is chronic fathead minnow with a percent effect of 3.33 for survival and 4.56 for biomass. ME-VR2 most sensitive species is inconclusive as no test yielded a positive result. ME-SCR most sensitive species is Topsmelt with percent effect of 0.00 for survival and 0.67 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.*



April 26, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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:

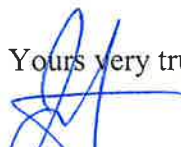
CLIENT: Ventura County Watershed Protection District  
SAMPLE I.D.: ME-VR2  
DATE RECEIVED: 3/28/2022  
ABC LAB. NO.: VCF0322.207

**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,

  
m Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Apr-22 15:52 (p 1 of 2)  
 Test Code/ID: VCF0322.207fml / 08-2692-8719

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 06-2867-8540	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 12-9293-9179	<b>Code:</b> VCF0322.207fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
06-6949-8803	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1
03-2865-7309	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	100	>100	---	3.73%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
04-9118-8328	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
14-2233-1971	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			
04-9118-8328	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
06-6949-8803	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
03-2865-7309	Mean Dry Biomass-mg	Control Resp	0.3398	0.25	<<	Yes	Passes Criteria	
14-2233-1971	Mean Dry Biomass-mg	Control Resp	0.3398	0.25	<<	Yes	Passes Criteria	
03-2865-7309	Mean Dry Biomass-mg	PMSD	0.03728	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	0.3398	0.3339	0.3457	0.3353	0.344	0.001853	0.003707	1.09%	0.00%
6.25		4	0.3472	0.3327	0.3617	0.3407	0.36	0.004557	0.009114	2.63%	-2.16%
12.5		4	0.3407	0.335	0.3463	0.3353	0.3427	0.001785	0.003569	1.05%	-0.25%
25		4	0.3403	0.3367	0.344	0.338	0.3433	0.001139	0.002277	0.67%	-0.15%
50		4	0.3458	0.3232	0.3684	0.3353	0.3667	0.007104	0.01421	4.11%	-1.77%
100		4	0.3423	0.336	0.3487	0.3367	0.346	0.001991	0.003981	1.16%	-0.74%

**CETIS Summary Report**

Report Date: 20 Apr-22 15:52 (p 2 of 2)

Test Code/ID: VCF0322.207fml / 08-2692-8719

**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: 0183935EDC45CEAF0B96C194EE25AC99

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3353	0.3413	0.3387	0.344
6.25		0.3407	0.3473	0.3407	0.36
12.5		0.3427	0.3427	0.3353	0.342
25		0.3433	0.338	0.3393	0.3407
50		0.3353	0.3667	0.3427	0.3387
100		0.3433	0.346	0.3367	0.3433

**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: 06-6949-8803	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.1
Analyzed: 20 Apr-22 15:50	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 20 Apr-22 15:44	MD5 Hash: 68E117461239090AA7E1427F0F536296	Editor ID: 008-463-000-3
Batch ID: 06-2867-8540	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 29 Mar-22 11:45	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 05 Apr-22 13:12	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 1h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 12-9293-9179	Code: VCF0322.207fml	Project: NPDES Stormwater Wet Season (Con
Sample Date: 28 Mar-22 13:10	Material: Sample Water	Source: Bioassay Report
Receipt Date: 28 Mar-22 13:40	CAS (PC):	Station: ME-VR2
Sample Age: 23h (14.5 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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: 06-6949-8803      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 15:50      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Apr-22 15:44      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

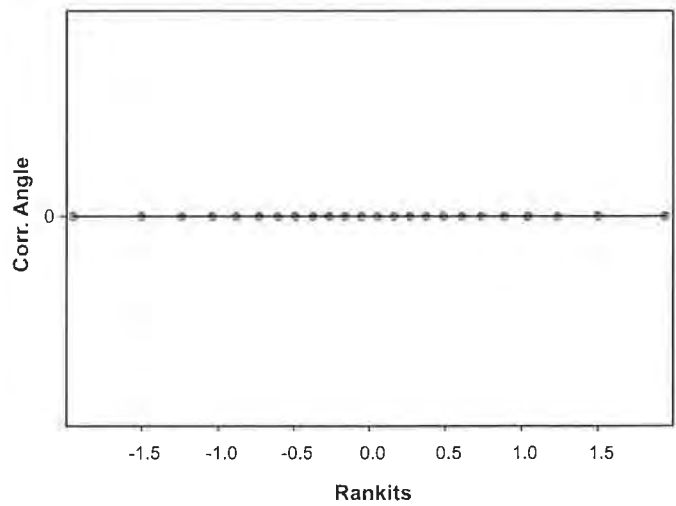
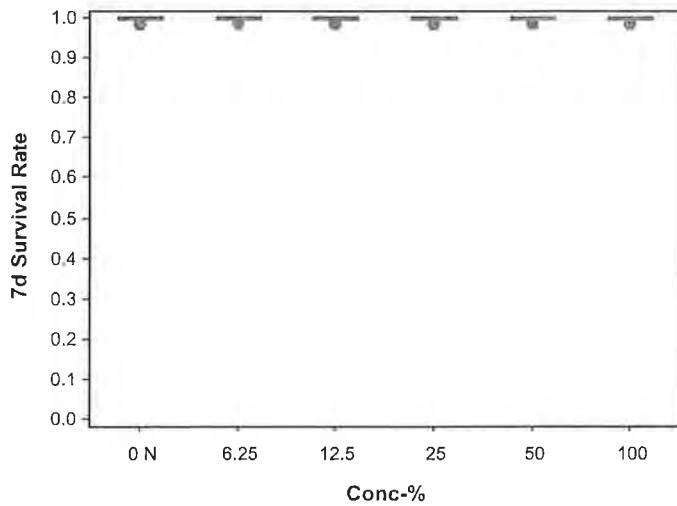
Angular (Corrected) Transformed Detail

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



Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 03-2865-7309	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 15:50	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 15:44	<b>MD5 Hash:</b> 0183935EDC45CEAF0B96C194EE25AC99	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 06-2867-8540	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 12-9293-9179	<b>Code:</b> VCF0322.207fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.01267	3.73%

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	22	10	0	CDF	0.9908	Non-Significant Effect
		12.5	6	19.5	10	1	CDF	0.9315	Non-Significant Effect
		25	6	18	10	0	CDF	0.8333	Non-Significant Effect
		50	6	19	10	2	CDF	0.9055	Non-Significant Effect
		100	6	21	10	0	CDF	0.9778	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3398	0.25	<<	Yes	Passes Criteria
PMSD	0.03728	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0001914	3.829E-05	5	0.6909	0.6368	Non-Significant Effect
Error	0.0009974	5.541E-05	18			
Total	0.0011889		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	12.71	15.09	0.0262	Equal Variances
	Levene Equality of Variance Test	2.772	4.248	0.0500	Equal Variances
	Mod Levene Equality of Variance Test	1.04	4.248	0.4245	Equal Variances
Distribution	Anderson-Darling A2 Test	1.007	3.878	0.0120	Normal Distribution
	D'Agostino Kurtosis Test	2.528	2.576	0.0115	Normal Distribution
	D'Agostino Skewness Test	2.815	2.576	0.0049	Non-Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	14.31	9.21	0.0008	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.1801	0.2056	0.0427	Normal Distribution
	Shapiro-Wilk W Normality Test	0.878	0.884	0.0076	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	0.3398	0.3339	0.3457	0.34	0.3353	0.344	0.001853	1.09%	0.00%
6.25		4	0.3472	0.3327	0.3617	0.3429	0.3407	0.36	0.004557	2.63%	-2.16%
12.5		4	0.3407	0.335	0.3463	0.3424	0.3353	0.3427	0.001785	1.05%	-0.25%
25		4	0.3403	0.3367	0.344	0.34	0.338	0.3433	0.001139	0.67%	-0.15%
50		4	0.3458	0.3232	0.3684	0.3407	0.3353	0.3667	0.007104	4.11%	-1.77%
100		4	0.3423	0.336	0.3487	0.3433	0.3367	0.346	0.001991	1.16%	-0.74%

Fathead Minnow 7-d Larval Survival and Growth Test

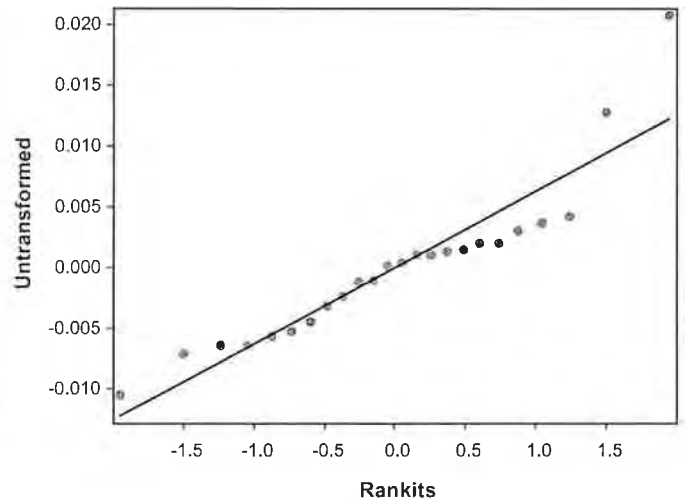
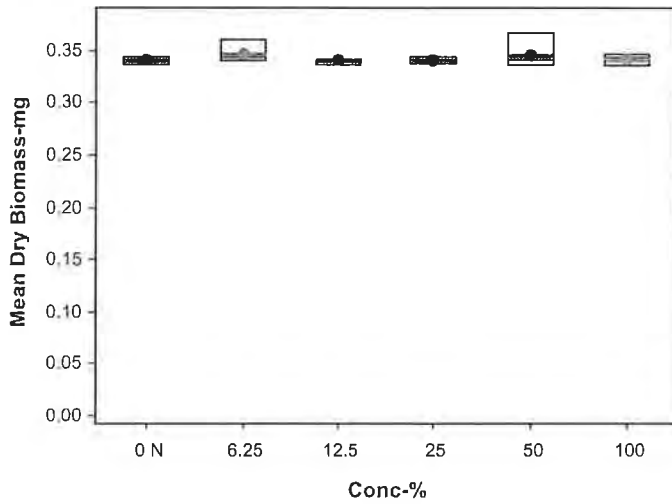
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 03-2865-7309      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 15:50      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Apr-22 15:44      MD5 Hash: 0183935EDC45CEAF0B96C194EE25AC99      Editor ID: 008-463-000-3

Mean Dry Biomass-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3353	0.3413	0.3387	0.344
6.25		0.3407	0.3473	0.3407	0.36
12.5		0.3427	0.3427	0.3353	0.342
25		0.3433	0.338	0.3393	0.3407
50		0.3353	0.3667	0.3427	0.3387
100		0.3433	0.346	0.3367	0.3433

Graphics





Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-9118-8328      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 15:50      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 20 Apr-22 15:44      MD5 Hash: 68E117461239090AA7E1427F0F536296      Editor ID: 008-463-000-3

Batch ID: 06-2867-8540      Test Type: Growth-Survival (7d)      Analyst:  
 Start Date: 29 Mar-22 11:45      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 05 Apr-22 13:12      Species: Pimephales promelas      Brine: Not Applicable  
 Test Length: 7d 1h      Taxon: Actinopterygii      Source: Aquatic Biosystems, CO      Age: <24

Sample ID: 12-9293-9179      Code: VCF0322.207fml      Project: NPDES Stormwater Wet Season (Con  
 Sample Date: 28 Mar-22 13:10      Material: Sample Water      Source: Bioassay Report  
 Receipt Date: 28 Mar-22 13:40      CAS (PC):      Station: ME-VR2  
 Sample Age: 23h (14.5 °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	TU	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	A/B	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



**CETIS Analytical Report**

Report Date: 20 Apr-22 15:52 (p 3 of 4)  
 Test Code/ID: VCF0322.207fml / 08-2692-8719

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 14-2233-1971	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 15:50	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 15:44	<b>MD5 Hash:</b> 0183935EDC45CEAF0B96C194EE25AC99	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 06-2867-8540	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 12-9293-9179	<b>Code:</b> VCF0322.207fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1286319	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3398	0.25	<<	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	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	0.3398	0.34	0.3353	0.344	1.09%	0.00%	0.3435	0.00%
6.25		4	0.3472	0.3429	0.3407	0.36	2.63%	-2.16%	0.3435	0.00%
12.5		4	0.3407	0.3424	0.3353	0.3427	1.05%	-0.25%	0.3423	0.35%
25		4	0.3403	0.34	0.338	0.3433	0.67%	-0.15%	0.3423	0.35%
50		4	0.3458	0.3407	0.3353	0.3667	4.11%	-1.77%	0.3423	0.35%
100		4	0.3423	0.3433	0.3367	0.346	1.16%	-0.74%	0.3423	0.35%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3353	0.3413	0.3387	0.344
6.25		0.3407	0.3473	0.3407	0.36
12.5		0.3427	0.3427	0.3353	0.342
25		0.3433	0.338	0.3393	0.3407
50		0.3353	0.3667	0.3427	0.3387
100		0.3433	0.346	0.3367	0.3433



**CETIS Measurement Report**

Report Date: 20 Apr-22 15:52 (p 1 of 2)  
 Test Code/ID: VCF0322.207fml / 08-2692-8719

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 06-2867-8540	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 12-9293-9179	<b>Code:</b> VCF0322.207fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> 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	96	96	96	96	96	0	0	0.00%	0
Overall		16	78	68.09	87.91	60	96	4.648	18.59	23.83%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	362.2	366.1	360	367	0.2946	2.357	0.65%	0
6.25		8	440	433.3	446.7	430	450	0.9955	7.964	1.81%	0
12.5		8	475.6	469.7	481.6	469	490	0.8913	7.13	1.50%	0
25		8	552.3	543.7	560.8	531	565	1.274	10.19	1.85%	0
50		8	717.8	710.9	724.6	710	730	1.028	8.225	1.15%	0
100		8	1054	1047	1060	1040	1062	0.949	7.592	0.72%	0
Overall		48	600.6	532.9	668.2	360	1062	33.64	233	38.80%	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	8	7.588	7.443	7.732	7.4	7.8	0.02159	0.1727	2.28%	0
6.25		8	7.675	7.559	7.791	7.5	7.9	0.01736	0.1389	1.81%	0
12.5		8	7.65	7.561	7.739	7.5	7.8	0.01336	0.1069	1.40%	0
25		8	7.65	7.55	7.75	7.5	7.9	0.01494	0.1195	1.56%	0
50		8	7.637	7.52	7.755	7.4	7.9	0.0176	0.1408	1.84%	0
100		8	7.637	7.52	7.755	7.4	7.9	0.0176	0.1408	1.84%	0
Overall		48	7.64	7.601	7.678	7.4	7.9	0.01924	0.1333	1.74%	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	83	83	83	83	83	0	0	0.00%	0
100		8	340	340	340	340	340	0	0	0.00%	0
Overall		16	211.5	140.8	282.2	83	340	33.18	132.7	62.75%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.05	7.973	8.127	8	8.2	0.01157	0.09258	1.15%	0
6.25		8	7.913	7.808	8.017	7.7	8	0.01558	0.1246	1.58%	0
12.5		8	7.9	7.8	8	7.7	8	0.01494	0.1195	1.51%	0
25		8	7.888	7.766	8.009	7.6	8	0.01822	0.1458	1.85%	0
50		8	7.838	7.729	7.946	7.6	8	0.01628	0.1302	1.66%	0
100		8	7.838	7.729	7.946	7.6	8	0.01628	0.1302	1.66%	0
Overall		48	7.904	7.864	7.944	7.6	8.2	0.01996	0.1383	1.75%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Apr-22 15:52 (p 2 of 2)

Test Code/ID: VCF0322.207fml / 08-2692-8719

## 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	24.1	24.01	24.19	24	24.2	0.01336	0.1068	0.44%	0
12.5		8	24.09	24	24.17	24	24.2	0.01238	0.09904	0.41%	0
25		8	24.09	23.99	24.18	24	24.3	0.01407	0.1126	0.47%	0
50		8	24.11	24	24.23	24	24.4	0.01695	0.1356	0.56%	0
100		8	24.15	24.02	24.28	24	24.5	0.02004	0.1603	0.66%	0
Overall		48	24.09	24.06	24.12	24	24.5	0.01691	0.1171	0.49%	0 (0%)



April 26, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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: 3/28/2022  
ABC LAB. NO.: VCF0322.207

### CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	EC25 =	>100.00 %
	EC50 =	>100.00 %

REPRODUCTION	NOEC =	100.00 %
	TU <sub>c</sub> =	1.00
	IC25 =	>100.00 %
	IC50 =	>100.00 %

Yours very truly,



Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 20 Apr-22 15:56 (p 1 of 2)  
 Test Code/ID: VCF0322.207cer / 02-3953-8630

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
02-4357-9826	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
19-9458-3947	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	12.0%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
19-4795-2575	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
10-2388-6769	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			
02-4357-9826	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
19-4795-2575	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
10-2388-6769	Reproduction	Control Resp	25.7	15	<<	Yes	Passes Criteria	
19-9458-3947	Reproduction	Control Resp	25.7	15	<<	Yes	Passes Criteria	
19-9458-3947	Reproduction	PMSD	0.1195	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	25.7	24.31	27.09	23	29	0.6155	1.947	7.57%	0.00%
6.25		10	26	24.15	27.85	22	29	0.8165	2.582	9.93%	-1.17%
12.5		10	28.4	26.29	30.51	23	32	0.9333	2.951	10.39%	-10.51%
25		10	29.5	26.84	32.16	24	37	1.176	3.719	12.61%	-14.79%
50		10	30.3	27.78	32.82	26	37	1.116	3.529	11.65%	-17.90%
100		10	31.9	29.81	33.99	29	37	0.9244	2.923	9.16%	-24.12%

*PASS*



**CETIS Summary Report**

Report Date: 20 Apr-22 15:56 (p 2 of 2)

Test Code/ID: VCF0322.207cer / 02-3953-8630

**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: 7B5326ECBBC909D8EEE263A80005C974

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	26	27	24	26	29	28	24	24	26	23
6.25		23	28	29	22	26	27	28	24	29	24
12.5		30	28	23	24	30	30	27	31	29	32
25		31	30	26	30	24	26	32	31	28	37
50		29	34	29	26	28	27	34	30	29	37
100		31	31	37	31	31	30	37	33	29	29

**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: 20 Apr-22 15:56 (p 1 of 2)  
 Test Code/ID: VCF0322.207cer / 02-3953-8630

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

<b>Analysis ID:</b> 19-9458-3947	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 15:55	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 15:54	<b>MD5 Hash:</b> 7B5326ECBBC909D8EEE263A80005C974	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.071	11.95%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	-0.2236	2.289	3.071	CDF	0.8913	Non-Significant Effect
		12.5	18	-2.012	2.289	3.071	CDF	0.9995	Non-Significant Effect
		25	18	-2.832	2.289	3.071	CDF	1.0000	Non-Significant Effect
		50	18	-3.429	2.289	3.071	CDF	1.0000	Non-Significant Effect
		100	18	-4.621	2.289	3.071	CDF	1.0000	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	25.7	15	<<	Yes	Passes Criteria
PMSD	0.1195	0.13	0.47	Yes	Below Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	297.933	59.5867	5	6.621	7.1E-05	Significant Effect
Error	486	9	54			
Total	783.933		59			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	4.271	15.09	0.5111	Equal Variances
	Levene Equality of Variance Test	0.7723	3.377	0.5739	Equal Variances
	Mod Levene Equality of Variance Test	0.4141	3.377	0.8369	Equal Variances
Distribution	Anderson-Darling A2 Test	0.247	3.878	0.7811	Normal Distribution
	D'Agostino Kurtosis Test	0.04188	2.576	0.9666	Normal Distribution
	D'Agostino Skewness Test	1.173	2.576	0.2409	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.377	9.21	0.5024	Normal Distribution
	Kolmogorov-Smirnov D Test	0.08975	0.1331	0.2506	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9848	0.9459	0.6620	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	25.7	24.31	27.09	26	23	29	0.6155	7.57%	0.00%
6.25		10	26	24.15	27.85	26.5	22	29	0.8165	9.93%	-1.17%
12.5		10	28.4	26.29	30.51	29.75	23	32	0.9333	10.39%	-10.51%
25		10	29.5	26.84	32.16	30	24	37	1.176	12.61%	-14.79%
50		10	30.3	27.78	32.82	29	26	37	1.116	11.65%	-17.90%
100		10	31.9	29.81	33.99	31	29	37	0.9244	9.16%	-24.12%



**CETIS Analytical Report**

Report Date: 20 Apr-22 15:56 (p 1 of 4)  
 Test Code/ID: VCF0322.207cer / 02-3953-8630

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
<b>Analysis ID:</b> 19-4795-2575	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1			
<b>Analyzed:</b> 20 Apr-22 15:55	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1			
<b>Edit Date:</b> 20 Apr-22 15:54	<b>MD5 Hash:</b> 521A0DF2AE1E59D72392DBABE0C7AEF	<b>Editor ID:</b> 008-463-000-3			
<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>			
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water			
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable			
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24			
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con			
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report			
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2			
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> 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	TU	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	A/B	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

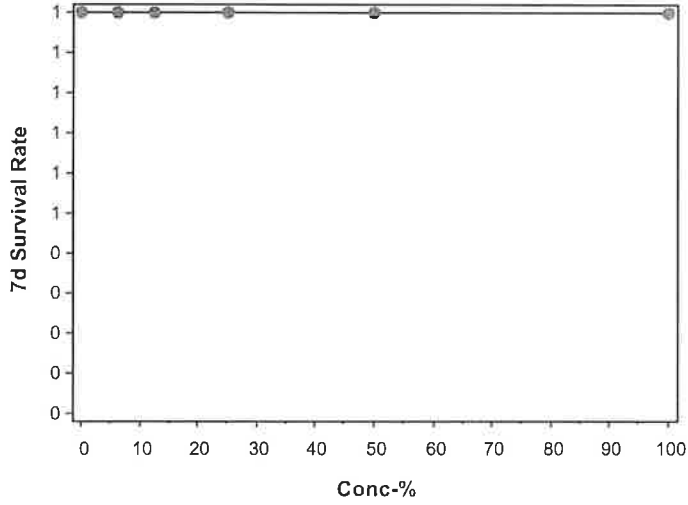
7d Survival Rate Binomials											
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	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: 19-4795-2575      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
Analyzed: 20 Apr-22 15:55      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 20 Apr-22 15:54      MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF      Editor ID: 008-463-000-3

Graphics



**CETIS Analytical Report**

**Report Date:** 20 Apr-22 15:56 (p 3 of 4)  
**Test Code/ID:** VCF0322.207cer / 02-3953-8630

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
<b>Analysis ID:</b> 10-2388-6769	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv2.1.1			
<b>Analyzed:</b> 20 Apr-22 15:55	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1			
<b>Edit Date:</b> 20 Apr-22 15:54	<b>MD5 Hash:</b> 7B5326ECBBC909D8EEEE263A80005C974	<b>Editor ID:</b> 008-463-000-3			
<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>			
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water			
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable			
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24			
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con			
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report			
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2			
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri				

Linear Interpolation Options					
X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	173526	280	Yes	Two-Point Interpolation

Test Acceptability Criteria					
Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	25.7	15	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	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	25.7	26	23	29	7.57%	0.00%	28.63	0.00%
6.25		10	26	26.5	22	29	9.93%	-1.17%	28.63	0.00%
12.5		10	28.4	29.75	23	32	10.39%	-10.51%	28.63	0.00%
25		10	29.5	30	24	37	12.61%	-14.79%	28.63	0.00%
50		10	30.3	29	26	37	11.65%	-17.90%	28.63	0.00%
100		10	31.9	31	29	37	9.16%	-24.12%	28.63	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	26	27	24	26	29	28	24	24	26	23
6.25		23	28	29	22	26	27	28	24	29	24
12.5		30	28	23	24	30	30	27	31	29	32
25		31	30	26	30	24	26	32	31	28	37
50		29	34	29	26	28	27	34	30	29	37
100		31	31	37	31	31	30	37	33	29	29



**CETIS Analytical Report**

Report Date: 20 Apr-22 15:56 (p 1 of 2)  
 Test Code/ID: VCF0322.207cer / 02-3953-8630

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

<b>Analysis ID:</b> 02-4357-9826	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 15:55	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 15:54	<b>MD5 Hash:</b> 521A0DF2AE1E59D72392DBABE0C7AEF	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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

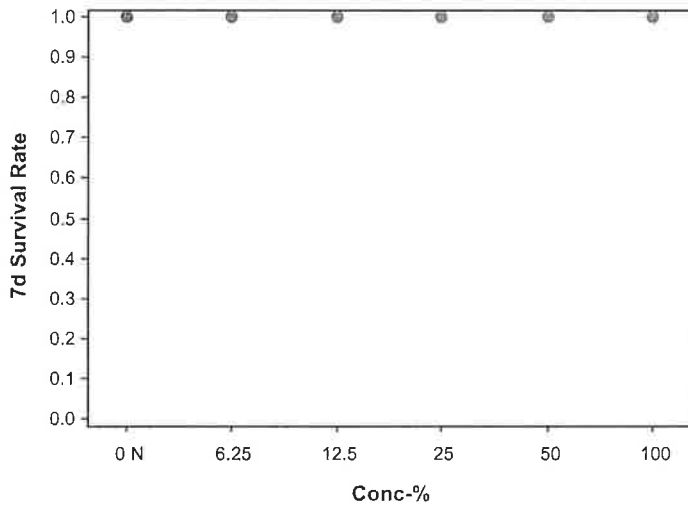
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-4357-9826      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 15:55      Analysis: STP 2xK Contingency Tables      Status Level: 1  
 Edit Date: 20 Apr-22 15:54      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: 20 Apr-22 15:56 (p 1 of 2)  
 Test Code/ID: VCF0322.207cer / 02-3953-8630

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 04-1449-1933	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:12	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 1h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 11-8531-0488	<b>Code:</b> VCF0322.207cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> 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	96	96	96	96	96	0	0	0.00%	0
Overall		16	78	68.09	87.91	60	96	4.648	18.59	23.83%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	362.2	366.1	360	367	0.2946	2.357	0.65%	0
6.25		8	440	433.3	446.7	430	450	0.9955	7.964	1.81%	0
12.5		8	475.6	469.7	481.6	469	490	0.8913	7.13	1.50%	0
25		8	552.3	543.7	560.8	531	565	1.274	10.19	1.85%	0
50		8	717.8	710.9	724.6	710	730	1.028	8.225	1.15%	0
100		8	1054	1047	1060	1040	1062	0.949	7.592	0.72%	0
Overall		48	600.6	532.9	668.2	360	1062	33.64	233	38.80%	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	8	7.588	7.443	7.732	7.4	7.8	0.02159	0.1727	2.28%	0
6.25		8	7.675	7.559	7.791	7.5	7.9	0.01736	0.1389	1.81%	0
12.5		8	7.65	7.561	7.739	7.5	7.8	0.01336	0.1069	1.40%	0
25		8	7.65	7.55	7.75	7.5	7.9	0.01494	0.1195	1.56%	0
50		8	7.637	7.52	7.755	7.4	7.9	0.0176	0.1408	1.84%	0
100		8	7.637	7.52	7.755	7.4	7.9	0.0176	0.1408	1.84%	0
Overall		48	7.64	7.601	7.678	7.4	7.9	0.01924	0.1333	1.74%	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	83	83	83	83	83	0	0	0.00%	0
100		8	340	340	340	340	340	0	0	0.00%	0
Overall		16	211.5	140.8	282.2	83	340	33.18	132.7	62.75%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.05	7.973	8.127	8	8.2	0.01157	0.09258	1.15%	0
6.25		8	7.913	7.808	8.017	7.7	8	0.01558	0.1246	1.58%	0
12.5		8	7.9	7.8	8	7.7	8	0.01494	0.1195	1.51%	0
25		8	7.888	7.766	8.009	7.6	8	0.01822	0.1458	1.85%	0
50		8	7.838	7.729	7.946	7.6	8	0.01628	0.1302	1.66%	0
100		8	7.838	7.729	7.946	7.6	8	0.01628	0.1302	1.66%	0
Overall		48	7.904	7.864	7.944	7.6	8.2	0.01996	0.1383	1.75%	0 (0%)

# CETIS Measurement Report

Report Date: 20 Apr-22 15:56 (p 2 of 2)

Test Code/ID: VCF0322.207cer / 02-3953-8630

## 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	24.1	24.01	24.19	24	24.2	0.01336	0.1068	0.44%	0
12.5		8	24.09	24	24.17	24	24.2	0.01238	0.09904	0.41%	0
25		8	24.09	23.99	24.18	24	24.3	0.01407	0.1126	0.47%	0
50		8	24.11	24	24.23	24	24.4	0.01695	0.1356	0.56%	0
100		8	24.15	24.02	24.28	24	24.5	0.02004	0.1603	0.66%	0
Overall		48	24.09	24.06	24.12	24	24.5	0.01691	0.1171	0.49%	0 (0%)



April 26, 2022

Mr. Arne Anselm  
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 *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:	3/28/2022
ABC LAB. NO.:	VCF0322.207

#### 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: 07 Apr-22 10:42 (p 1 of 1)  
 Test Code/ID: VCF0322.207ahya / 20-6840-9102

**Hyalella 96-h Acute Survival Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-4000-8443	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b>	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> ---	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 03-9800-6601	<b>Code:</b> VCF0322.207ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> VCWPD	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
19-2855-9206	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
08-7847-5388	96h Survival Rate	Linear Interpolation (ICPIN)		EC10	>100	---	---	<1	1
				EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

**96h Survival Rate Detail**

MD5: E88740A7CB88EC46B4EC0A60E4B8AEB7

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: 07 Apr-22 10:42 (p 1 of 2)  
 Test Code/ID: VCF0322.207ahya / 20-6840-9102

**Hyalella 96-h Acute Survival Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 19-2855-9206	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:30	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:29	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 04-4000-8443	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b>	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> ---	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 03-9800-6601	<b>Code:</b> VCF0322.207ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> VCWPD	

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

**Steel Many-One Rank Sum Test**

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

Hyaella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 19-2855-9206      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 05 Apr-22 15:30      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 05 Apr-22 15:29      MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB      Editor ID: 000-189-126-0

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

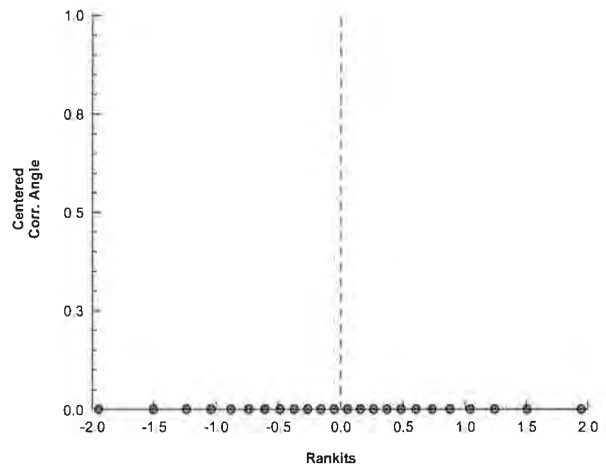
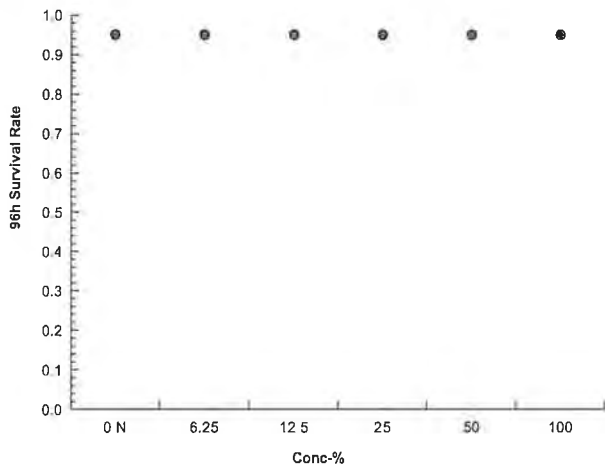
Angular (Corrected) Transformed Detail

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: 07 Apr-22 10:42 (p 1 of 2)  
 Test Code/ID: VCF0322.207ahya / 20-6840-9102

**Hyalella 96-h Acute Survival Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 08-7847-5388	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:30	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:29	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 04-4000-8443	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b>	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> ---	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 03-9800-6601	<b>Code:</b> VCF0322.207ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> VCWPD	

**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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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 Measurement Report**

Report Date: 07 Apr-22 10:42 (p 1 of 4)

Test Code/ID: VCF0322.207ahya / 20-6840-9102

**Hyalella 96-h Acute Survival Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-4000-8443	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:45	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b>	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> ---	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 03-9800-6601	<b>Code:</b> VCF0322.207ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 23h (14.5 °C)	<b>Client:</b> VCWPD	

**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	96	96	96	96	96	0	0	0.00%	0
Overall		6	78	57.31	98.69	60	96	8.05	19.72	25.28%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	365.7	358.5	372.8	364	369	0.9623	2.887	0.79%	0
6.25		3	432.7	426.4	438.9	430	435	0.8389	2.517	0.58%	0
12.5		3	474.7	462.4	486.9	469	478	1.644	4.933	1.04%	0
25		3	543.3	516.8	569.9	531	550	3.564	10.69	1.97%	0
50		3	716.7	698.7	734.6	712	725	2.411	7.234	1.01%	0
100		3	1057	1020	1093	1040	1068	4.914	14.74	1.40%	0
Overall		18	598.3	479.3	717.2	364	1068	56.38	239.2	39.98%	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	7.467	6.893	8.04	7.2	7.6	0.07698	0.2309	3.09%	0
6.25		3	7.567	6.532	8.601	7.1	7.9	0.1388	0.4163	5.50%	0
12.5		3	7.467	6.463	8.471	7	7.7	0.1347	0.4041	5.41%	0
25		3	7.467	6.668	8.265	7.1	7.7	0.1072	0.3215	4.31%	0
50		3	7.467	6.668	8.265	7.1	7.7	0.1072	0.3215	4.31%	0
100		3	7.467	6.668	8.265	7.1	7.7	0.1072	0.3215	4.31%	0
Overall		18	7.483	7.339	7.627	7	7.9	0.06824	0.2895	3.87%	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	83	83	83	83	83	0	0	0.00%	0
100		3	340	340	340	340	340	0	0	0.00%	0
Overall		6	211.5	63.78	359.2	83	340	57.47	140.8	66.56%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.133	7.846	8.42	8	8.2	0.03849	0.1155	1.42%	0
6.25		3	7.833	7.454	8.213	7.7	8	0.05092	0.1528	1.95%	0
12.5		3	7.833	7.454	8.213	7.7	8	0.05092	0.1528	1.95%	0
25		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
50		3	7.8	7.37	8.23	7.6	7.9	0.05773	0.1732	2.22%	0
100		3	7.8	7.37	8.23	7.6	7.9	0.05773	0.1732	2.22%	0
Overall		18	7.861	7.771	7.952	7.6	8.2	0.04289	0.1819	2.32%	0 (0%)

# CETIS Measurement Report

Report Date: 07 Apr-22 10:42 (p 2 of 4)  
Test Code/ID: VCF0322.207ahya / 20-6840-9102

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%)



**CETIS Measurement Report**

Report Date: 07 Apr-22 10:42 (p 4 of 4)  
 Test Code/ID: VCF0322.207ahya / 20-6840-9102

Hyalella 96-h Acute Survival Test					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		83					
100				340					
0	N	2		83					
100				340					
0	N	3		83					
100				340					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.7					
12.5				7.7					
25				7.6					
50				7.6					
100				7.6					
0	N	2		8.2					
6.25				7.8					
12.5				7.8					
25				7.8					
50				7.9					
100				7.9					
0	N	3		8					
6.25				8					
12.5				8					
25				7.9					
50				7.9					
100				7.9					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



April 26, 2022

Mr. Arne Anselm  
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 *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:	3/28/2022
ABC LAB. NO.:	VCF0322.207

#### ACUTE 96 HOURS CHIRONOMUS SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

\*TU<sub>a</sub> = 0.00

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

Yours very truly,

Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 07 Apr-22 10:46 (p 1 of 1)  
 Test Code/ID: VCF0322.207achi / 13-3853-0320

## Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 20-6330-2156	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:10	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 11:55	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 06-0897-1574	<b>Code:</b> VCF0322.207achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 22h (14.5 °C)	<b>Client:</b> VCWPD	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
08-9592-5934	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
00-4026-2088	96h Survival Rate	Linear Interpolation (ICPIN)	EC10	>100	---	---	<1	1
			EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

## 96h Survival Rate Detail

MD5: E88740A7CB88EC46B4EC0A60E4B8AEB7

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: 07 Apr-22 10:46 (p 1 of 2)  
 Test Code/ID: VCF0322.207achi / 13-3853-0320

**Chironomus 96-Hour Acute Survival Bioassay**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 08-9592-5934	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:32	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:31	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 20-6330-2156	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:10	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 11:55	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 06-0897-1574	<b>Code:</b> VCF0322.207achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 22h (14.5 °C)	<b>Client:</b> VCWPD	

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

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	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: 08-9592-5934      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 05 Apr-22 15:32      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 05 Apr-22 15:31      MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB      Editor ID: 000-189-126-0

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

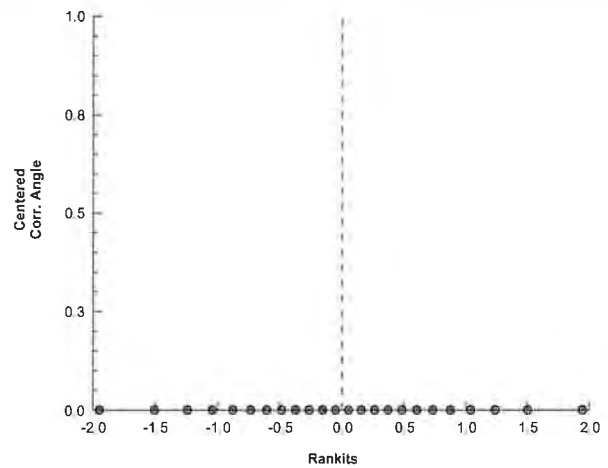
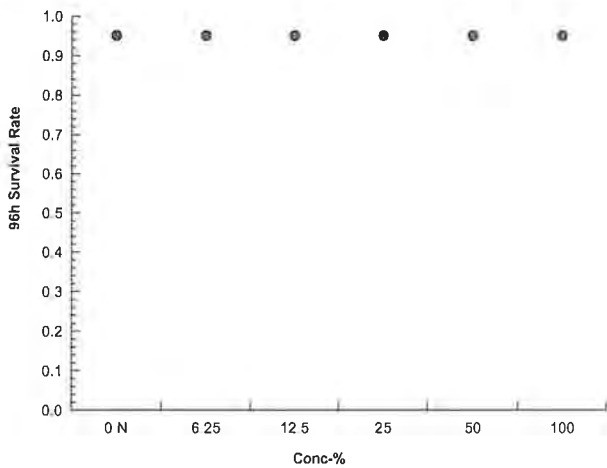
Angular (Corrected) Transformed Detail

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: 07 Apr-22 10:46 (p 1 of 2)  
 Test Code/ID: VCF0322.207achi / 13-3853-0320

Chironomus 96-Hour Acute Survival Bioassay			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 00-4026-2088	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.7			
Analyzed: 05 Apr-22 15:33	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 05 Apr-22 15:31	MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB	Editor ID: 000-189-126-0			
Batch ID: 20-6330-2156	Test Type: Survival (96h)	Analyst:			
Start Date: 29 Mar-22 11:10	Protocol: EPA/821/R-02-012 (2002)	Diluent: Laboratory Water			
Ending Date: 02 Apr-22 11:55	Species: Chironomus dilutus	Brine: Not Applicable			
Test Length: 4d 1h	Taxon: Insecta	Source: Aquatic Biosystems, CO Age:			
Sample ID: 06-0897-1574	Code: VCF0322.207achi	Project: NPDES Stormwater Wet Season (Con			
Sample Date: 28 Mar-22 13:10	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 28 Mar-22 13:40	CAS (PC):	Station: ME-VR2			
Sample Age: 22h (14.5 °C)	Client: VCWPD				

**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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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**

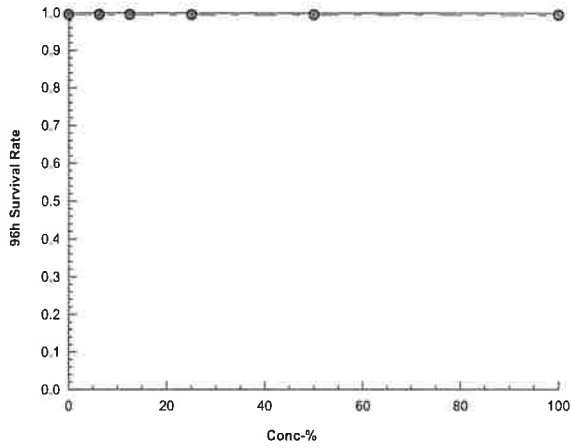
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Chironomus 96-Hour Acute Survival Bioassay

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 00-4026-2088      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
Analyzed: 05 Apr-22 15:33      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 05 Apr-22 15:31      MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB      Editor ID: 000-189-126-0

Graphics



**CETIS Measurement Report**

Report Date: 07 Apr-22 10:46 (p 1 of 4)

Test Code/ID: VCF0322.207achi / 13-3853-0320

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

<b>Batch ID:</b> 20-6330-2156	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:10	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 11:55	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 06-0897-1574	<b>Code:</b> VCF0322.207achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 13:10	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 13:40	<b>CAS (PC):</b>	<b>Station:</b> ME-VR2
<b>Sample Age:</b> 22h (14.5 °C)	<b>Client:</b> VCWPD	

**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	96	96	96	96	96	0	0	0.00%	0
Overall		6	78	57.31	98.69	60	96	8.05	19.72	25.28%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	365.7	358.5	372.8	364	369	0.9623	2.887	0.79%	0
6.25		3	432.7	426.4	438.9	430	435	0.8389	2.517	0.58%	0
12.5		3	474.7	462.4	486.9	469	478	1.644	4.933	1.04%	0
25		3	543.3	516.8	569.9	531	550	3.564	10.69	1.97%	0
50		3	716.7	698.7	734.6	712	725	2.411	7.234	1.01%	0
100		3	1056	1020	1092	1040	1068	4.807	14.42	1.37%	0
Overall		18	598.2	479.3	717	364	1068	56.33	239	39.95%	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	7.467	6.893	8.04	7.2	7.6	0.07698	0.2309	3.09%	0
6.25		3	7.6	6.704	8.496	7.2	7.9	0.1202	0.3606	4.74%	0
12.5		3	7.467	6.463	8.471	7	7.7	0.1347	0.4041	5.41%	0
25		3	7.433	6.493	8.374	7	7.7	0.1262	0.3786	5.09%	0
50		3	7.433	6.493	8.374	7	7.7	0.1262	0.3786	5.09%	0
100		3	7.433	6.493	8.374	7	7.7	0.1262	0.3786	5.09%	0
Overall		18	7.472	7.319	7.626	7	7.9	0.07267	0.3083	4.13%	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	83	83	83	83	83	0	0	0.00%	0
100		3	340	340	340	340	340	0	0	0.00%	0
Overall		6	211.5	63.78	359.2	83	340	57.47	140.8	66.56%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.133	7.846	8.42	8	8.2	0.03849	0.1155	1.42%	0
6.25		3	7.833	7.454	8.213	7.7	8	0.05092	0.1528	1.95%	0
12.5		3	7.833	7.454	8.213	7.7	8	0.05092	0.1528	1.95%	0
25		3	7.8	7.303	8.297	7.6	8	0.06667	0.2	2.56%	0
50		3	7.8	7.37	8.23	7.6	7.9	0.05773	0.1732	2.22%	0
100		3	7.8	7.37	8.23	7.6	7.9	0.05773	0.1732	2.22%	0
Overall		18	7.867	7.775	7.959	7.6	8.2	0.04354	0.1847	2.35%	0 (0%)

CETIS Measurement Report

Report Date: 07 Apr-22 10:46 (p 2 of 4)  
Test Code/ID: VCF0322.207achi / 13-3853-0320

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%)

**CETIS Measurement Report**

Report Date: 07 Apr-22 10:46 (p 3 of 4)

Test Code/ID: VCF0322.207achi / 13-3853-0320

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Alkalinity (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		60					
100				96					
0	N	2		60					
100				96					
0	N	3		60					
100				96					
<b>Conductivity-µmhos</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		364					
6.25				433					
12.5				469					
25				531					
50				712					
100				1040					
0	N	2		364					
6.25				430					
12.5				477					
25				549					
50				713					
100				1060					
0	N	3		369					
6.25				435					
12.5				478					
25				550					
50				725					
100				1068					
<b>Dissolved Oxygen-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		7.6					
6.25				7.9					
12.5				7.7					
25				7.6					
50				7.6					
100				7.6					
0	N	2		7.6					
6.25				7.7					
12.5				7.7					
25				7.7					
50				7.7					
100				7.7					
0	N	3		7.2					
6.25				7.2					
12.5				7					
25				7					
50				7					
100				7					

**CETIS Measurement Report**

Report Date: 07 Apr-22 10:46 (p 4 of 4)

Test Code/ID: VCF0322.207achi / 13-3853-0320

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		83					
100				340					
0	N	2		83					
100				340					
0	N	3		83					
100				340					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.7					
12.5				7.7					
25				7.6					
50				7.6					
100				7.6					
0	N	2		8.2					
6.25				7.8					
12.5				7.8					
25				7.8					
50				7.9					
100				7.9					
0	N	3		8					
6.25				8					
12.5				8					
25				8					
50				7.9					
100				7.9					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



April 26, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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: 3/28/2022  
ABC LAB. NO.: VCF0322.208

#### CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL      NOEC =      100.00 %  
                    TU<sub>c</sub> =      1.00  
                    EC25 =      >100.00 %  
                    EC50 =      >100.00 %

BIOMASS      NOEC =      100.00 %  
                    TU<sub>c</sub> =      1.00  
                    IC25 =      >100.00 %  
                    IC50 =      >100.00 %

Yours very truly,



Scott Johnson  
Laboratory Director



**CETIS Summary Report**

Report Date: 20 Apr-22 16:07 (p 1 of 2)  
 Test Code/ID: VCF0322.208fml / 01-8640-1672

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-5913-1947	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-5636-7674	<b>Code:</b> VCF0322.208fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
01-6022-2765	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	4.46%	1	1
09-3149-1741	Mean Dry Biomass-mg	Steel Many-One Rank Sum Test	100	>100	---	11.8%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
06-3966-2402	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
02-6425-1647	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		
01-6022-2765	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
06-3966-2402	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
02-6425-1647	Mean Dry Biomass-mg	Control Resp	0.3398	0.25	<<	Yes	Passes Criteria
09-3149-1741	Mean Dry Biomass-mg	Control Resp	0.3398	0.25	<<	Yes	Passes Criteria
09-3149-1741	Mean Dry Biomass-mg	PMSD	0.1183	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	0.9000	0.8388	0.9612	0.8667	0.9333	0.0193	0.0385	4.28%	10.00%
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	0.9833	0.9303	1.0360	0.9333	1.0000	0.0167	0.0333	3.39%	1.67%
100		4	0.9667	0.9054	1.0280	0.9333	1.0000	0.0193	0.0385	3.98%	3.33%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	4	0.3398	0.3339	0.3457	0.3353	0.344	0.001853	0.003707	1.09%	0.00%
6.25		4	0.2722	0.1901	0.3542	0.2093	0.3353	0.02577	0.05154	18.94%	19.91%
12.5		4	0.3425	0.3349	0.3501	0.3387	0.3493	0.002379	0.004757	1.39%	-0.78%
25		4	0.3462	0.3262	0.3662	0.338	0.3647	0.00628	0.01256	3.63%	-1.86%
50		4	0.3478	0.3338	0.3619	0.34	0.3587	0.004409	0.008817	2.53%	-2.35%
100		4	0.3243	0.2918	0.3568	0.2967	0.3413	0.01021	0.02041	6.29%	4.56%

*PASS*

**CETIS Summary Report**

Report Date: 20 Apr-22 16:07 (p 2 of 2)  
 Test Code/ID: VCF0322.208fml / 01-8640-1672

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: F88DE55F6C1B454619B47930668478EC

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

**Mean Dry Biomass-mg Detail**

MD5: 20B06BE7EAE61D29250A017BEF6E18

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3353	0.3413	0.3387	0.344
6.25		0.2093	0.268	0.3353	0.276
12.5		0.3493	0.34	0.3387	0.342
25		0.3433	0.3647	0.338	0.3387
50		0.3413	0.3513	0.34	0.3587
100		0.3213	0.3413	0.338	0.2967

**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		13/15	14/15	14/15	13/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	14/15	15/15	15/15
100		14/15	15/15	15/15	14/15



**CETIS Analytical Report**

Report Date: 20 Apr-22 16:06 (p 2 of 3)  
 Test Code/ID: VCF0322.208fml / 01-8640-1672

**Fathead Minnow 7-d Larval Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 01-6022-2765      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 16:05      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Apr-22 15:59      MD5 Hash: F88DE55F6C1B454619B47930668478EC      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	1.4410	1.4410	1.4420	1.4410	1.4410	1.4410	0.0000	0.00%	0.00%
6.25		4	1.2530	1.1500	1.3570	1.2530	1.1970	1.3100	0.0325	5.19%	13.04%
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	1.4080	1.3040	1.5130	1.4410	1.3100	1.4410	0.0329	4.68%	2.28%
100		4	1.3750	1.2540	1.4960	1.3750	1.3100	1.4410	0.0380	5.53%	4.57%

**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		0.8667	0.9333	0.9333	0.8667
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	0.9333	1.0000	1.0000
100		0.9333	1.0000	1.0000	0.9333

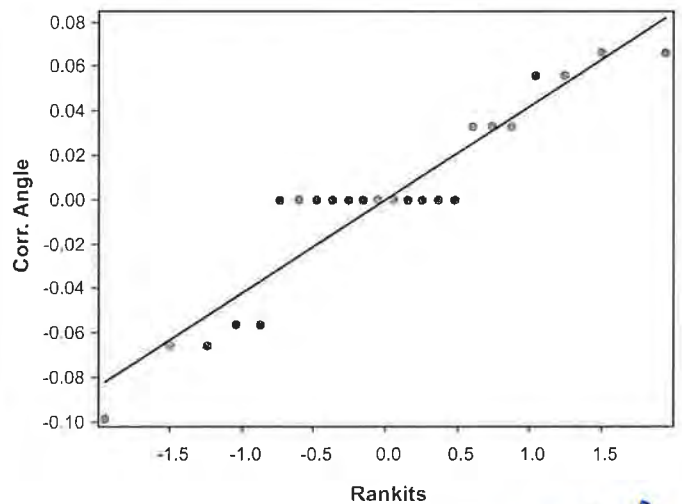
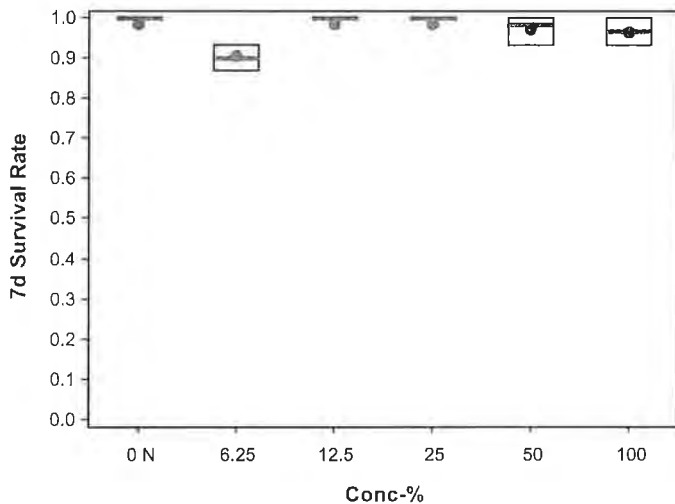
**Angular (Corrected) Transformed Detail**

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

**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		13/15	14/15	14/15	13/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	14/15	15/15	15/15
100		14/15	15/15	15/15	14/15

**Graphics**



Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-3149-1741	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.1
Analyzed: 20 Apr-22 16:05	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 20 Apr-22 15:59	MD5 Hash: 20B06BE7EAE61D29250A017BEF6E18	Editor ID: 008-463-000-3
Batch ID: 04-5913-1947	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 29 Mar-22 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 05 Apr-22 13:20	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 2h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 08-5636-7674	Code: VCF0322.208fml	Project: NPDES Stormwater Wet Season (Con
Sample Date: 28 Mar-22 12:55	Material: Sample Water	Source: Bioassay Report
Receipt Date: 28 Mar-22 14:20	CAS (PC):	Station: ME-CC
Sample Age: 23h (11 °C)	Client: Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.04019	11.83%

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	10.5	10	1	CDF	0.0586	Non-Significant Effect
		12.5	6	20.5	10	1	CDF	0.9667	Non-Significant Effect
		25	6	19.5	10	1	CDF	0.9315	Non-Significant Effect
		50	6	22.5	10	1	CDF	0.9944	Non-Significant Effect
		100	6	13.5	10	1	CDF	0.2853	Non-Significant Effect

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3398	0.25	<<	Yes	Passes Criteria
PMSD	0.1183	0.12	0.3	Yes	Below Criteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0168023	0.0033605	5	6.027	0.0019	Significant Effect
Error	0.0100359	0.0005575	18			
Total	0.0268382		23			

ANOVA Assumptions Tests

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	23.56	15.09	0.0003	Unequal Variances
	Levene Equality of Variance Test	2.395	4.248	0.0784	Equal Variances
	Mod Levene Equality of Variance Test	2.25	4.248	0.0936	Equal Variances
Distribution	Anderson-Darling A2 Test	2.057	3.878	<1.0E-05	Non-Normal Distribution
	D'Agostino Kurtosis Test	3.216	2.576	0.0013	Non-Normal Distribution
	D'Agostino Skewness Test	0.04281	2.576	0.9659	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	10.34	9.21	0.0057	Non-Normal Distribution
	Kolmogorov-Smirnov D Test	0.2646	0.2056	0.0001	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.8064	0.884	0.0004	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	0.3398	0.3339	0.3457	0.34	0.3353	0.344	0.001853	1.09%	0.00%
6.25		4	0.2722	0.1901	0.3542	0.272	0.2093	0.3353	0.02577	18.94%	19.91%
12.5		4	0.3425	0.3349	0.3501	0.341	0.3387	0.3493	0.002379	1.39%	-0.78%
25		4	0.3462	0.3262	0.3662	0.341	0.338	0.3647	0.00628	3.63%	-1.86%
50		4	0.3478	0.3338	0.3619	0.3463	0.34	0.3587	0.004409	2.53%	-2.35%
100		4	0.3243	0.2918	0.3568	0.3297	0.2967	0.3413	0.01021	6.29%	4.56%



Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 06-3966-2402	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.1
Analyzed: 20 Apr-22 16:05	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 20 Apr-22 15:59	MD5 Hash: F88DE55F6C1B454619B47930668478EC	Editor ID: 008-463-000-3
Batch ID: 04-5913-1947	Test Type: Growth-Survival (7d)	Analyst:
Start Date: 29 Mar-22 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water
Ending Date: 05 Apr-22 13:20	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 2h	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age: <24
Sample ID: 08-5636-7674	Code: VCF0322.208fml	Project: NPDES Stormwater Wet Season (Con
Sample Date: 28 Mar-22 12:55	Material: Sample Water	Source: Bioassay Report
Receipt Date: 28 Mar-22 14:20	CAS (PC):	Station: ME-CC
Sample Age: 23h (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	TU	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	A/B	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	0.9000	0.9000	0.8667	0.9333	4.28%	10.00%	54/60	0.9708	2.92%
12.5		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	0.9708	2.92%
25		4	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	60/60	0.9708	2.92%
50		4	0.9833	1.0000	0.9333	1.0000	3.39%	1.67%	59/60	0.9708	2.92%
100		4	0.9667	0.9667	0.9333	1.0000	3.98%	3.33%	58/60	0.9667	3.33%

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		0.8667	0.9333	0.9333	0.8667
12.5		1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000
50		1.0000	0.9333	1.0000	1.0000
100		0.9333	1.0000	1.0000	0.9333

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		13/15	14/15	14/15	13/15
12.5		15/15	15/15	15/15	15/15
25		15/15	15/15	15/15	15/15
50		15/15	14/15	15/15	15/15
100		14/15	15/15	15/15	14/15





**CETIS Analytical Report**

Report Date: 20 Apr-22 16:06 (p 3 of 4)

Test Code/ID: VCF0322.208fml / 01-8640-1672

**Fathead Minnow 7-d Larval Survival and Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 02-6425-1647	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 16:05	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 15:59	<b>MD5 Hash:</b> 20B06BE7EAE61D29250A017BEF6E18	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 04-5913-1947	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-5636-7674	<b>Code:</b> VCF0322.208fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	285621	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	0.3398	0.25	<<	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	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	0.3398	0.34	0.3353	0.344	1.09%	0.00%	0.3398	0.00%
6.25		4	0.2722	0.272	0.2093	0.3353	18.94%	19.91%	0.3272	3.73%
12.5		4	0.3425	0.341	0.3387	0.3493	1.39%	-0.78%	0.3272	3.73%
25		4	0.3462	0.341	0.338	0.3647	3.63%	-1.86%	0.3272	3.73%
50		4	0.3478	0.3463	0.34	0.3587	2.53%	-2.35%	0.3272	3.73%
100		4	0.3243	0.3297	0.2967	0.3413	6.29%	4.56%	0.3243	4.56%

**Mean Dry Biomass-mg Detail**

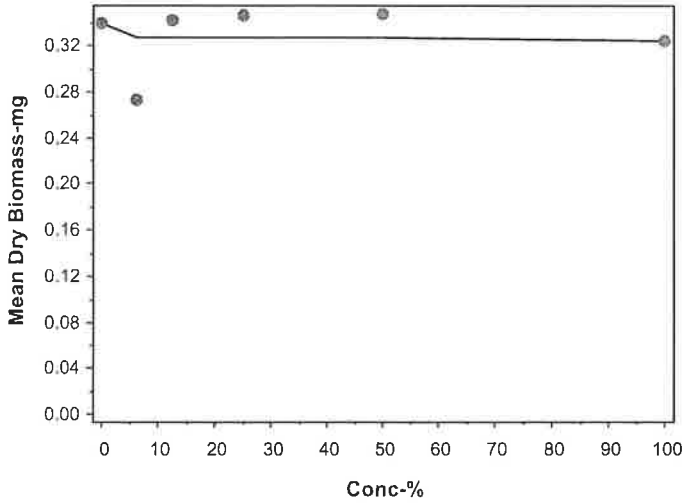
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.3353	0.3413	0.3387	0.344
6.25		0.2093	0.268	0.3353	0.276
12.5		0.3493	0.34	0.3387	0.342
25		0.3433	0.3647	0.338	0.3387
50		0.3413	0.3513	0.34	0.3587
100		0.3213	0.3413	0.338	0.2967

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 02-6425-1647      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv2.1.1  
Analyzed: 20 Apr-22 16:05      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 20 Apr-22 15:59      MD5 Hash: 20B06BE7EAE61D29250A017BEF6E18      Editor ID: 008-463-000-3

Graphics



# CETIS Measurement Report

Report Date: 20 Apr-22 16:07 (p 1 of 2)

Test Code/ID: VCF0322.208fml / 01-8640-1672

## Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 04-5913-1947	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Pimephales promelas	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 08-5636-7674	<b>Code:</b> VCF0322.208fml	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> 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	116	116	116	116	116	0	0	0.00%	0
Overall		16	88	72.59	103.4	60	116	7.23	28.92	32.86%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	362.2	366.1	360	367	0.2946	2.357	0.65%	0
6.25		8	485.5	482.8	488.2	480	490	0.4009	3.207	0.66%	0
12.5		8	485.3	469.5	501	452	502	2.356	18.85	3.88%	0
25		8	542.9	537.4	548.4	530	550	0.8249	6.6	1.22%	0
50		8	678.9	672.5	685.2	670	690	0.9507	7.605	1.12%	0
100		8	990.8	984.7	996.8	974	997	0.9082	7.265	0.73%	0
Overall		48	591.2	532	650.4	360	997	29.42	203.8	34.48%	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	7.588	7.443	7.732	7.4	7.8	0.02159	0.1727	2.28%	0
6.25		8	7.638	7.465	7.81	7.3	7.9	0.02582	0.2066	2.70%	0
12.5		8	7.638	7.49	7.785	7.3	7.8	0.0221	0.1768	2.31%	0
25		8	7.612	7.449	7.776	7.2	7.8	0.02449	0.1959	2.57%	0
50		8	7.625	7.465	7.785	7.2	7.8	0.02386	0.1909	2.50%	0
100		8	7.625	7.465	7.785	7.2	7.8	0.02386	0.1909	2.50%	0
Overall		48	7.621	7.569	7.673	7.2	7.9	0.02595	0.1798	2.36%	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	83	83	83	83	83	0	0	0.00%	0
100		8	213	213	213	213	213	0	0	0.00%	0
Overall		16	148	112.2	183.8	83	213	16.78	67.13	45.36%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.037	7.949	8.126	7.9	8.2	0.01326	0.1061	1.32%	0
6.25		8	7.875	7.728	8.022	7.6	8	0.02191	0.1753	2.23%	0
12.5		8	7.875	7.728	8.022	7.6	8	0.02191	0.1753	2.23%	0
25		8	7.863	7.737	7.988	7.6	8	0.01882	0.1506	1.92%	0
50		8	7.875	7.743	8.007	7.6	8	0.01976	0.1581	2.01%	0
100		8	7.863	7.737	7.988	7.6	8	0.01882	0.1506	1.92%	0
Overall		48	7.898	7.852	7.944	7.6	8.2	0.02296	0.1591	2.02%	0 (0%)

**CETIS Measurement Report**

Report Date: 20 Apr-22 16:07 (p 2 of 2)  
 Test Code/ID: VCF0322.208fml / 01-8640-1672

**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	24.08	24	24.15	24	24.2	0.01107	0.08857	0.37%	0
12.5		8	24.08	23.99	24.16	24	24.3	0.01294	0.1035	0.43%	0
25		8	24.08	23.98	24.17	24	24.3	0.01456	0.1165	0.48%	0
50		8	24.08	23.99	24.16	24	24.3	0.01294	0.1035	0.43%	0
100		8	24.09	23.97	24.2	24	24.4	0.01695	0.1356	0.56%	0
Overall		48	24.06	24.04	24.09	24	24.4	0.01443	0.09998	0.42%	0 (0%)



April 26, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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: 3/28/2022  
ABC LAB. NO.: VCF0322.208

#### CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL NOEC = 100.00 %  
TU<sub>c</sub> = 1.00  
EC25 = >100.00 %  
EC50 = >100.00 %

REPRODUCTION NOEC = 100.00 %  
TU<sub>c</sub> = 1.00  
IC25 = >100.00 %  
IC50 = >100.00 %

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 20 Apr-22 16:11 (p 1 of 2)  
 Test Code/ID: VCF0322.208cer / 00-2216-2192

Ceriodaphnia 7-d Survival and Reproduction Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	13-9423-6512	Test Type:	Reproduction-Survival (7d)	Analyst:			
Start Date:	29 Mar-22 11:40	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water		
Ending Date:	05 Apr-22 13:20	Species:	Ceriodaphnia dubia	Brine:	Not Applicable		
Test Length:	7d 2h	Taxon:	Branchiopoda	Source:	Aquatic Biosystems, CO	Age:	<24
Sample ID:	02-3360-8667	Code:	VCF0322.208cer	Project:	NPDES Stormwater Wet Season (Con		
Sample Date:	28 Mar-22 12:55	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	28 Mar-22 14:20	CAS (PC):		Station:	ME-CC		
Sample Age:	23h (11 °C)	Client:	Ventura County Watershed Protection Distri				

Multiple Comparison Summary								
Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
03-9100-7519	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	---	---	1	1
04-8114-9556	Reproduction	Dunnett Multiple Comparison Test	100	>100	---	13.2%	1	1

Point Estimate Summary								
Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
20-2939-9358	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
14-3852-4258	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		
03-9100-7519	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
20-2939-9358	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria
04-8114-9556	Reproduction	Control Resp	26.3	15	<<	Yes	Passes Criteria
14-3852-4258	Reproduction	Control Resp	26.3	15	<<	Yes	Passes Criteria
04-8114-9556	Reproduction	PMSD	0.1316	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	26.3	23.28	29.32	18	32	1.334	4.218	16.04%	0.00%
6.25		10	24.9	22.37	27.43	18	29	1.12	3.542	14.22%	5.32%
12.5		10	24.9	23.07	26.73	21	29	0.809	2.558	10.27%	5.32%
25		10	29.1	26.57	31.63	24	35	1.12	3.542	12.17%	-10.65%
50		10	31.5	29.74	33.26	28	35	0.7782	2.461	7.81%	-19.77%
100		10	30.2	27.61	32.79	26	38	1.143	3.615	11.97%	-14.83%

**CETIS Summary Report**

Report Date: 20 Apr-22 16:11 (p 2 of 2)  
 Test Code/ID: VCF0322.208cer / 00-2216-2192

**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: BB0A6396ECA3E2CA748C0C5EF3CA139D

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	18	30	25	24	28	25	23	31	27	32
6.25		25	28	25	22	18	29	26	21	28	27
12.5		23	25	29	26	27	23	24	28	23	21
25		25	29	28	30	24	28	35	27	34	31
50		35	31	32	28	35	32	30	28	31	33
100		29	26	29	33	33	38	29	29	30	26

**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: 20 Apr-22 16:11 (p 1 of 2)  
 Test Code/ID: VCF0322.208cer / 00-2216-2192

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

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 04-8114-9556	<b>Endpoint:</b> Reproduction	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 16:09	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 16:08	<b>MD5 Hash:</b> BB0A6396ECA3E2CA748C0C5EF3CA139	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 13-9423-6512	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 02-3360-8667	<b>Code:</b> VCF0322.208cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	3.46	13.16%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	0.9262	2.289	3.46	CDF	0.4503	Non-Significant Effect
		12.5	18	0.9262	2.289	3.46	CDF	0.4503	Non-Significant Effect
		25	18	-1.852	2.289	3.46	CDF	0.9991	Non-Significant Effect
		50	18	-3.44	2.289	3.46	CDF	1.0000	Non-Significant Effect
		100	18	-2.58	2.289	3.46	CDF	1.0000	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	26.3	15	<<	Yes	Passes Criteria
PMSD	0.1316	0.13	0.47	Yes	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	402.083	80.4167	5	7.039	4.0E-05	Significant Effect
Error	616.9	11.4241	54			
Total	1018.98		59			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.689	15.09	0.5951	Equal Variances
	Levene Equality of Variance Test	0.6609	3.377	0.6546	Equal Variances
	Mod Levene Equality of Variance Test	0.5425	3.377	0.7432	Equal Variances
Distribution	Anderson-Darling A2 Test	0.227	3.878	0.8470	Normal Distribution
	D'Agostino Kurtosis Test	0.1522	2.576	0.8790	Normal Distribution
	D'Agostino Skewness Test	0.07612	2.576	0.9393	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	0.02896	9.21	0.9856	Normal Distribution
	Kolmogorov-Smirnov D Test	0.06647	0.1331	0.7148	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9923	0.9459	0.9704	Normal Distribution

**Reproduction Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	10	26.3	23.28	29.32	25.67	18	32	1.334	16.04%	0.00%
6.25		10	24.9	22.37	27.43	25.33	18	29	1.12	14.22%	5.32%
12.5		10	24.9	23.07	26.73	24.5	21	29	0.809	10.27%	5.32%
25		10	29.1	26.57	31.63	28.33	24	35	1.12	12.17%	-10.65%
50		10	31.5	29.74	33.26	31.5	28	35	0.7782	7.81%	-19.77%
100		10	30.2	27.61	32.79	29	26	38	1.143	11.97%	-14.83%



Ceriodaphnia 7-d Survival and Reproduction Test

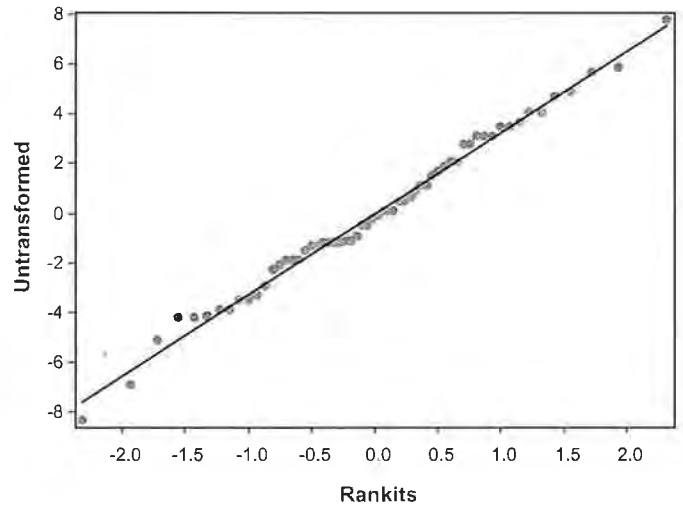
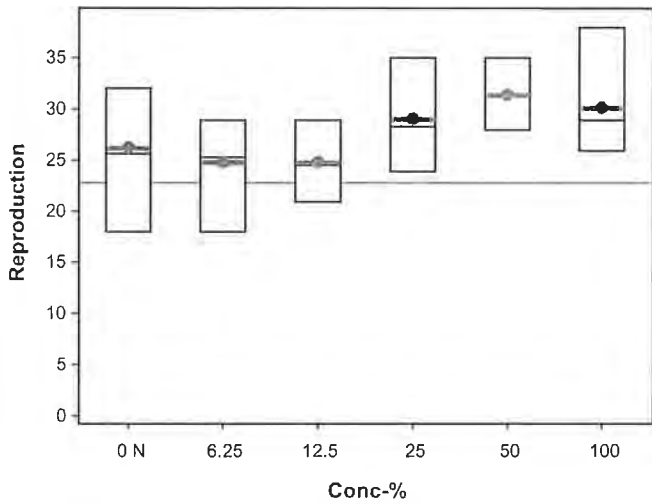
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 04-8114-9556      Endpoint: Reproduction      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 16:09      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Apr-22 16:08      MD5 Hash: BB0A6396ECA3E2CA748C0C5EF3CA139      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	18	30	25	24	28	25	23	31	27	32
6.25		25	28	25	22	18	29	26	21	28	27
12.5		23	25	29	26	27	23	24	28	23	21
25		25	29	28	30	24	28	35	27	34	31
50		35	31	32	28	35	32	30	28	31	33
100		29	26	29	33	33	38	29	29	30	26

Graphics



**CETIS Analytical Report**

Report Date: 20 Apr-22 16:11 (p 1 of 4)  
 Test Code/ID: VCF0322.208cer / 00-2216-2192

Ceriodaphnia 7-d Survival and Reproduction Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 20-2939-9358	Endpoint: 7d Survival Rate	CETIS Version: CETISv2.1.1			
Analyzed: 20 Apr-22 16:09	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 20 Apr-22 16:08	MD5 Hash: 521A0DF2AE1E59D72392DBABE0C7AEF	Editor ID: 008-463-000-3			
Batch ID: 13-9423-6512	Test Type: Reproduction-Survival (7d)	Analyst:			
Start Date: 29 Mar-22 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Laboratory Water			
Ending Date: 05 Apr-22 13:20	Species: Ceriodaphnia dubia	Brine: Not Applicable			
Test Length: 7d 2h	Taxon: Branchiopoda	Source: Aquatic Biosystems, CO Age: <24			
Sample ID: 02-3360-8667	Code: VCF0322.208cer	Project: NPDES Stormwater Wet Season (Con			
Sample Date: 28 Mar-22 12:55	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 28 Mar-22 14:20	CAS (PC):	Station: ME-CC			
Sample Age: 23h (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		TAC Limits			
Attribute	Test Stat	Lower	Upper	Overlap	Decision
Control Resp	1	0.8	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	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	A/B	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

# CETIS Analytical Report

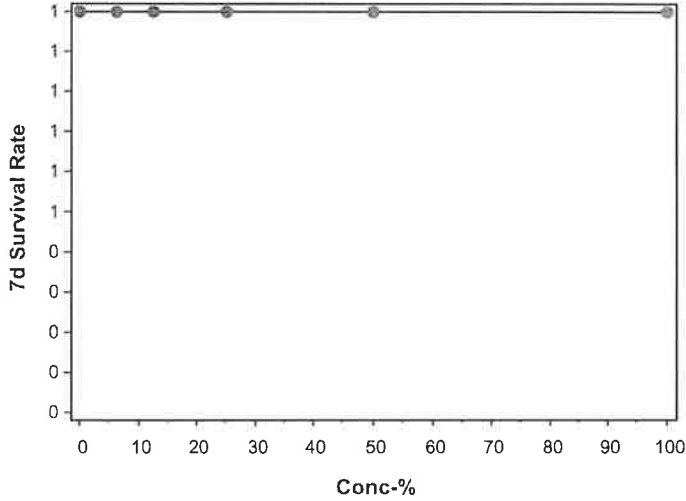
Report Date: 20 Apr-22 16:11 (p 2 of 4)  
Test Code/ID: VCF0322.208cer / 00-2216-2192

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 20-2939-9358	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 16:09	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 16:08	<b>MD5 Hash:</b> 521A0DF2AE1E59D72392DBABE0C7AEF	<b>Editor ID:</b> 008-463-000-3

### Graphics



**CETIS Analytical Report**

Report Date: 20 Apr-22 16:11 (p 3 of 4)

Test Code/ID: VCF0322.208cer / 00-2216-2192

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

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 14-3852-4258      Endpoint: Reproduction      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 16:09      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 20 Apr-22 16:08      MD5 Hash: BB0A6396ECA3E2CA748C0C5EF3CA139      Editor ID: 008-463-000-3

Batch ID: 13-9423-6512      Test Type: Reproduction-Survival (7d)      Analyst:  
 Start Date: 29 Mar-22 11:40      Protocol: EPA/821/R-02-013 (2002)      Diluent: Laboratory Water  
 Ending Date: 05 Apr-22 13:20      Species: Ceriodaphnia dubia      Brine: Not Applicable  
 Test Length: 7d 2h      Taxon: Branchiopoda      Source: Aquatic Biosystems, CO      Age: <24

Sample ID: 02-3360-8667      Code: VCF0322.208cer      Project: NPDES Stormwater Wet Season (Con  
 Sample Date: 28 Mar-22 12:55      Material: Sample Water      Source: Bioassay Report  
 Receipt Date: 28 Mar-22 14:20      CAS (PC):      Station: ME-CC  
 Sample Age: 23h (11 °C)      Client: Ventura County Watershed Protection Distri

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1404864	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	26.3	15	<<	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	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	26.3	25.67	18	32	16.04%	0.00%	27.82	0.00%
6.25		10	24.9	25.33	18	29	14.22%	5.32%	27.82	0.00%
12.5		10	24.9	24.5	21	29	10.27%	5.32%	27.82	0.00%
25		10	29.1	28.33	24	35	12.17%	-10.65%	27.82	0.00%
50		10	31.5	31.5	28	35	7.81%	-19.77%	27.82	0.00%
100		10	30.2	29	26	38	11.97%	-14.83%	27.82	0.00%

**Reproduction Detail**

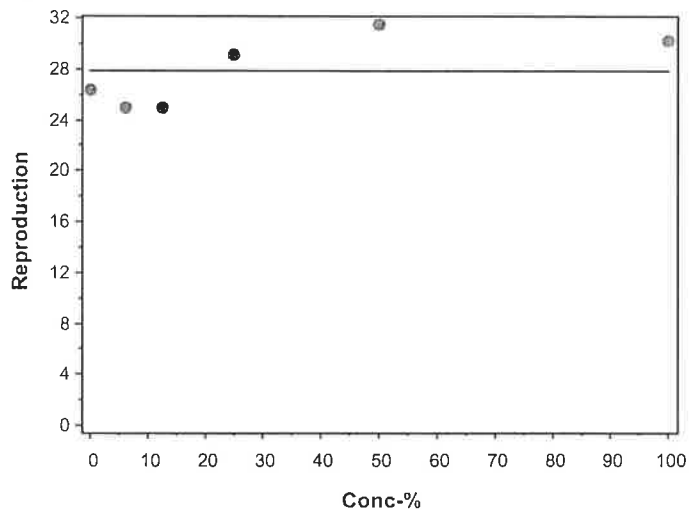
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	18	30	25	24	28	25	23	31	27	32
6.25		25	28	25	22	18	29	26	21	28	27
12.5		23	25	29	26	27	23	24	28	23	21
25		25	29	28	30	24	28	35	27	34	31
50		35	31	32	28	35	32	30	28	31	33
100		29	26	29	33	33	38	29	29	30	26

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 14-3852-4258	Endpoint: Reproduction	CETIS Version: CETISv2.1.1
Analyzed: 20 Apr-22 16:09	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 20 Apr-22 16:08	MD5 Hash: BB0A6396ECA3E2CA748C0C5EF3CA139	Editor ID: 008-463-000-3

Graphics



**CETIS Analytical Report**

**Report Date:** 20 Apr-22 16:11 (p 1 of 2)  
**Test Code/ID:** VCF0322.208cer / 00-2216-2192

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

<b>Analysis ID:</b> 03-9100-7519	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 16:09	<b>Analysis:</b> STP 2xK Contingency Tables	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 16:08	<b>MD5 Hash:</b> 521A0DF2AE1E59D72392DBABE0C7AEF	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 13-9423-6512	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 02-3360-8667	<b>Code:</b> VCF0322.208cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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 Measurement Report

Report Date: 20 Apr-22 16:11 (p 1 of 2)  
 Test Code/ID: VCF0322.208cer / 00-2216-2192

## Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 13-9423-6512	<b>Test Type:</b> Reproduction-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-013 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 05 Apr-22 13:20	<b>Species:</b> Ceriodaphnia dubia	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d 2h	<b>Taxon:</b> Branchiopoda	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b> <24
<b>Sample ID:</b> 02-3360-8667	<b>Code:</b> VCF0322.208cer	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> 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	116	116	116	116	116	0	0	0.00%	0
Overall		16	88	72.59	103.4	60	116	7.23	28.92	32.86%	0 (0%)

### Conductivity-µmhos

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	364.1	362.2	366.1	360	367	0.2946	2.357	0.65%	0
6.25		8	485.5	482.8	488.2	480	490	0.4009	3.207	0.66%	0
12.5		8	485.3	469.5	501	452	502	2.356	18.85	3.88%	0
25		8	542.9	537.4	548.4	530	550	0.8249	6.6	1.22%	0
50		8	678.9	672.5	685.2	670	690	0.9507	7.605	1.12%	0
100		8	990.8	984.7	996.8	974	997	0.9082	7.265	0.73%	0
Overall		48	591.2	532	650.4	360	997	29.42	203.8	34.48%	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	7.588	7.443	7.732	7.4	7.8	0.02159	0.1727	2.28%	0
6.25		8	7.638	7.465	7.81	7.3	7.9	0.02582	0.2066	2.70%	0
12.5		8	7.638	7.49	7.785	7.3	7.8	0.0221	0.1768	2.31%	0
25		8	7.612	7.449	7.776	7.2	7.8	0.02449	0.1959	2.57%	0
50		8	7.625	7.465	7.785	7.2	7.8	0.02386	0.1909	2.50%	0
100		8	7.625	7.465	7.785	7.2	7.8	0.02386	0.1909	2.50%	0
Overall		48	7.621	7.569	7.673	7.2	7.9	0.02595	0.1798	2.36%	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	83	83	83	83	83	0	0	0.00%	0
100		8	213	213	213	213	213	0	0	0.00%	0
Overall		16	148	112.2	183.8	83	213	16.78	67.13	45.36%	0 (0%)

### pH-Units

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	8.037	7.949	8.126	7.9	8.2	0.01326	0.1061	1.32%	0
6.25		8	7.875	7.728	8.022	7.6	8	0.02191	0.1753	2.23%	0
12.5		8	7.875	7.728	8.022	7.6	8	0.02191	0.1753	2.23%	0
25		8	7.863	7.737	7.988	7.6	8	0.01882	0.1506	1.92%	0
50		8	7.875	7.743	8.007	7.6	8	0.01976	0.1581	2.01%	0
100		8	7.863	7.737	7.988	7.6	8	0.01882	0.1506	1.92%	0
Overall		48	7.898	7.852	7.944	7.6	8.2	0.02296	0.1591	2.02%	0 (0%)



# CETIS Measurement Report

Report Date: 20 Apr-22 16:11 (p 2 of 2)  
Test Code/ID: VCF0322.208cer / 00-2216-2192

## 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	24.08	24	24.15	24	24.2	0.01107	0.08857	0.37%	0
12.5		8	24.08	23.99	24.16	24	24.3	0.01294	0.1035	0.43%	0
25		8	24.08	23.98	24.17	24	24.3	0.01456	0.1165	0.48%	0
50		8	24.08	23.99	24.16	24	24.3	0.01294	0.1035	0.43%	0
100		8	24.09	23.97	24.2	24	24.4	0.01695	0.1356	0.56%	0
Overall		48	24.06	24.04	24.09	24	24.4	0.01443	0.09998	0.42%	0 (0%)



April 26, 2022

Mr. Arne Anselm  
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 *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:	3/28/2022
ABC LAB. NO.:	VCF0322.208

#### ACUTE 96 HOURS HYALELLA AZTECA SURVIVAL BIOASSAY

% Survival = 100 % Survival in 100% Sample

\*TU<sub>a</sub> = 0.00

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

Yours very truly,

Scott Johnson  
Laboratory Director

**CETIS Summary Report**

Report Date: 07 Apr-22 10:52 (p 1 of 1)  
 Test Code/ID: VCF0322.208ahya / 19-7562-0503

**Hyalella 96-h Acute Survival Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 21-4736-2044	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 13:15	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 2h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 15-1985-0840	<b>Code:</b> VCF0322.208ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> VCWPD	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
17-9050-2843	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
16-1588-1009	96h Survival Rate	Linear Interpolation (ICPIN)		EC10	>100	---	---	<1	1
				EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

**96h Survival Rate Detail**

MD5: E88740A7CB88EC46B4EC0A60E4B8AEB7

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 initials/signature*

**CETIS Analytical Report**

Report Date: 07 Apr-22 10:52 (p 1 of 2)

Test Code/ID: VCF0322.208ahya / 19-7562-0503

**Hyalella 96-h Acute Survival Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 17-9050-2843	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:35	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:33	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-4736-2044	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 13:15	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 2h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 15-1985-0840	<b>Code:</b> VCF0322.208ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> VCWPD	

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

**Steel Many-One Rank Sum Test**

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	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: 17-9050-2843      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
 Analyzed: 05 Apr-22 15:35      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 05 Apr-22 15:33      MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB      Editor ID: 000-189-126-0

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

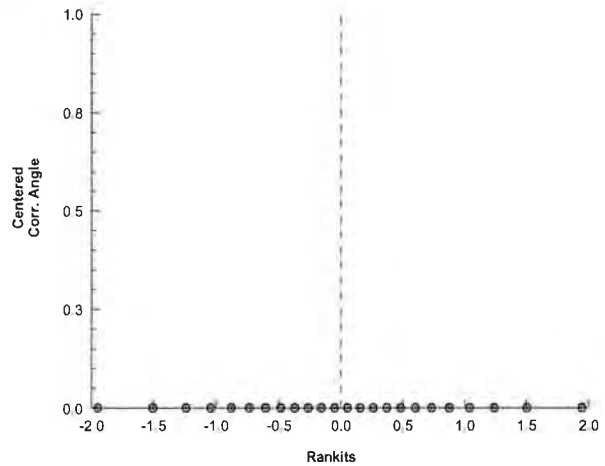
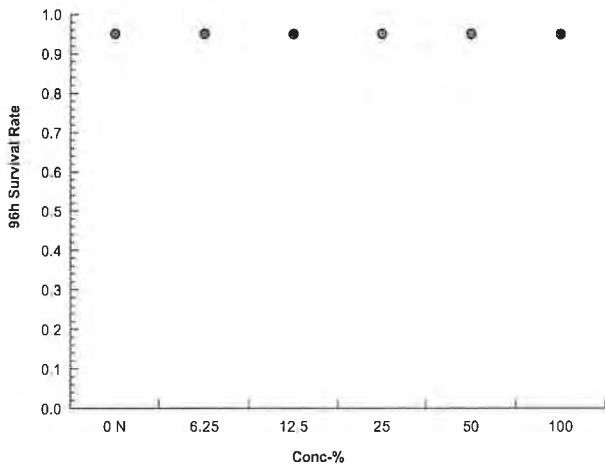
Angular (Corrected) Transformed Detail

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: 07 Apr-22 10:52 (p 1 of 2)

Test Code/ID: VCF0322.208ahya / 19-7562-0503

**Hyalella 96-h Acute Survival Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 16-1588-1009	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:35	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:33	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 21-4736-2044	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 13:15	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 2h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 15-1985-0840	<b>Code:</b> VCF0322.208ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> VCWPD	

**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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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**

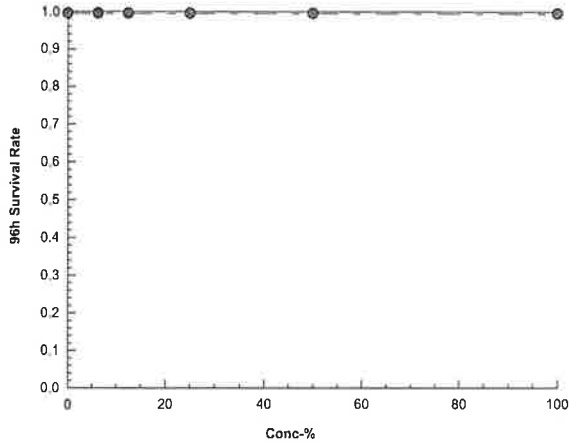
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5

Hyaella 96-h Acute Survival Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 16-1588-1009      Endpoint: 96h Survival Rate      CETIS Version: CETISv1.9.7  
Analyzed: 05 Apr-22 15:35      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 05 Apr-22 15:33      MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB      Editor ID: 000-189-126-0

Graphics



**CETIS Measurement Report**

Report Date: 07 Apr-22 10:52 (p 1 of 4)

Test Code/ID: VCF0322.208ahya / 19-7562-0503

**Hyalella 96-h Acute Survival Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 21-4736-2044	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:40	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 13:15	<b>Species:</b> Hyalella azteca	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 2h	<b>Taxon:</b> Malacostraca	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 15-1985-0840	<b>Code:</b> VCF0322.208ahya	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 23h (11 °C)	<b>Client:</b> VCWPD	

**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	116	116	116	116	116	0	0	0.00%	0
Overall		6	88	55.81	120.2	60	116	12.52	30.67	34.86%	0 (0%)

**Conductivity-µmhos**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	365.7	358.5	372.8	364	369	0.9623	2.887	0.79%	0
6.25		3	467.3	397.2	537.4	435	487	9.406	28.22	6.04%	0
12.5		3	472.3	427.2	517.5	452	487	6.058	18.18	3.85%	0
25		3	540	515.2	564.8	530	550	3.333	10	1.85%	0
50		3	673.3	659	687.7	670	680	1.925	5.774	0.86%	0
100		3	987	958.8	1015	974	995	3.786	11.36	1.15%	0
Overall		18	584.3	480.5	688.1	364	995	49.21	208.8	35.73%	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	7.467	6.893	8.04	7.2	7.6	0.07698	0.2309	3.09%	0
6.25		3	7.667	6.868	8.465	7.3	7.9	0.1072	0.3215	4.19%	0
12.5		3	7.567	6.563	8.571	7.1	7.8	0.1347	0.4041	5.34%	0
25		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
50		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
100		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
Overall		18	7.533	7.369	7.698	7	7.9	0.07796	0.3308	4.39%	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	83	83	83	83	83	0	0	0.00%	0
100		3	213	213	213	213	213	0	0	0.00%	0
Overall		6	148	73.28	222.7	83	213	29.07	71.2	48.11%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.133	7.846	8.42	8	8.2	0.03849	0.1155	1.42%	0
6.25		3	7.767	7.25	8.284	7.6	8	0.06939	0.2082	2.68%	0
12.5		3	7.767	7.25	8.284	7.6	8	0.06939	0.2082	2.68%	0
25		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
50		3	7.8	7.303	8.297	7.6	8	0.06667	0.2	2.56%	0
100		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
Overall		18	7.833	7.732	7.934	7.6	8.2	0.04783	0.2029	2.59%	0 (0%)



# CETIS Measurement Report

Report Date: 07 Apr-22 10:52 (p 2 of 4)

Test Code/ID: VCF0322.208ahya / 19-7562-0503

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%)



**CETIS Measurement Report**

Report Date: 07 Apr-22 10:52 (p 4 of 4)  
 Test Code/ID: VCF0322.208ahya / 19-7562-0503

Hyalella 96-h Acute Survival Test				Aquatic Bioassay & Consulting Labs, Inc.						
<b>Hardness (CaCO3)-mg/L</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		83						
100				213						
0	N	2		83						
100				213						
0	N	3		83						
100				213						
<b>pH-Units</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		8.2						
6.25				7.6						
12.5				7.6						
25				7.6						
50				7.6						
100				7.6						
0	N	2		8.2						
6.25				7.7						
12.5				7.7						
25				7.8						
50				7.8						
100				7.8						
0	N	3		8						
6.25				8						
12.5				8						
25				7.9						
50				8						
100				7.9						
<b>Temperature-°C</b>										
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes	
0	N	1		22						
6.25				22						
12.5				22						
25				22						
50				22						
100				22						
0	N	2		22						
6.25				22						
12.5				22						
25				22						
50				22						
100				22						
0	N	3		22						
6.25				22						
12.5				22						
25				22						
50				22						
100				22						



April 26, 2022

Mr. Arne Anselm  
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 *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:	3/28/2022
ABC LAB. NO.:	VCF0322.208

#### 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: 07 Apr-22 10:53 (p 1 of 1)

Test Code/ID: VCF0322.208achi / 10-5934-5838

**Chironomus 96-Hour Acute Survival Bioassay**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 04-5171-6497	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:20	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 12:12	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 08-8688-4533	<b>Code:</b> VCF0322.208achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 22h (11 °C)	<b>Client:</b> VCWPD	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
10-6358-3737	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
14-1606-4606	96h Survival Rate	Linear Interpolation (ICPIN)	EC10	>100	---	---	<1	1
			EC15	>100	---	---	<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%
6.25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
12.5		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
25		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
50		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%
100		4	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	---	0.00%

**96h Survival Rate Detail**

MD5: E88740A7CB88EC46B4EC0A60E4B8AEB7

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.

<b>Analysis ID:</b> 10-6358-3737	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:38	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:36	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 04-5171-6497	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:20	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 12:12	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 08-8688-4533	<b>Code:</b> VCF0322.208achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 22h (11 °C)	<b>Client:</b> VCWPD	

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

Steel Many-One Rank Sum Test

Control	vs	Conc-%	Test Stat	Critical	Ties	DF	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		12.5	18	10	1	6	CDF	0.8333	Non-Significant Effect
		25	18	10	1	6	CDF	0.8333	Non-Significant Effect
		50	18	10	1	6	CDF	0.8333	Non-Significant Effect
		100	18	10	1	6	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: 10-6358-3737	Endpoint: 96h Survival Rate	CETIS Version: CETISv1.9.7
Analyzed: 05 Apr-22 15:38	Analysis: Nonparametric-Control vs Treatments	Status Level: 1
Edit Date: 05 Apr-22 15:36	MD5 Hash: E88740A7CB88EC46B4EC0A60E4B8AEB	Editor ID: 000-189-126-0

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

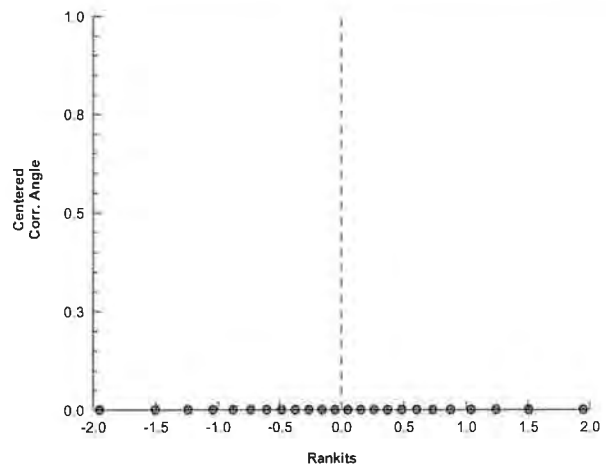
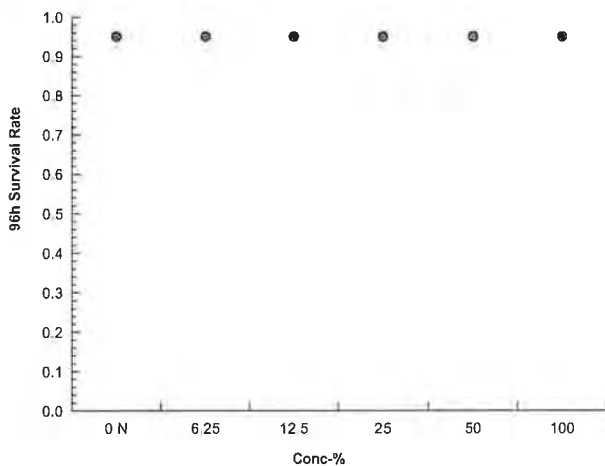
Angular (Corrected) Transformed Detail

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: 07 Apr-22 10:53 (p 1 of 2)  
 Test Code/ID: VCF0322.208achi / 10-5934-5838

**Chironomus 96-Hour Acute Survival Bioassay**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 14-1606-4606	<b>Endpoint:</b> 96h Survival Rate	<b>CETIS Version:</b> CETISv1.9.7
<b>Analyzed:</b> 05 Apr-22 15:38	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 05 Apr-22 15:36	<b>MD5 Hash:</b> E88740A7CB88EC46B4EC0A60E4B8AEB	<b>Editor ID:</b> 000-189-126-0
<b>Batch ID:</b> 04-5171-6497	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:20	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 12:12	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 08-8688-4533	<b>Code:</b> VCF0322.208achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 22h (11 °C)	<b>Client:</b> VCWPD	

**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	TU	95% LCL	95% UCL
EC10	>100	---	---	<1	---	---
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	A/B	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 Measurement Report**

Report Date: 07 Apr-22 10:53 (p 1 of 4)

Test Code/ID: VCF0322.208achi / 10-5934-5838

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

<b>Batch ID:</b> 04-5171-6497	<b>Test Type:</b> Survival (96h)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:20	<b>Protocol:</b> EPA/821/R-02-012 (2002)	<b>Diluent:</b> Laboratory Water
<b>Ending Date:</b> 02 Apr-22 12:12	<b>Species:</b> Chironomus dilutus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 4d 1h	<b>Taxon:</b> Insecta	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>

<b>Sample ID:</b> 08-8688-4533	<b>Code:</b> VCF0322.208achi	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:55	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 14:20	<b>CAS (PC):</b>	<b>Station:</b> ME-CC
<b>Sample Age:</b> 22h (11 °C)	<b>Client:</b> VCWPD	

<b>Alkalinity (CaCO3)-mg/L</b>											
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	116	116	116	116	116	0	0	0.00%	0
Overall		6	88	55.81	120.2	60	116	12.52	30.67	34.86%	0 (0%)

<b>Conductivity-µmhos</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	365.7	358.5	372.8	364	369	0.9623	2.887	0.79%	0
6.25		3	467.3	397.2	537.4	435	487	9.406	28.22	6.04%	0
12.5		3	472.3	427.2	517.5	452	487	6.058	18.18	3.85%	0
25		3	540	515.2	564.8	530	550	3.333	10	1.85%	0
50		3	673.3	659	687.7	670	680	1.925	5.774	0.86%	0
100		3	987	958.8	1015	974	995	3.786	11.36	1.15%	0
Overall		18	584.3	480.5	688.1	364	995	49.21	208.8	35.73%	0 (0%)

<b>Dissolved Oxygen-mg/L</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	7.467	6.893	8.04	7.2	7.6	0.07698	0.2309	3.09%	0
6.25		3	7.633	6.693	8.574	7.2	7.9	0.1262	0.3786	4.96%	0
12.5		3	7.567	6.563	8.571	7.1	7.8	0.1347	0.4041	5.34%	0
25		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
50		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
100		3	7.5	6.417	8.583	7	7.8	0.1453	0.4359	5.81%	0
Overall		18	7.528	7.361	7.695	7	7.9	0.07913	0.3357	4.46%	0 (0%)

<b>Hardness (CaCO3)-mg/L</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	83	83	83	83	83	0	0	0.00%	0
100		3	213	213	213	213	213	0	0	0.00%	0
Overall		6	148	73.28	222.7	83	213	29.07	71.2	48.11%	0 (0%)

<b>pH-Units</b>											
Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	3	8.133	7.846	8.42	8	8.2	0.03849	0.1155	1.42%	0
6.25		3	7.767	7.25	8.284	7.6	8	0.06939	0.2082	2.68%	0
12.5		3	7.767	7.25	8.284	7.6	8	0.06939	0.2082	2.68%	0
25		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
50		3	7.8	7.303	8.297	7.6	8	0.06667	0.2	2.56%	0
100		3	7.767	7.387	8.146	7.6	7.9	0.05092	0.1528	1.97%	0
Overall		18	7.833	7.732	7.934	7.6	8.2	0.04783	0.2029	2.59%	0 (0%)





**CETIS Measurement Report**

Report Date: 07 Apr-22 10:53 (p 4 of 4)

Test Code/ID: VCF0322.208achi / 10-5934-5838

Chironomus 96-Hour Acute Survival Bioassay					Aquatic Bioassay & Consulting Labs, Inc.				
<b>Hardness (CaCO3)-mg/L</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		83					
100				213					
0	N	2		83					
100				213					
0	N	3		83					
100				213					
<b>pH-Units</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		8.2					
6.25				7.6					
12.5				7.6					
25				7.6					
50				7.6					
100				7.6					
0	N	2		8.2					
6.25				7.7					
12.5				7.7					
25				7.8					
50				7.8					
100				7.8					
0	N	3		8					
6.25				8					
12.5				8					
25				7.9					
50				8					
100				7.9					
<b>Temperature-°C</b>									
Conc-%	Code	Read	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	N	1		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	2		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					
0	N	3		22					
6.25				22					
12.5				22					
25				22					
50				22					
100				22					



April 26, 2022

Mr. Arne Anselm  
Ventura County Watershed Protection District  
800 South Victoria Ave  
Ventura, CA 93009

Dear Mr. Anselm:

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: 3/28/2022  
ABC LAB. NO.: VCF0322.210

#### CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

NOEC = 100.00 %

TUc = 1.00

IC25 = >100.00 %

IC50 = >100.00 %

Yours very truly,

Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 26 Apr-22 15:27 (p 1 of 1)  
 Test Code/ID: VCF0322.210urc / 13-9353-4245

Purple Sea Urchin Sperm Cell Fertilization Test				Aquatic Bioassay & Consulting Labs, Inc.			
Batch ID:	21-1242-3588	Test Type:	Fertilization	Analyst:			
Start Date:	29 Mar-22 17:02	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Seawater		
Ending Date:	29 Mar-22 17:42	Species:	Strongylocentrotus purpuratus	Brine:	Not Applicable		
Test Length:	40m	Taxon:	Echinoidea	Source:	Ventura Dive	Age:	
Sample ID:	20-3968-8521	Code:	VCF0322.210urc	Project:	NPDES Stormwater Wet Season (Con		
Sample Date:	28 Mar-22 12:15	Material:	Sample Water	Source:	Bioassay Report		
Receipt Date:	28 Mar-22 16:03	CAS (PC):		Station:	ME-SCR		
Sample Age:	29h (6.5 °C)	Client:	Ventura County Watershed Protection Distri				

Multiple Comparison Summary									
Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	TU	S
16-5106-7595	Fertilization Rate	Dunnett Multiple Comparison Test		100	>100	---	2.81%	1	1

Point Estimate Summary									
Analysis ID	Endpoint	Point Estimate Method	✓	Level	%	95% LCL	95% UCL	TU	S
07-2569-5076	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			Decision
				Lower	Upper	Overlap	
07-2569-5076	Fertilization Rate	Control Resp	0.945	0.7	<<	Yes	Passes Criteria
16-5106-7595	Fertilization Rate	Control Resp	0.945	0.7	<<	Yes	Passes Criteria
16-5106-7595	Fertilization Rate	PMSD	0.02813	<<	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	0.9450	0.9245	0.9655	0.9300	0.9600	0.0065	0.0129	1.37%	0.00%
6.25		4	0.9525	0.9373	0.9677	0.9400	0.9600	0.0048	0.0096	1.01%	-0.79%
12.5		4	0.9300	0.9040	0.9560	0.9100	0.9500	0.0082	0.0163	1.76%	1.59%
25		4	0.9475	0.9323	0.9627	0.9400	0.9600	0.0048	0.0096	1.01%	-0.26%
50		4	0.9475	0.9147	0.9803	0.9300	0.9700	0.0103	0.0206	2.18%	-0.26%
100		4	0.9525	0.9325	0.9725	0.9400	0.9700	0.0063	0.0126	1.32%	-0.79%

Fertilization Rate Detail						MD5: 4AD02C18426753D6BF1C62AB57DA779B					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4						
0	N	0.9600	0.9500	0.9400	0.9300						
6.25		0.9600	0.9400	0.9500	0.9600						
12.5		0.9100	0.9500	0.9300	0.9300						
25		0.9400	0.9600	0.9400	0.9500						
50		0.9300	0.9300	0.9700	0.9600						
100		0.9500	0.9700	0.9400	0.9500						

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

**CETIS Analytical Report**

Report Date: 26 Apr-22 15:27 (p 1 of 3)  
 Test Code/ID: VCF0322.210urc / 13-9353-4245

**Purple Sea Urchin Sperm Cell Fertilization Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 16-5106-7595	<b>Endpoint:</b> Fertilization Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 20 Apr-22 16:20	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 20 Apr-22 16:18	<b>MD5 Hash:</b> 4AD02C18426753D6BF1C62AB57DA779B	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 21-1242-3588	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 17:02	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 29 Mar-22 17:42	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 20-3968-8521	<b>Code:</b> VCF0322.210urc	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	---	1	0.02658	2.81%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	6	-0.7382	2.407	0.05413	CDF	0.9659	Non-Significant Effect
		12.5	6	1.374	2.407	0.05413	CDF	0.2706	Non-Significant Effect
		25	6	-0.2256	2.407	0.05413	CDF	0.8912	Non-Significant Effect
		50	6	-0.3461	2.407	0.05413	CDF	0.9152	Non-Significant Effect
		100	6	-0.7729	2.407	0.05413	CDF	0.9687	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.945	0.7	<<	Yes	Passes Criteria
PMSD	0.02813	<<	0.25	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0063081	0.0012616	5	1.247	0.3285	Non-Significant Effect
Error	0.0182051	0.0010114	18			
Total	0.0245132		23			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.328	15.09	0.8021	Equal Variances
	Levene Equality of Variance Test	1.362	4.248	0.2845	Equal Variances
	Mod Levene Equality of Variance Test	1.065	4.248	0.4117	Equal Variances
Distribution	Anderson-Darling A2 Test	0.337	3.878	0.5094	Normal Distribution
	D'Agostino Kurtosis Test	1.316	2.576	0.1883	Normal Distribution
	D'Agostino Skewness Test	0.5932	2.576	0.5531	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	2.083	9.21	0.3530	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1022	0.2056	0.7946	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9551	0.884	0.3479	Normal Distribution

**Fertilization Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	4	0.9450	0.9245	0.9655	0.9450	0.9300	0.9600	0.0065	1.37%	0.00%
6.25		4	0.9525	0.9373	0.9677	0.9567	0.9400	0.9600	0.0048	1.01%	-0.79%
12.5		4	0.9300	0.9040	0.9560	0.9300	0.9100	0.9500	0.0082	1.76%	1.59%
25		4	0.9475	0.9323	0.9627	0.9433	0.9400	0.9600	0.0048	1.01%	-0.26%
50		4	0.9475	0.9147	0.9803	0.9400	0.9300	0.9700	0.0103	2.18%	-0.26%
100		4	0.9525	0.9325	0.9725	0.9500	0.9400	0.9700	0.0063	1.32%	-0.79%



**CETIS Analytical Report**

Report Date: 26 Apr-22 15:27 (p 2 of 3)  
 Test Code/ID: VCF0322.210urc / 13-9353-4245

**Purple Sea Urchin Sperm Cell Fertilization Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

Analysis ID: 16-5106-7595      Endpoint: Fertilization Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 20 Apr-22 16:20      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 20 Apr-22 16:18      MD5 Hash: 4AD02C18426753D6BF1C62AB57DA779B      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	1.3350	1.2900	1.3810	1.3340	1.3030	1.3690	0.0143	2.14%	0.00%
6.25		4	1.3520	1.3170	1.3870	1.3610	1.3230	1.3690	0.0111	1.64%	-1.24%
12.5		4	1.3040	1.2530	1.3560	1.3030	1.2660	1.3450	0.0162	2.48%	2.31%
25		4	1.3400	1.3050	1.3750	1.3310	1.3230	1.3690	0.0110	1.64%	-0.38%
50		4	1.3430	1.2670	1.4190	1.3250	1.3030	1.3970	0.0238	3.54%	-0.58%
100		4	1.3530	1.3030	1.4020	1.3450	1.3230	1.3970	0.0156	2.30%	-1.30%

**Fertilization Rate Detail**

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

**Angular (Corrected) Transformed Detail**

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

**Fertilization Rate Binomials**

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

**CETIS Analytical Report**

Report Date: 26 Apr-22 15:27 (p 1 of 2)  
 Test Code/ID: VCF0322.210urc / 13-9353-4245

Purple Sea Urchin Sperm Cell Fertilization Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 07-2569-5076	Endpoint: Fertilization Rate	CETIS Version: CETISv2.1.1			
Analyzed: 20 Apr-22 16:20	Analysis: Linear Interpolation (ICPIN)	Status Level: 1			
Edit Date: 20 Apr-22 16:18	MD5 Hash: 4AD02C18426753D6BF1C62AB57DA779B	Editor ID: 008-463-000-3			
Batch ID: 21-1242-3588	Test Type: Fertilization	Analyst:			
Start Date: 29 Mar-22 17:02	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 29 Mar-22 17:42	Species: Strongylocentrotus purpuratus	Brine: Not Applicable			
Test Length: 40m	Taxon: Echinoidea	Source: Ventura Dive <b>Age:</b>			
Sample ID: 20-3968-8521	Code: VCF0322.210urc	Project: NPDES Stormwater Wet Season (Con			
Sample Date: 28 Mar-22 12:15	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 28 Mar-22 16:03	CAS (PC):	Station: ME-SCR			
Sample Age: 29h (6.5 °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	0.945	0.7	<<	Yes	Passes Criteria

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

Fertilization Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-%	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	N	4	0.9450	0.9450	0.9300	0.9600	1.37%	0.00%	378/400	0.9487	0.00%
6.25		4	0.9525	0.9567	0.9400	0.9600	1.01%	-0.79%	381/400	0.9487	0.00%
12.5		4	0.9300	0.9300	0.9100	0.9500	1.76%	1.59%	372/400	0.9444	0.46%
25		4	0.9475	0.9433	0.9400	0.9600	1.01%	-0.26%	379/400	0.9444	0.46%
50		4	0.9475	0.9400	0.9300	0.9700	2.18%	-0.26%	379/400	0.9444	0.46%
100		4	0.9525	0.9500	0.9400	0.9700	1.32%	-0.79%	381/400	0.9444	0.46%

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

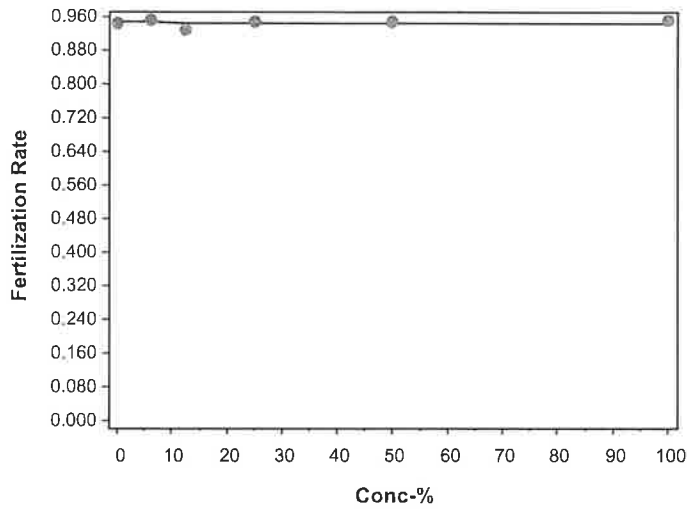
Fertilization Rate Binomials					
Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	96/100	95/100	94/100	93/100
6.25		96/100	94/100	95/100	96/100
12.5		91/100	95/100	93/100	93/100
25		94/100	96/100	94/100	95/100
50		93/100	93/100	97/100	96/100
100		95/100	97/100	94/100	95/100

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-2569-5076      Endpoint: Fertilization Rate      CETIS Version: CETISv2.1.1  
Analyzed: 20 Apr-22 16:20      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 20 Apr-22 16:18      MD5 Hash: 4AD02C18426753D6BF1C62AB57DA779B      Editor ID: 008-463-000-3

Graphics



**CETIS Measurement Report**

Report Date: 26 Apr-22 15:27 (p 1 of 1)

Test Code/ID: VCF0322.210urc / 13-9353-4245

**Purple Sea Urchin Sperm Cell Fertilization Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 21-1242-3588	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 17:02	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 29 Mar-22 17:42	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 20-3968-8521	<b>Code:</b> VCF0322.210urc	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 29h (6.5 °C)	<b>Client:</b> 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	7	7	7	7	0	0	0.00%	0
6.25		2	6.8	6.788	6.812	6.8	6.8	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	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
50		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
100		2	6.7	6.683	6.717	6.7	6.7	0	0	0.00%	0
Overall		12	6.85	6.786	6.914	6.7	7	0.02887	0.1	1.46%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.8	7.787	7.813	7.8	7.8	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	7.7	7.698	7.702	7.7	7.7	0	0	0.00%	0
25		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
50		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
100		2	8	8	8	8	8	0	0	0.00%	0
Overall		12	7.783	7.703	7.864	7.6	8	0.03658	0.1267	1.63%	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%)



April 26, 2022

Mr. Arne Anselm  
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: 3/28/2022  
ABC LAB. NO.: VCF0322.210

#### CHRONIC KELP GERMINATION AND GROWTH BIOASSAY

GERMINATION NOEC = 100.00 %  
TU<sub>c</sub> = 1.00  
EC25 = >100.00 %  
EC50 = >100.00 %

TUBE LENGTH NOEC = 100.00 %  
TU<sub>c</sub> = 1.00  
IC25 = >100.00 %  
IC50 = >100.00 %

Yours very truly,

  
Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 26 Apr-22 16:06 (p 1 of 2)

Test Code/ID: VCF0322.210klp / 04-6579-4553

## Macrocyctis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 01-2003-9176	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 30 Mar-22 17:10	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 01 Apr-22 17:10	<b>Species:</b> Macrocyctis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 18-7754-1836	<b>Code:</b> VCF0322.210klp	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 53h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

## Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
11-3810-7386	Germination Rate	Dunnett Multiple Comparison Test	100	>100	---	3.32%	1	1
07-1412-3453	Mean Length	Dunnett Multiple Comparison Test	100	>100	---	1.54%	1	1

## Point Estimate Summary

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
11-1507-4440	Germination Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
01-6683-8148	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			Overlap	Decision
				Lower	Upper			
11-1507-4440	Germination Rate	Control Resp	0.938	0.7	<<	Yes	Passes Criteria	
11-3810-7386	Germination Rate	Control Resp	0.938	0.7	<<	Yes	Passes Criteria	
01-6683-8148	Mean Length	Control Resp	13.16	10	<<	Yes	Passes Criteria	
07-1412-3453	Mean Length	Control Resp	13.16	10	<<	Yes	Passes Criteria	
11-3810-7386	Germination Rate	PMSD	0.03322	<<	0.2	No	Passes Criteria	
07-1412-3453	Mean Length	PMSD	0.01544	<<	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	0.9380	0.9218	0.9542	0.9300	0.9600	0.0058	0.0130	1.39%	0.00%
6.25		5	0.9380	0.9111	0.9649	0.9100	0.9600	0.0097	0.0217	2.31%	0.00%
12.5		5	0.9240	0.8928	0.9552	0.9000	0.9600	0.0112	0.0251	2.72%	1.49%
25		5	0.9340	0.9083	0.9597	0.9000	0.9500	0.0093	0.0207	2.22%	0.43%
50		5	0.9420	0.9151	0.9689	0.9100	0.9600	0.0097	0.0217	2.30%	-0.43%
100		5	0.9460	0.9318	0.9602	0.9300	0.9600	0.0051	0.0114	1.21%	-0.85%

## Mean Length Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	13.16	13.02	13.3	13	13.3	0.05099	0.114	0.87%	0.00%
6.25		5	13.16	12.97	13.35	13	13.4	0.06782	0.1517	1.15%	0.00%
12.5		5	13.26	12.99	13.53	13	13.6	0.09798	0.2191	1.65%	-0.76%
25		5	13.1	12.95	13.25	12.9	13.2	0.05477	0.1225	0.93%	0.46%
50		5	13.12	13.02	13.22	13	13.2	0.03742	0.08367	0.64%	0.30%
100		5	13.2	13.11	13.29	13.1	13.3	0.03162	0.07071	0.54%	-0.30%

*PAS*

# CETIS Summary Report

Report Date: 26 Apr-22 16:06 (p 2 of 2)

Test Code/ID: VCF0322.210klp / 04-6579-4553

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Germination Rate Detail

MD5: E6A239984EE5B0174852CC63844AAF9F

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

### Mean Length Detail

MD5: 8E4B8691BF9A9BB248C485B6213EA19E

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.3	13.2	13.2	13.1	13
6.25		13.4	13.1	13.2	13.1	13
12.5		13.6	13.3	13.2	13	13.2
25		13.1	13.2	13.2	12.9	13.1
50		13.2	13.1	13.1	13	13.2
100		13.3	13.2	13.2	13.1	13.2

### Germination Rate Binomials

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

**CETIS Analytical Report**

Report Date: 26 Apr-22 16:05 (p 1 of 3)  
 Test Code/ID: VCF0322.210klp / 04-6579-4553

**Macrocystis Germination and Germ Tube Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-3810-7386      Endpoint: Germination Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 16:04      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 26 Apr-22 16:01      MD5 Hash: E6A239984EE5B0174852CC63844AAF9F      Editor ID: 008-463-000-3

Batch ID: 01-2003-9176      Test Type: Growth-Germination      Analyst:  
 Start Date: 30 Mar-22 17:10      Protocol: EPA/600/R-95/136 (1995)      Diluent: Laboratory Seawater  
 Ending Date: 01 Apr-22 17:10      Species: Macrocystis pyrifera      Brine: Not Applicable  
 Test Length: 48h      Taxon: Ochrophyta      Source: Ventura Dive      Age:

Sample ID: 18-7754-1836      Code: VCF0322.210klp      Project: NPDES Stormwater Wet Season (Con  
 Sample Date: 28 Mar-22 12:15      Material: Sample Water      Source: Bioassay Report  
 Receipt Date: 28 Mar-22 16:03      CAS (PC):      Station: ME-SCR  
 Sample Age: 53h (6.5 °C)      Client: Ventura County Watershed Protection Distri

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	100	>100	--	1	0.03116	3.32%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	-0.06546	2.362	0.05975	CDF	0.8520	Non-Significant Effect
		12.5	8	1.011	2.362	0.05975	CDF	0.4152	Non-Significant Effect
		25	8	0.2837	2.362	0.05975	CDF	0.7362	Non-Significant Effect
		50	8	-0.4066	2.362	0.05975	CDF	0.9260	Non-Significant Effect
		100	8	-0.668	2.362	0.05975	CDF	0.9600	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.938	0.7	<<	Yes	Passes Criteria
PMSD	0.03322	<<	0.2	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0054846	0.0010969	5	0.6855	0.6390	Non-Significant Effect
Error	0.0384056	0.0016002	24			
Total	0.0438902		29			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	2.471	15.09	0.7809	Equal Variances
	Levene Equality of Variance Test	1.345	3.895	0.2795	Equal Variances
	Mod Levene Equality of Variance Test	0.4155	4.248	0.8318	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3599	3.878	0.4529	Normal Distribution
	D'Agostino Kurtosis Test	1.151	2.576	0.2498	Normal Distribution
	D'Agostino Skewness Test	0.1457	2.576	0.8841	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.346	9.21	0.5102	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1052	0.1853	0.5330	Normal Distribution
	Shapiro-Wilk W Normality Test	0.971	0.9031	0.5665	Normal Distribution

**Germination Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9380	0.9218	0.9542	0.9300	0.9300	0.9600	0.0058	1.39%	0.00%
6.25		5	0.9380	0.9111	0.9649	0.9500	0.9100	0.9600	0.0097	2.31%	0.00%
12.5		5	0.9240	0.8928	0.9552	0.9100	0.9000	0.9600	0.0112	2.72%	1.49%
25		5	0.9340	0.9083	0.9597	0.9400	0.9000	0.9500	0.0093	2.22%	0.43%
50		5	0.9420	0.9151	0.9689	0.9500	0.9100	0.9600	0.0097	2.30%	-0.43%
100		5	0.9460	0.9318	0.9602	0.9500	0.9300	0.9600	0.0051	1.21%	-0.85%



Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-3810-7386      Endpoint: Germination Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 16:04      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 26 Apr-22 16:01      MD5 Hash: E6A239984EE5B0174852CC63844AAF9F      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	1.3200	1.2850	1.3560	1.3030	1.3030	1.3690	0.0129	2.18%	0.00%
6.25		5	1.3220	1.2670	1.3770	1.3450	1.2660	1.3690	0.0199	3.36%	-0.13%
12.5		5	1.2950	1.2320	1.3570	1.2660	1.2490	1.3690	0.0225	3.89%	1.94%
25		5	1.3130	1.2640	1.3630	1.3230	1.2490	1.3450	0.0179	3.04%	0.54%
50		5	1.3310	1.2750	1.3870	1.3450	1.2660	1.3690	0.0202	3.39%	-0.78%
100		5	1.3370	1.3060	1.3680	1.3450	1.3030	1.3690	0.0113	1.88%	-1.28%

Germination Rate Detail

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

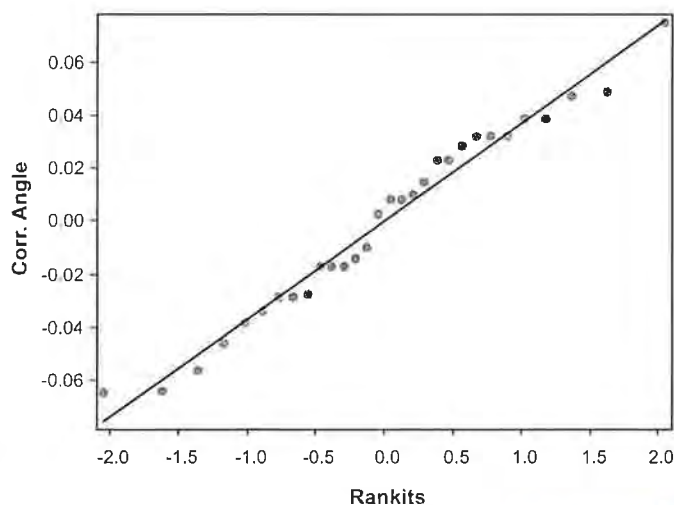
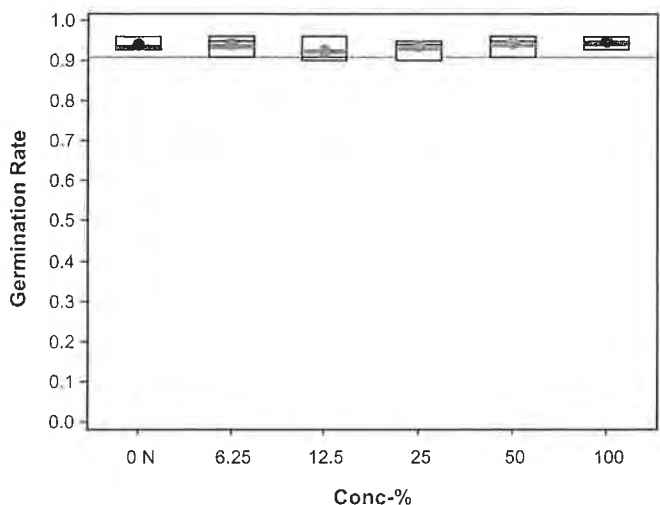
Angular (Corrected) Transformed Detail

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

Germination Rate Binomials

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

Graphics



**CETIS Analytical Report**

Report Date: 26 Apr-22 16:05 (p 3 of 3)  
 Test Code/ID: VCF0322.210klp / 04-6579-4553

**Macrocystis Germination and Germ Tube Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 07-1412-3453	<b>Endpoint:</b> Mean Length	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 26 Apr-22 16:04	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 26 Apr-22 16:01	<b>MD5 Hash:</b> 8E4B8691BF9A9BB248C485B6213EA19E	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 01-2003-9176	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 30 Mar-22 17:10	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 01 Apr-22 17:10	<b>Species:</b> Macrocystis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 18-7754-1836	<b>Code:</b> VCF0322.210klp	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 53h (6.5 °C)	<b>Client:</b> Ventura County Watershed Protection Distri	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	--	1	0.2032	1.54%

**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	2.362	0.2032	CDF	0.8333	Non-Significant Effect
		12.5	8	-1.162	2.362	0.2032	CDF	0.9895	Non-Significant Effect
		25	8	0.6975	2.362	0.2032	CDF	0.5582	Non-Significant Effect
		50	8	0.465	2.362	0.2032	CDF	0.6621	Non-Significant Effect
		100	8	-0.465	2.362	0.2032	CDF	0.9351	Non-Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.16	10	<<	Yes	Passes Criteria
PMSD	0.01544	<<	0.2	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	0.0826667	0.0165333	5	0.8937	0.5010	Non-Significant Effect
Error	0.444	0.0185	24			
Total	0.526667		29			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	6.094	15.09	0.2972	Equal Variances
	Levene Equality of Variance Test	1.096	3.895	0.3883	Equal Variances
	Mod Levene Equality of Variance Test	0.6935	4.248	0.6350	Equal Variances
Distribution	Anderson-Darling A2 Test	0.4452	3.878	0.2878	Normal Distribution
	D'Agostino Kurtosis Test	1.433	2.576	0.1519	Normal Distribution
	D'Agostino Skewness Test	1.07	2.576	0.2847	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	3.197	9.21	0.2022	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1139	0.1853	0.4003	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9674	0.9031	0.4705	Normal Distribution

**Mean Length Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	13.16	13.02	13.3	13.2	13	13.3	0.05099	0.87%	0.00%
6.25		5	13.16	12.97	13.35	13.1	13	13.4	0.06782	1.15%	0.00%
12.5		5	13.26	12.99	13.53	13.2	13	13.6	0.09797	1.65%	-0.76%
25		5	13.1	12.95	13.25	13.1	12.9	13.2	0.05477	0.93%	0.46%
50		5	13.12	13.02	13.22	13.1	13	13.2	0.03742	0.64%	0.30%
100		5	13.2	13.11	13.29	13.2	13.1	13.3	0.03161	0.54%	-0.30%

Macrocystis Germination and Germ Tube Growth Test

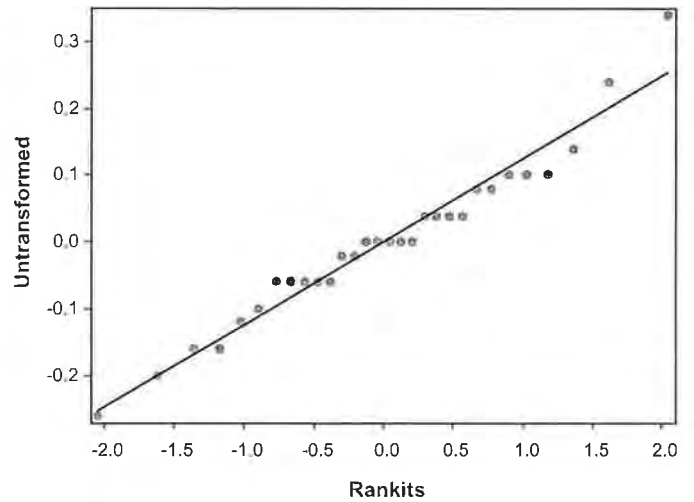
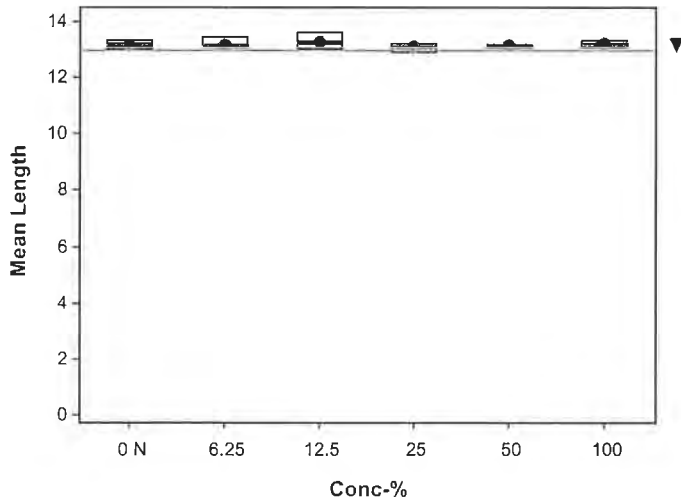
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-1412-3453      Endpoint: Mean Length      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 16:04      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 26 Apr-22 16:01      MD5 Hash: 8E4B8691BF9A9BB248C485B6213EA19E      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	13.2	13.2	13.1	13
6.25		13.4	13.1	13.2	13.1	13
12.5		13.6	13.3	13.2	13	13.2
25		13.1	13.2	13.2	12.9	13.1
50		13.2	13.1	13.1	13	13.2
100		13.3	13.2	13.2	13.1	13.2

Graphics



**CETIS Analytical Report**

Report Date: 26 Apr-22 16:05 (p 1 of 4)

Test Code/ID: VCF0322.210klp / 04-6579-4553

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 11-1507-4440	Endpoint: Germination Rate	CETIS Version: CETISv2.1.1	Analized: 26 Apr-22 16:04	Analysis: Linear Interpolation (ICPIN)	Status Level: 1
Edit Date: 26 Apr-22 16:01	MD5 Hash: E6A239984EE5B0174852CC63844AAF9F	Editor ID: 008-463-000-3	Batch ID: 01-2003-9176	Test Type: Growth-Germination	Analyst:
Start Date: 30 Mar-22 17:10	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater	Ending Date: 01 Apr-22 17:10	Species: Macrocystis pyrifera	Brine: Not Applicable
Test Length: 48h	Taxon: Ochrophyta	Source: Ventura Dive	Age:	Sample ID: 18-7754-1836	Code: VCF0322.210klp
Sample Date: 28 Mar-22 12:15	Material: Sample Water	Project: NPDES Stormwater Wet Season (Con	Receipt Date: 28 Mar-22 16:03	CAS (PC):	Source: Bioassay Report
Sample Age: 53h (6.5 °C)	Client: Ventura County Watershed Protection Distri	Station: ME-SCR			

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	0.938	0.7	<<	Yes	Passes Criteria

Point Estimates						
Level	%	95% LCL	95% UCL	TU	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	A/B	Mean	%Effect
0	N	5	0.9380	0.9300	0.9300	0.9600	1.39%	0.00%	469/500	0.9380	0.00%
6.25		5	0.9380	0.9500	0.9100	0.9600	2.31%	0.00%	469/500	0.9380	0.00%
12.5		5	0.9240	0.9100	0.9000	0.9600	2.72%	1.49%	462/500	0.9365	0.16%
25		5	0.9340	0.9400	0.9000	0.9500	2.22%	0.43%	467/500	0.9365	0.16%
50		5	0.9420	0.9500	0.9100	0.9600	2.30%	-0.43%	471/500	0.9365	0.16%
100		5	0.9460	0.9500	0.9300	0.9600	1.21%	-0.85%	473/500	0.9365	0.16%

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

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









# CETIS Measurement Report

Report Date: 26 Apr-22 16:06 (p 1 of 1)

Test Code/ID: VCF0322.210klp / 04-6579-4553

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 01-2003-9176	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 30 Mar-22 17:10	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 01 Apr-22 17:10	<b>Species:</b> Macrocystis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 18-7754-1836	<b>Code:</b> VCF0322.210klp	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 53h (6.5 °C)	<b>Client:</b> 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	6.5	2.688	10.31	6.2	6.8	0.2121	0.4243	6.53%	0
6.25		2	6.65	6.015	7.285	6.6	6.7	0.03534	0.07069	1.06%	0
12.5		2	6.55	5.915	7.185	6.5	6.6	0.03535	0.0707	1.08%	0
25		2	6.6	5.329	7.871	6.5	6.7	0.07071	0.1414	2.14%	0
50		2	6.55	3.373	9.727	6.3	6.8	0.1768	0.3536	5.40%	0
100		2	6.45	4.544	8.356	6.3	6.6	0.1061	0.2121	3.29%	0
Overall		12	6.55	6.424	6.676	6.2	6.8	0.05708	0.1977	3.02%	0 (0%)

### pH-Units

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	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
12.5		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
25		2	7.95	7.315	8.585	7.9	8	0.03535	0.0707	0.89%	0
50		2	7.95	7.315	8.585	7.9	8	0.03535	0.0707	0.89%	0
100		2	8.05	7.415	8.685	8	8.1	0.03536	0.07073	0.88%	0
Overall		12	7.942	7.899	7.984	7.9	8.1	0.0193	0.06686	0.84%	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	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
6.25		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
12.5		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
25		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
50		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
100		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		12	14.85	14.82	14.88	14.8	14.9	0.01508	0.05222	0.35%	0 (0%)





April 26, 2022

Mr. Arne Anselm  
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 Estuarine Organisms, EPA/821/R-02-014*. Results were as follows:

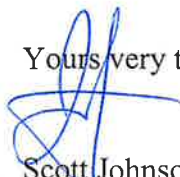
CLIENT: Ventura County Watershed Protection District  
SAMPLE I.D.: ME-SCR  
DATE RECEIVED: 3/28/2022  
ABC LAB. NO.: VCF0322.210

#### CHRONIC TOPSMELT SURVIVAL AND 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 Apr-22 08:56 (p 1 of 2)

Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 05-0635-9414	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:30	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 05 Apr-22 11:08	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 19-7331-8746	<b>Code:</b> VCF0322.210tops	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 23h (6.5 °C)	<b>Client:</b> VCWPD	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	TU	S
07-8864-3711	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	---	---	1	1
09-1330-1152	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	---	2.26%	1	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	%	95% LCL	95% UCL	TU	S
18-3070-5691	7d Survival Rate	Linear Interpolation (ICPIN)	✓ EC15	>100	---	---	<1	1
			✓ EC20	>100	---	---	<1	
			✓ EC25	>100	---	---	<1	
			✓ EC40	>100	---	---	<1	
			✓ EC50	>100	---	---	<1	
08-2988-3575	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			
07-8864-3711	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
18-3070-5691	7d Survival Rate	Control Resp	1	0.8	<<	Yes	Passes Criteria	
08-2988-3575	Mean Dry Biomass-mg	Control Resp	1.427	0.85	<<	Yes	Passes Criteria	
09-1330-1152	Mean Dry Biomass-mg	Control Resp	1.427	0.85	<<	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	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		5	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	5	1.427	1.4	1.454	1.41	1.464	0.009831	0.02198	1.54%	0.00%
6.25		5	1.422	1.416	1.429	1.416	1.43	0.002482	0.00555	0.39%	0.31%
12.5		5	1.43	1.388	1.472	1.404	1.488	0.01509	0.03375	2.36%	-0.20%
25		5	1.431	1.42	1.441	1.422	1.44	0.003826	0.008556	0.60%	-0.28%
50		5	1.444	1.406	1.482	1.406	1.48	0.01352	0.03023	2.09%	-1.21%
100		5	1.417	1.402	1.433	1.402	1.432	0.005607	0.01254	0.88%	0.67%

**CETIS Summary Report**

Report Date: 21 Apr-22 08:56 (p 2 of 2)  
 Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**7d Survival Rate Detail**

MD5: 0DC5ABA07818A6ABCDE75EC39DEAA80

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	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

**Mean Dry Biomass-mg Detail**

MD5: 51123A41220B6D4236C1739152FEAD87

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.42	1.412	1.428	1.464	1.41
6.25		1.42	1.43	1.426	1.416	1.42
12.5		1.488	1.41	1.42	1.404	1.426
25		1.422	1.438	1.422	1.44	1.432
50		1.48	1.426	1.468	1.406	1.44
100		1.414	1.428	1.402	1.432	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	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

**CETIS Analytical Report**

Report Date: 21 Apr-22 08:56 (p 1 of 4)  
 Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test** **Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 07-8864-3711	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 21 Apr-22 8:55	<b>Analysis:</b> Nonparametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 21 Apr-22 8:54	<b>MD5 Hash:</b> 0DC5ABA07818A6ABCDE75EC39DEAA80	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 05-0635-9414	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:30	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 05 Apr-22 11:08	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 19-7331-8746	<b>Code:</b> VCF0322.210tops	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 23h (6.5 °C)	<b>Client:</b> VCWPD	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU
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	8	27.5	16	1	CDF	0.8333	Non-Significant Effect
		12.5	8	27.5	16	1	CDF	0.8333	Non-Significant Effect
		25	8	27.5	16	1	CDF	0.8333	Non-Significant Effect
		50	8	27.5	16	1	CDF	0.8333	Non-Significant Effect
		100	8	27.5	16	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	24			
Total	0		29			

**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	5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
6.25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
12.5		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
25		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
50		5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00%	0.00%
100		5	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	5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
6.25		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
12.5		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
25		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
50		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%
100		5	1.3450	1.3450	1.3460	1.3450	1.3450	1.3450	0.0000	0.00%	0.00%

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 07-8864-3711      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 21 Apr-22 8:55      Analysis: Nonparametric-Control vs Treatments      Status Level: 1  
 Edit Date: 21 Apr-22 8:54      MD5 Hash: 0DC5ABA07818A6ABCDE75EC39DEAA80      Editor ID: 008-463-000-3

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	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000

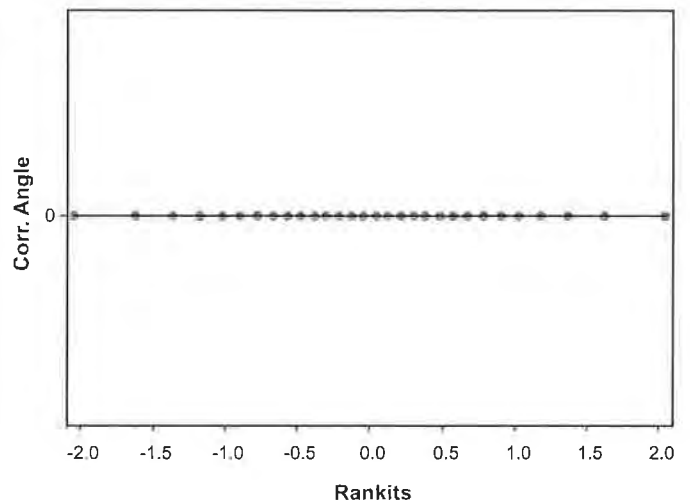
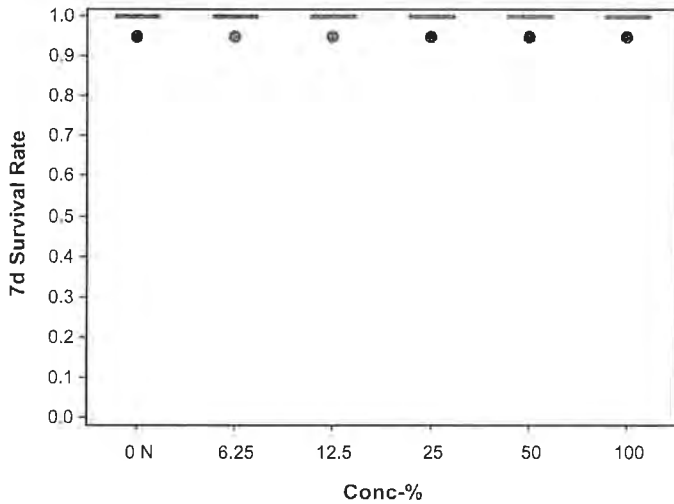
Angular (Corrected) Transformed Detail

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	1.3450	1.3450	1.3450
12.5		1.3450	1.3450	1.3450	1.3450	1.3450
25		1.3450	1.3450	1.3450	1.3450	1.3450
50		1.3450	1.3450	1.3450	1.3450	1.3450
100		1.3450	1.3450	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	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

Graphics



*[Handwritten signature]*

**CETIS Analytical Report**

Report Date: 21 Apr-22 08:56 (p 3 of 4)  
 Test Code/ID: VCF0322.210tops / 05-8162-0738

Pacific Topsmelt 7-d Survival and Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 09-1330-1152	Endpoint: Mean Dry Biomass-mg	CETIS Version: CETISv2.1.1			
Analyzed: 21 Apr-22 8:55	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 21 Apr-22 8:54	MD5 Hash: 51123A41220B6D4236C1739152FEAD87	Editor ID: 008-463-000-3			
Batch ID: 05-0635-9414	Test Type: Growth-Survival (7d)	Analyst:			
Start Date: 29 Mar-22 11:30	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 05 Apr-22 11:08	Species: Atherinops affinis	Brine: Not Applicable			
Test Length: 7d	Taxon: Actinopterygii	Source: Aquatic Biosystems, CO Age:			
Sample ID: 19-7331-8746	Code: VCF0322.210tops	Project: NPDES Stormwater Wet Season (Con			
Sample Date: 28 Mar-22 12:15	Material: Sample Water	Source: Bioassay Report			
Receipt Date: 28 Mar-22 16:03	CAS (PC):	Station: ME-SCR			
Sample Age: 23h (6.5 °C)	Client: VCWPD				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	100	>100	---	1	0.03225	2.26%

Dunnnett Multiple Comparison Test									
Control	vs	Conc-%	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		6.25	8	0.3222	2.362	0.03225	CDF	0.7212	Non-Significant Effect
		12.5	8	-0.205	2.362	0.03225	CDF	0.8868	Non-Significant Effect
		25	8	-0.2929	2.362	0.03225	CDF	0.9054	Non-Significant Effect
		50	8	-1.26	2.362	0.03225	CDF	0.9921	Non-Significant Effect
		100	8	0.703	2.362	0.03225	CDF	0.5556	Non-Significant Effect

Test Acceptability Criteria		TAC Limits		Overlap	Decision
Attribute	Test Stat	Lower	Upper		
Control Resp	1.427	0.85	<<	Yes	Passes Criteria

ANOVA Table							
Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)	
Between	0.0020727	0.0004145	5	0.8892	0.5037	Non-Significant Effect	
Error	0.0111888	0.0004662	24				
Total	0.0132615		29				

ANOVA Assumptions Tests						
Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)	
Variance	Bartlett Equality of Variance Test	14.78	15.09	0.0114	Equal Variances	
	Levene Equality of Variance Test	2.331	3.895	0.0736	Equal Variances	
	Mod Levene Equality of Variance Test	1.606	4.248	0.2091	Equal Variances	
Distribution	Anderson-Darling A2 Test	0.9389	3.878	0.0174	Normal Distribution	
	D'Agostino Kurtosis Test	1.894	2.576	0.0582	Normal Distribution	
	D'Agostino Skewness Test	2.368	2.576	0.0179	Normal Distribution	
	D'Agostino-Pearson K2 Omnibus Test	9.196	9.21	0.0101	Normal Distribution	
	Kolmogorov-Smirnov D Test	0.1486	0.1853	0.0892	Normal Distribution	
	Shapiro-Wilk W Normality Test	0.9261	0.9031	0.0388	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	1.427	1.4	1.454	1.42	1.41	1.464	0.00983	1.54%	0.00%
6.25		5	1.422	1.416	1.429	1.42	1.416	1.43	0.002484	0.39%	0.31%
12.5		5	1.43	1.388	1.472	1.42	1.404	1.488	0.01509	2.36%	-0.20%
25		5	1.431	1.42	1.441	1.432	1.422	1.44	0.003828	0.60%	-0.28%
50		5	1.444	1.406	1.482	1.44	1.406	1.48	0.01352	2.09%	-1.21%
100		5	1.417	1.402	1.433	1.414	1.402	1.432	0.005607	0.88%	0.67%

Pacific Topsmelt 7-d Survival and Growth Test

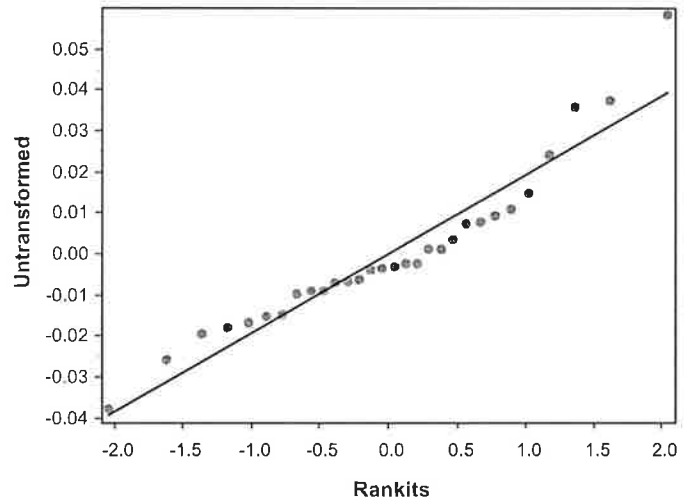
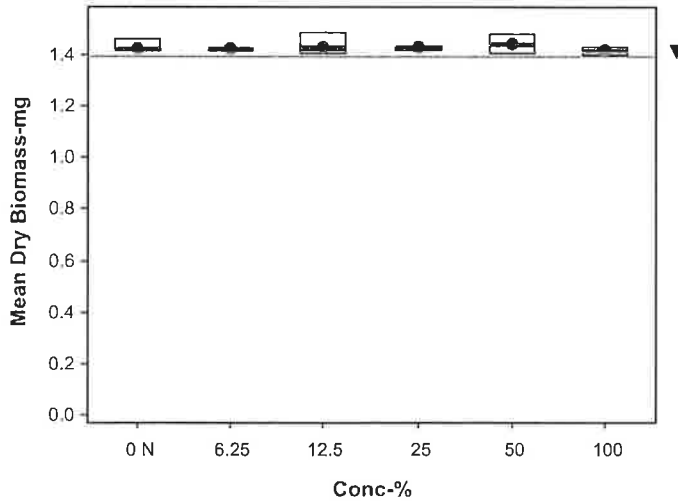
Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 09-1330-1152      Endpoint: Mean Dry Biomass-mg      CETIS Version: CETISv2.1.1  
 Analyzed: 21 Apr-22 8:55      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 21 Apr-22 8:54      MD5 Hash: 51123A41220B6D4236C1739152FEAD87      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	1.42	1.412	1.428	1.464	1.41
6.25		1.42	1.43	1.426	1.416	1.42
12.5		1.488	1.41	1.42	1.404	1.426
25		1.422	1.438	1.422	1.44	1.432
50		1.48	1.426	1.468	1.406	1.44
100		1.414	1.428	1.402	1.432	1.41

Graphics



**CETIS Analytical Report**

Report Date: 21 Apr-22 08:56 (p 1 of 4)

Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 18-3070-5691	<b>Endpoint:</b> 7d Survival Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 21 Apr-22 8:55	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 21 Apr-22 8:54	<b>MD5 Hash:</b> 0DC5ABA07818A6ABCDE75EC39DEAA80	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 05-0635-9414	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:30	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 05 Apr-22 11:08	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 19-7331-8746	<b>Code:</b> VCF0322.210tops	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 23h (6.5 °C)	<b>Client:</b> VCWPD	

**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	TU	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	A/B	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	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%
12.5		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%
25		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%
50		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%
100		5	1.0000	1.0000	1.0000	1.0000	0.00%	0.00%	25/25	1.0000	0.00%

**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	1.0000	1.0000	1.0000
12.5		1.0000	1.0000	1.0000	1.0000	1.0000
25		1.0000	1.0000	1.0000	1.0000	1.0000
50		1.0000	1.0000	1.0000	1.0000	1.0000
100		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
0	N	5/5	5/5	5/5	5/5	5/5
6.25		5/5	5/5	5/5	5/5	5/5
12.5		5/5	5/5	5/5	5/5	5/5
25		5/5	5/5	5/5	5/5	5/5
50		5/5	5/5	5/5	5/5	5/5
100		5/5	5/5	5/5	5/5	5/5

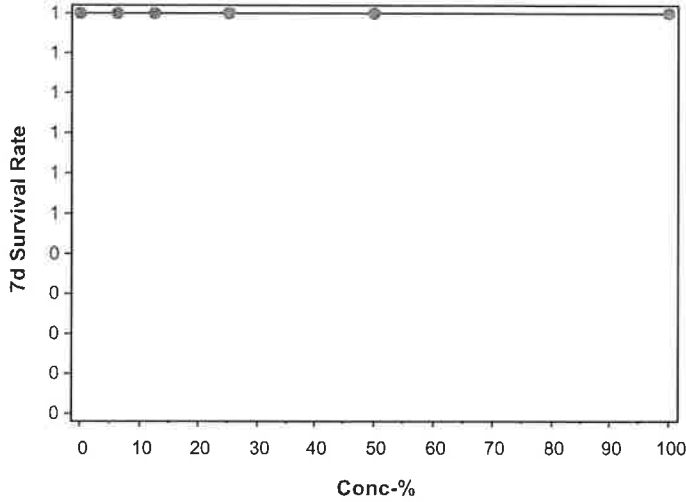


Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-3070-5691      Endpoint: 7d Survival Rate      CETIS Version: CETISv2.1.1  
Analyzed: 21 Apr-22 8:55      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
Edit Date: 21 Apr-22 8:54      MD5 Hash: 0DC5ABA07818A6ABCDE75EC39DEAA80      Editor ID: 008-463-000-3

Graphics



**CETIS Analytical Report**

Report Date: 21 Apr-22 08:56 (p 3 of 4)  
 Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Analysis ID:</b> 08-2988-3575	<b>Endpoint:</b> Mean Dry Biomass-mg	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 21 Apr-22 8:55	<b>Analysis:</b> Linear Interpolation (ICPIN)	<b>Status Level:</b> 1
<b>Edit Date:</b> 21 Apr-22 8:54	<b>MD5 Hash:</b> 51123A41220B6D4236C1739152FEAD87	<b>Editor ID:</b> 008-463-000-3
<b>Batch ID:</b> 05-0635-9414	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:30	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 05 Apr-22 11:08	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 19-7331-8746	<b>Code:</b> VCF0322.210tops	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 23h (6.5 °C)	<b>Client:</b> VCWPD	

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	1578694	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	1.427	0.85	<<	Yes	Passes Criteria

**Point Estimates**

Level	%	95% LCL	95% UCL	TU	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	1.427	1.42	1.41	1.464	1.54%	0.00%	1.431	0.00%
6.25		5	1.422	1.42	1.416	1.43	0.39%	0.31%	1.431	0.00%
12.5		5	1.43	1.42	1.404	1.488	2.36%	-0.20%	1.431	0.00%
25		5	1.431	1.432	1.422	1.44	0.60%	-0.28%	1.431	0.00%
50		5	1.444	1.44	1.406	1.48	2.09%	-1.21%	1.431	0.00%
100		5	1.417	1.414	1.402	1.432	0.88%	0.67%	1.417	0.94%

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.42	1.412	1.428	1.464	1.41
6.25		1.42	1.43	1.426	1.416	1.42
12.5		1.488	1.41	1.42	1.404	1.426
25		1.422	1.438	1.422	1.44	1.432
50		1.48	1.426	1.468	1.406	1.44
100		1.414	1.428	1.402	1.432	1.41



**CETIS Measurement Report**

Report Date: 21 Apr-22 08:56 (p 1 of 1)

Test Code/ID: VCF0322.210tops / 05-8162-0738

**Pacific Topsmelt 7-d Survival and Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 05-0635-9414	<b>Test Type:</b> Growth-Survival (7d)	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 11:30	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 05 Apr-22 11:08	<b>Species:</b> Atherinops affinis	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 7d	<b>Taxon:</b> Actinopterygii	<b>Source:</b> Aquatic Biosystems, CO <b>Age:</b>
<b>Sample ID:</b> 19-7331-8746	<b>Code:</b> VCF0322.210tops	<b>Project:</b> NPDES Stormwater Wet Season (Con
<b>Sample Date:</b> 28 Mar-22 12:15	<b>Material:</b> Sample Water	<b>Source:</b> Bioassay Report
<b>Receipt Date:</b> 28 Mar-22 16:03	<b>CAS (PC):</b>	<b>Station:</b> ME-SCR
<b>Sample Age:</b> 23h (6.5 °C)	<b>Client:</b> VCWPD	

**Dissolved Oxygen-mg/L**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.275	7.128	7.422	7	7.5	0.02191	0.1753	2.41%	0
6.25		8	7.35	7.183	7.517	7.1	7.7	0.025	0.2	2.72%	0
12.5		8	7.35	7.15	7.55	7	7.7	0.02988	0.239	3.25%	0
25		8	7.35	7.136	7.564	7	7.7	0.03204	0.2563	3.49%	0
50		8	7.35	7.131	7.569	7	7.7	0.03273	0.2619	3.56%	0
100		8	7.35	7.131	7.569	7	7.7	0.03273	0.2619	3.56%	0
Overall		48	7.337	7.273	7.402	7	7.7	0.03229	0.2237	3.05%	0 (0%)

**pH-Units**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	8	7.637	7.594	7.681	7.6	7.7	0.006469	0.05175	0.68%	0
6.25		8	7.637	7.594	7.681	7.6	7.7	0.006469	0.05175	0.68%	0
12.5		8	7.637	7.594	7.681	7.6	7.7	0.006469	0.05175	0.68%	0
25		8	7.625	7.586	7.664	7.6	7.7	0.005786	0.04629	0.61%	0
50		8	7.612	7.559	7.666	7.5	7.7	0.008011	0.06409	0.84%	0
100		8	7.6	7.555	7.645	7.5	7.7	0.006681	0.05345	0.70%	0
Overall		48	7.625	7.61	7.64	7.5	7.7	0.007591	0.05259	0.69%	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%)



**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: 3/28/2022

Project Number: 2021/22-3 (Wet)

Sampling Team: Jon Bridgeman, Sawyer Carman

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	<u>3/28 · 1255</u>	X	X	X	X				3	Note 1, Note 2, Note 3
ME-VR2		X	X	X	X				3	Note 1, Note 2, Note 3
ME-SCR						X	X	X	3	Note 1, Note 2, Note 3

11.0°C  
 10.1  
 10.1

10X

Relinquished

Printed Name Sawyer Carman

Signature [Signature]

Affiliation Rincon

Date/Time 3/28/2022 · 1420

Received

Printed Name Tina DeLeon

Signature [Signature]

Affiliation ABC LABS

Date/Time 3/28/2022 1420

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.



**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: 3/28/22

Project Number: 2021/22-3 (Wet)

Sampling Team: LS, KB, AS, SM

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	_____	X	X	X	X				3	Note 1, Note 2, Note 3
ME-VR2	_____	X	X	X	X				3	Note 1, Note 2, Note 3
ME-SCR	3/28/22 1215					X	X	X	3	Note 1, Note 2, Note 3 LS, KB, AS
										.210
										65
										10.1
										10.0

Relinquished Printed Name Lara Shellenbarger  
 Signature [Signature]  
 Affiliation VC WPD Date/Time 3/28/22 16:02

Received Printed Name Kevin Wisniewski  
 Signature [Signature]  
 Affiliation ABC Date/Time 3-28-22 1603

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.



**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: → Dave Laak & Jill Jennings  
 Sampling Team: ↓ 3/28/2022

Project Number: 2021/22-3 (Wet)

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		X	X	X	X				3	Note 1, Note 2, Note 3
ME-VR2	3/28/22 13:10	X	X	X	X				3	Note 1, Note 2, Note 3
ME-SCR						X	X	X	3	Note 1, Note 2, Note 3

14.5  
 10/1  
 10/1

207

Relinquished Printed Name David Laak  
 Signature [Signature]  
 Affiliation VCWPD Date/Time 3/28/22 13:40

Received Printed Name [Signature]  
 Signature [Signature]  
 Affiliation ABC LABORATORIES Date/Time 3.28.22 1340

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.



## CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

DATE: 29 March 2022

STANDARD TOXICANT: Copper Chloride

NOEC = 18.00 ug/l

EC25 = 34.33 ug/l

EC50 = 44.89 ug/l

Yours very truly,

Scott Johnson  
Laboratory Director



**CETIS Summary Report**

Report Date: 26 Apr-22 15:19 (p 1 of 1)  
 Test Code/ID: URC032922 / 05-5305-9675

**Purple Sea Urchin Sperm Cell Fertilization Test**

Aquatic Bioassay & Consulting Labs, Inc.

<b>Batch ID:</b> 18-9286-6481	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 17:00	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 29 Mar-22 17:40	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 10-4570-7331	<b>Code:</b> URC032922	<b>Project:</b>
<b>Sample Date:</b> 29 Mar-22 17:00	<b>Material:</b> Copper chloride	<b>Source:</b> Reference Toxicant
<b>Receipt Date:</b>	<b>CAS (PC):</b>	<b>Station:</b> REF TOX
<b>Sample Age:</b> ---	<b>Client:</b> Internal Lab	

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	PMSD	S
13-0762-8578	Fertilization Rate	Dunnett Multiple Comparison Test	18	32	24	3.74%	1

**Point Estimate Summary**

Analysis ID	Endpoint	Point Estimate Method	✓ Level	µg/L	95% LCL	95% UCL	S
15-1485-3555	Fertilization Rate	Linear Interpolation (ICPIN)	EC15	28.78	26.75	30.65	1
			EC20	32.22	29.76	33.47	
			EC25	34.33	32.67	35.49	
			EC40	40.67	39.33	41.61	
			EC50	44.89	43.73	46.01	

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
13-0762-8578	Fertilization Rate	Control Resp	0.935	0.7	<<	Yes	Passes Criteria
15-1485-3555	Fertilization Rate	Control Resp	0.935	0.7	<<	Yes	Passes Criteria
13-0762-8578	Fertilization Rate	PMSD	0.03743	<<	0.25	No	Passes Criteria

**Fertilization Rate Summary**

Conc-µg/L	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%
18		4	0.9650	0.9445	0.9855	0.9500	0.9800	0.0065	0.0129	1.34%	-3.21%
32		4	0.7650	0.7250	0.8050	0.7300	0.7900	0.0126	0.0252	3.29%	18.18%
56		4	0.2250	0.1871	0.2629	0.2100	0.2600	0.0119	0.0238	10.58%	75.94%
100		4	0.0500	0.0110	0.0890	0.0300	0.0800	0.0123	0.0245	48.99%	94.65%
180		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

**Fertilization Rate Detail**

MD5: E03EF55697A483E47BFD5A81DC683B00

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9100	0.9300	0.9400	0.9600
18		0.9800	0.9700	0.9500	0.9600
32		0.7700	0.7300	0.7900	0.7700
56		0.2600	0.2100	0.2200	0.2100
100		0.0800	0.0600	0.0300	0.0300
180		0.0000	0.0000	0.0000	0.0000

**Fertilization Rate Binomials**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	91/100	93/100	94/100	96/100
18		98/100	97/100	95/100	96/100
32		77/100	73/100	79/100	77/100
56		26/100	21/100	22/100	21/100
100		8/100	6/100	3/100	3/100
180		0/100	0/100	0/100	0/100

**CETIS Analytical Report**

Report Date: 26 Apr-22 15:19 (p 1 of 3)  
 Test Code/ID: URC032922 / 05-5305-9675

**Purple Sea Urchin Sperm Cell Fertilization Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Analysis ID:</b> 13-0762-8578	<b>Endpoint:</b> Fertilization Rate	<b>CETIS Version:</b> CETISv2.1.1
<b>Analyzed:</b> 26 Apr-22 15:18	<b>Analysis:</b> Parametric-Control vs Treatments	<b>Status Level:</b> 1
<b>Edit Date:</b> 26 Apr-22 15:15	<b>MD5 Hash:</b> E03EF55697A483E47BFD5A81DC683B00	<b>Editor ID:</b> 008-463-000-3

<b>Batch ID:</b> 18-9286-6481	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 17:00	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 29 Mar-22 17:40	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>

<b>Sample ID:</b> 10-4570-7331	<b>Code:</b> URC032922	<b>Project:</b>
<b>Sample Date:</b> 29 Mar-22 17:00	<b>Material:</b> Copper chloride	<b>Source:</b> Reference Toxicant
<b>Receipt Date:</b>	<b>CAS (PC):</b>	<b>Station:</b> REF TOX
<b>Sample Age:</b> ---	<b>Client:</b> Internal Lab	

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	18	32	24	---	0.03499	3.74%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control	18	6	-2.469	2.356	0.06642	CDF	0.9995	Non-Significant Effect	
	32*	6	8.882	2.356	0.06642	CDF	<1.0E-05	Significant Effect	
	56*	6	29.15	2.356	0.06642	CDF	<1.0E-05	Significant Effect	
	100*	6	38.84	2.356	0.06642	CDF	<1.0E-05	Significant Effect	

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.935	0.7	<<	Yes	Passes Criteria
PMSD	0.03743	<<	0.25	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	4.24665	1.06166	4	668	<1.0E-05	Significant Effect
Error	0.0238396	0.0015893	15			
Total	4.27049		19			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	1.792	13.28	0.7740	Equal Variances
	Levene Equality of Variance Test	1.389	4.893	0.2848	Equal Variances
	Mod Levene Equality of Variance Test	1.229	4.893	0.3402	Equal Variances
Distribution	Anderson-Darling A2 Test	0.3526	3.878	0.4705	Normal Distribution
	D'Agostino Kurtosis Test	1.161	2.576	0.2457	Normal Distribution
	D'Agostino Skewness Test	0.488	2.576	0.6256	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.586	9.21	0.4526	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1194	0.2235	0.6767	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9493	0.866	0.3571	Normal Distribution

**Fertilization Rate Summary**

Conc-µg/L	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%
18		4	0.9650	0.9445	0.9855	0.9650	0.9500	0.9800	0.0065	1.34%	-3.21%
32		4	0.7650	0.7250	0.8050	0.7700	0.7300	0.7900	0.0126	3.29%	18.18%
56		4	0.2250	0.1871	0.2629	0.2133	0.2100	0.2600	0.0119	10.58%	75.94%
100		4	0.0500	0.0110	0.0890	0.0400	0.0300	0.0800	0.0123	48.99%	94.65%
180		4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 13-0762-8578      Endpoint: Fertilization Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 15:18      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 26 Apr-22 15:15      MD5 Hash: E03EF55697A483E47BFD5A81DC683B00      Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-µg/L	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%
18		4	1.3850	1.3280	1.4420	1.3830	1.3450	1.4290	0.0180	2.60%	-5.29%
32		4	1.0650	1.0180	1.1120	1.0710	1.0240	1.0950	0.0147	2.76%	19.03%
56		4	0.4938	0.4492	0.5385	0.4801	0.4760	0.5351	0.0140	5.69%	62.46%
100		4	0.2206	0.1314	0.3098	0.1985	0.1741	0.2868	0.0280	25.41%	83.23%
180		4	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0000	0.00%	96.20%

Fertilization Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9100	0.9300	0.9400	0.9600
18		0.9800	0.9700	0.9500	0.9600
32		0.7700	0.7300	0.7900	0.7700
56		0.2600	0.2100	0.2200	0.2100
100		0.0800	0.0600	0.0300	0.0300
180		0.0000	0.0000	0.0000	0.0000

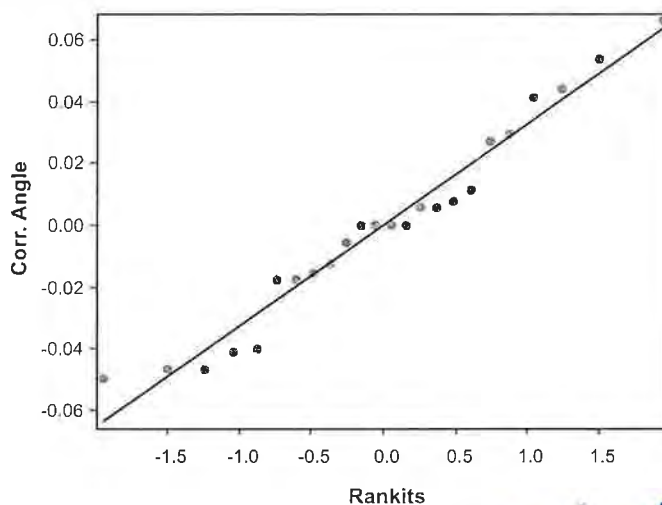
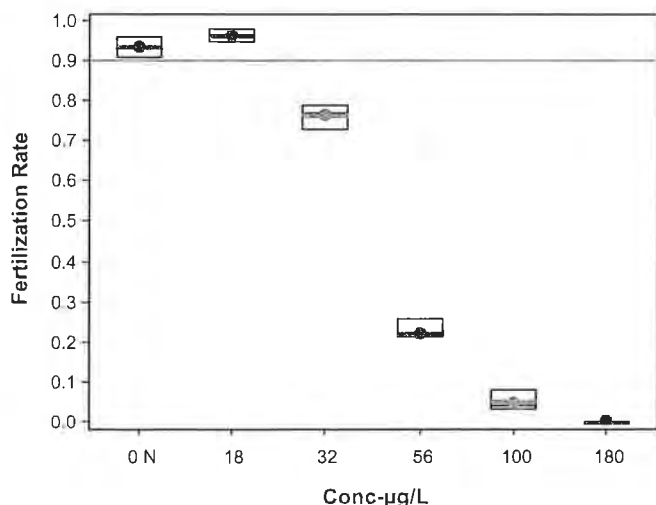
Angular (Corrected) Transformed Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	1.2660	1.3030	1.3230	1.3690
18		1.4290	1.3970	1.3450	1.3690
32		1.0710	1.0240	1.0950	1.0710
56		0.5351	0.4760	0.4882	0.4760
100		0.2868	0.2475	0.1741	0.1741
180		0.0500	0.0500	0.0500	0.0500

Fertilization Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	91/100	93/100	94/100	96/100
18		98/100	97/100	95/100	96/100
32		77/100	73/100	79/100	77/100
56		26/100	21/100	22/100	21/100
100		8/100	6/100	3/100	3/100
180		0/100	0/100	0/100	0/100

Graphics



**CETIS Analytical Report**

Report Date: 26 Apr-22 15:19 (p 1 of 2)  
 Test Code/ID: URC032922 / 05-5305-9675

Purple Sea Urchin Sperm Cell Fertilization Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID:	15-1485-3555	Endpoint:	Fertilization Rate	CETIS Version:	CETISv2.1.1
Analyzed:	26 Apr-22 15:18	Analysis:	Linear Interpolation (ICPIN)	Status Level:	1
Edit Date:	26 Apr-22 15:15	MD5 Hash:	E03EF55697A483E47BFD5A81DC683B00	Editor ID:	008-463-000-3
Batch ID:	18-9286-6481	Test Type:	Fertilization	Analyst:	
Start Date:	29 Mar-22 17:00	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Seawater
Ending Date:	29 Mar-22 17:40	Species:	Strongylocentrotus purpuratus	Brine:	Not Applicable
Test Length:	40m	Taxon:	Echinoidea	Source:	Ventura Dive
				Age:	
Sample ID:	10-4570-7331	Code:	URC032922	Project:	
Sample Date:	29 Mar-22 17:00	Material:	Copper chloride	Source:	Reference Toxicant
Receipt Date:		CAS (PC):		Station:	REF TOX
Sample Age:	---	Client:	Internal Lab		

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	0.935	0.7	<<	Yes	Passes Criteria

Point Estimates			
Level	µg/L	95% LCL	95% UCL
EC15	28.78	26.75	30.65
EC20	32.22	29.76	33.47
EC25	34.33	32.67	35.49
EC40	40.67	39.33	41.61
EC50	44.89	43.73	46.01

Fertilization Rate Summary			Calculated Variate(A/B)							Isotonic Variate	
Conc-µg/L	Code	Count	Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	N	4	0.9350	0.9350	0.9100	0.9600	2.23%	0.00%	374/400	0.9500	0.00%
18		4	0.9650	0.9650	0.9500	0.9800	1.34%	-3.21%	386/400	0.9500	0.00%
32		4	0.7650	0.7700	0.7300	0.7900	3.29%	18.18%	306/400	0.7650	19.47%
56		4	0.2250	0.2133	0.2100	0.2600	10.58%	75.94%	90/400	0.2250	76.32%
100		4	0.0500	0.0400	0.0300	0.0800	48.99%	94.65%	20/400	0.0500	94.74%
180		4	0.0000	0.0000	0.0000	0.0000	---	100.00%	0/400	0	100.00%

Fertilization Rate Detail					
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	0.9100	0.9300	0.9400	0.9600
18		0.9800	0.9700	0.9500	0.9600
32		0.7700	0.7300	0.7900	0.7700
56		0.2600	0.2100	0.2200	0.2100
100		0.0800	0.0600	0.0300	0.0300
180		0.0000	0.0000	0.0000	0.0000

Fertilization Rate Binomials					
Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4
0	N	91/100	93/100	94/100	96/100
18		98/100	97/100	95/100	96/100
32		77/100	73/100	79/100	77/100
56		26/100	21/100	22/100	21/100
100		8/100	6/100	3/100	3/100
180		0/100	0/100	0/100	0/100



**CETIS Measurement Report**

Report Date: 26 Apr-22 15:19 (p 1 of 1)  
 Test Code/ID: URC032922 / 05-5305-9675

**Purple Sea Urchin Sperm Cell Fertilization Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 18-9286-6481	<b>Test Type:</b> Fertilization	<b>Analyst:</b>
<b>Start Date:</b> 29 Mar-22 17:00	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 29 Mar-22 17:40	<b>Species:</b> Strongylocentrotus purpuratus	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 40m	<b>Taxon:</b> Echinoidea	<b>Source:</b> Ventura Dive <b>Age:</b>
<b>Sample ID:</b> 10-4570-7331	<b>Code:</b> URC032922	<b>Project:</b>
<b>Sample Date:</b> 29 Mar-22 17:00	<b>Material:</b> Copper chloride	<b>Source:</b> Reference Toxicant
<b>Receipt Date:</b>	<b>CAS (PC):</b>	<b>Station:</b> REF TOX
<b>Sample Age:</b> ---	<b>Client:</b> Internal Lab	

**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-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7	7	7	7	7	0	0	0.00%	0
18		2	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
32		2	6.9	6.889	6.911	6.9	6.9	0	0	0.00%	0
56		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
180		2	6.8	6.788	6.812	6.8	6.8	0	0	0.00%	0
Overall		12	6.867	6.817	6.916	6.8	7	0.02247	0.07785	1.13%	0 (0%)

**pH-Units**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
18		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
32		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
56		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
100		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
180		2	7.8	7.787	7.813	7.8	7.8	0	0	0.00%	0
Overall		12	7.833	7.802	7.865	7.8	7.9	0.01421	0.04924	0.63%	0 (0%)

**Salinity-ppt**

Conc-µg/L	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
18		2	34	34	34	34	34	0	0	0.00%	0
32		2	34	34	34	34	34	0	0	0.00%	0
56		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
180		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-µg/L	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
18		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
32		2	15.8	15.77	15.83	15.8	15.8	0	0	0.00%	0
56		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
180		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%)



## CHRONIC KELP GERMINATION & GROWTH BIOASSAY

DATE: 30 March - 2022

STANDARD TOXICANT: Copper Chloride

ENDPOINT: GERMINATION

NOEC = 32.00 ug/l

EC25 = 103.80 ug/l

EC50 = 137.50 ug/l

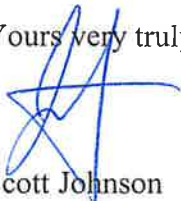
ENDPOINT: GROWTH-LENGTH

NOEC = 32.00 ug/l

IC25 = 105.20 ug/l

IC50 = 158.10 ug/l

Yours very truly,



Scott Johnson  
Laboratory Director

# CETIS Summary Report

Report Date: 26 Apr-22 15:58 (p 1 of 2)  
 Test Code/ID: KLP033022 / 17-7624-2080

Macrocystis Germination and Germ Tube Growth Test				Aquatic Bioassay & Consulting Labs, Inc.	
Batch ID: 06-5861-9827	Test Type: Growth-Germination	Analyst:			
Start Date: 30 Mar-22 17:11	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 01 Apr-22 17:11	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: David Gutoff	Age:		
Sample ID: 09-7199-6670	Code: KLP033022	Project:			
Sample Date: 30 Mar-22 17:11	Material: Copper chloride	Source: Reference Toxicant			
Receipt Date:	CAS (PC):	Station: REF TOX			
Sample Age: ---	Client: Internal Lab				

Multiple Comparison Summary								
Analysis ID	Endpoint	Comparison Method	✓	NOEL	LOEL	TOEL	PMSD	S
05-9834-3646	Germination Rate	Dunnett Multiple Comparison Test	✓	32	100	56.57	2.8%	1
12-0979-6117	Mean Length	Dunnett Multiple Comparison Test	✓	32	100	56.57	1.99%	1

Point Estimate Summary								
Analysis ID	Endpoint	Point Estimate Method	✓	Level	µg/L	95% LCL	95% UCL	S
11-2357-6178	Germination Rate	Linear Interpolation (ICPIN)	✓	EC15	77.23	69.86	82.42	1
				EC20	92.99	85.48	99.96	
				EC25	103.8	100.4	106.8	
				EC40	124	121.1	126.9	
				EC50	137.5	134.6	141	
18-3917-4175	Mean Length	Linear Interpolation (ICPIN)	✓	IC15	76.7	73.25	80.04	1
				IC20	92.11	88.63	95.89	
				IC25	105.2	102.8	107.7	
				IC40	136.9	133.7	140.3	
				IC50	158.1	153.9	163.2	

Test Acceptability							
Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
05-9834-3646	Germination Rate	Control Resp	0.918	0.7	<<	Yes	Passes Criteria
11-2357-6178	Germination Rate	Control Resp	0.918	0.7	<<	Yes	Passes Criteria
12-0979-6117	Mean Length	Control Resp	13.12	10	<<	Yes	Passes Criteria
18-3917-4175	Mean Length	Control Resp	13.12	10	<<	Yes	Passes Criteria
12-0979-6117	Mean Length	NOEL	32	<<	35	No	Passes Criteria
05-9834-3646	Germination Rate	PMSD	0.02804	<<	0.2	No	Passes Criteria
12-0979-6117	Mean Length	PMSD	0.01986	<<	0.2	No	Passes Criteria

1035



# CETIS Summary Report

Report Date: 26 Apr-22 15:58 (p 2 of 2)  
 Test Code/ID: KLP033022 / 17-7624-2080

## Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

### Germination Rate Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	0.9180	0.8976	0.9384	0.9000	0.9400	0.0073	0.0164	1.79%	0.00%
5.6		5	0.9180	0.8976	0.9384	0.9000	0.9400	0.0073	0.0164	1.79%	0.00%
10		5	0.9120	0.8958	0.9282	0.9000	0.9300	0.0058	0.0130	1.43%	0.65%
18		5	0.9180	0.8976	0.9384	0.9000	0.9400	0.0073	0.0164	1.79%	0.00%
32		5	0.9120	0.8958	0.9282	0.9000	0.9300	0.0058	0.0130	1.43%	0.65%
100		5	0.7140	0.6932	0.7348	0.7000	0.7400	0.0075	0.0167	2.34%	22.22%
180		5	0.1700	0.1288	0.2112	0.1300	0.2200	0.0148	0.0332	19.51%	81.48%
320		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

### Mean Length Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	N	5	13.12	12.98	13.26	13	13.3	0.04899	0.1095	0.83%	0.00%
5.6		5	12.96	12.85	13.07	12.9	13.1	0.04	0.08944	0.69%	1.22%
10		5	13.08	12.9	13.26	12.9	13.3	0.06633	0.1483	1.13%	0.30%
18		5	13.12	12.96	13.28	13	13.3	0.05831	0.1304	0.99%	0.00%
32		5	13.06	12.92	13.2	12.9	13.2	0.05099	0.114	0.87%	0.46%
100		5	10.16	9.993	10.33	10	10.3	0.06	0.1342	1.32%	22.56%
180		5	5.2	4.779	5.621	4.9	5.7	0.1517	0.3391	6.52%	60.37%
320		5	0	0	0	0	0	0	0	---	100.00%

### Germination Rate Detail

MD5: E65C9D048B159C3EF89EC231B3176D96

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9000	0.9300	0.9100	0.9100	0.9400
5.6		0.9400	0.9100	0.9000	0.9300	0.9100
10		0.9000	0.9300	0.9100	0.9200	0.9000
18		0.9000	0.9100	0.9400	0.9300	0.9100
32		0.9100	0.9000	0.9200	0.9300	0.9000
100		0.7000	0.7200	0.7400	0.7100	0.7000
180		0.1600	0.1800	0.2200	0.1600	0.1300
320		0.0000	0.0000	0.0000	0.0000	0.0000

### Mean Length Detail

MD5: 082E7F953F6B98D1BE05205E9CFC1987

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.1	13.1	13	13.1	13.3
5.6		12.9	12.9	12.9	13	13.1
10		13	13.3	13.1	13.1	12.9
18		13	13	13.1	13.3	13.2
32		13	13.1	13.1	13.2	12.9
100		10.1	10.1	10.3	10	10.3
180		5.4	5.7	4.9	5	5
320		0	0	0	0	0

### Germination Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	90/100	93/100	91/100	91/100	94/100
5.6		94/100	91/100	90/100	93/100	91/100
10		90/100	93/100	91/100	92/100	90/100
18		90/100	91/100	94/100	93/100	91/100
32		91/100	90/100	92/100	93/100	90/100
100		70/100	72/100	74/100	71/100	70/100
180		16/100	18/100	22/100	16/100	13/100
320		0/100	0/100	0/100	0/100	0/100

**CETIS Analytical Report**

Report Date: 26 Apr-22 15:57 (p 1 of 5)  
 Test Code/ID: KLP033022 / 17-7624-2080

Macrocystis Germination and Germ Tube Growth Test			Aquatic Bioassay & Consulting Labs, Inc.		
Analysis ID: 05-9834-3646	Endpoint: Germination Rate	CETIS Version: CETISv2.1.1			
Analyzed: 26 Apr-22 15:56	Analysis: Parametric-Control vs Treatments	Status Level: 1			
Edit Date: 26 Apr-22 15:53	MD5 Hash: E65C9D048B159C3EF89EC231B3176D96	Editor ID: 008-463-000-3			
Batch ID: 06-5861-9827	Test Type: Growth-Germination	Analyst:			
Start Date: 30 Mar-22 17:11	Protocol: EPA/600/R-95/136 (1995)	Diluent: Laboratory Seawater			
Ending Date: 01 Apr-22 17:11	Species: Macrocystis pyrifera	Brine: Not Applicable			
Test Length: 48h	Taxon: Ochrophyta	Source: David Gutoff <b>Age:</b>			
Sample ID: 09-7199-6670	Code: KLP033022	Project:			
Sample Date: 30 Mar-22 17:11	Material: Copper chloride	Source: Reference Toxicant			
Receipt Date:	CAS (PC):	Station: REF TOX			
Sample Age: ---	Client: Internal Lab				

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Angular (Corrected)	C > T	32	100	56.57	---	0.02575	2.80%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		5.6	8	0	2.407	0.04517	CDF	0.8571	Non-Significant Effect
		10	8	0.6006	2.407	0.04517	CDF	0.6365	Non-Significant Effect
		18	8	0	2.407	0.04517	CDF	0.8571	Non-Significant Effect
		32	8	0.6006	2.407	0.04517	CDF	0.6365	Non-Significant Effect
		100*	8	14.65	2.407	0.04517	CDF	<1.0E-05	Significant Effect
		180*	8	45.72	2.407	0.04517	CDF	<1.0E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits			Decision
		Lower	Upper	Overlap	
Control Resp	0.918	0.7	<<	Yes	Passes Criteria
PMSD	0.02804	<<	0.2	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	3.10541	0.517568	6	588	<1.0E-05	Significant Effect
Error	0.0246473	0.0008803	28			
Total	3.13005		34			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	3.387	16.81	0.7590	Equal Variances
	Levene Equality of Variance Test	0.8635	3.528	0.5335	Equal Variances
	Mod Levene Equality of Variance Test	0.3448	3.812	0.9050	Equal Variances
Distribution	Anderson-Darling A2 Test	1.088	3.878	0.0076	Non-Normal Distribution
	D'Agostino Kurtosis Test	0.3169	2.576	0.7513	Normal Distribution
	D'Agostino Skewness Test	1.173	2.576	0.2406	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	1.478	9.21	0.4777	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1882	0.1723	0.0030	Non-Normal Distribution
	Shapiro-Wilk W Normality Test	0.9437	0.9146	0.0726	Normal Distribution

**Germination Rate Summary**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	0.9180	0.8976	0.9384	0.9100	0.9000	0.9400	0.0073	1.79%	0.00%
5.6		5	0.9180	0.8976	0.9384	0.9100	0.9000	0.9400	0.0073	1.79%	0.00%
10		5	0.9120	0.8958	0.9282	0.9100	0.9000	0.9300	0.0058	1.43%	0.65%
18		5	0.9180	0.8976	0.9384	0.9100	0.9000	0.9400	0.0073	1.79%	0.00%
32		5	0.9120	0.8958	0.9282	0.9100	0.9000	0.9300	0.0058	1.43%	0.65%
100		5	0.7140	0.6932	0.7348	0.7100	0.7000	0.7400	0.0075	2.34%	22.22%
180		5	0.1700	0.1288	0.2112	0.1600	0.1300	0.2200	0.0148	19.51%	81.48%
320		5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	---	100.00%

Macrocystis Germination and Germ Tube Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 05-9834-3646      Endpoint: Germination Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 15:56      Analysis: Parametric-Control vs Treatments      Status Level: 1  
 Edit Date: 26 Apr-22 15:53      MD5 Hash: E65C9D048B159C3EF89EC231B3176D96      Editor ID: 008-463-000-3

Angular (Corrected) Transformed Summary

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	N	5	1.2820	1.2440	1.3190	1.2660	1.2490	1.3230	0.0137	2.39%	0.00%
5.6		5	1.2820	1.2440	1.3190	1.2660	1.2490	1.3230	0.0137	2.39%	0.00%
10		5	1.2700	1.2410	1.2990	1.2660	1.2490	1.3030	0.0104	1.84%	0.88%
18		5	1.2820	1.2440	1.3190	1.2660	1.2490	1.3230	0.0137	2.39%	0.00%
32		5	1.2700	1.2410	1.2990	1.2660	1.2490	1.3030	0.0104	1.84%	0.88%
100		5	1.0070	0.9835	1.0300	1.0020	0.9912	1.0360	0.0083	1.85%	21.45%
180		5	0.4237	0.3693	0.4780	0.4115	0.3689	0.4882	0.0196	10.34%	66.94%
320		5	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0000	0.00%	96.10%

Germination Rate Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9000	0.9300	0.9100	0.9100	0.9400
5.6		0.9400	0.9100	0.9000	0.9300	0.9100
10		0.9000	0.9300	0.9100	0.9200	0.9000
18		0.9000	0.9100	0.9400	0.9300	0.9100
32		0.9100	0.9000	0.9200	0.9300	0.9000
100		0.7000	0.7200	0.7400	0.7100	0.7000
180		0.1600	0.1800	0.2200	0.1600	0.1300
320		0.0000	0.0000	0.0000	0.0000	0.0000

Angular (Corrected) Transformed Detail

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	1.2490	1.3030	1.2660	1.2660	1.3230
5.6		1.3230	1.2660	1.2490	1.3030	1.2660
10		1.2490	1.3030	1.2660	1.2840	1.2490
18		1.2490	1.2660	1.3230	1.3030	1.2660
32		1.2660	1.2490	1.2840	1.3030	1.2490
100		0.9912	1.0130	1.0360	1.0020	0.9912
180		0.4115	0.4381	0.4882	0.4115	0.3689
320		0.0500	0.0500	0.0500	0.0500	0.0500

Germination Rate Binomials

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	90/100	93/100	91/100	91/100	94/100
5.6		94/100	91/100	90/100	93/100	91/100
10		90/100	93/100	91/100	92/100	90/100
18		90/100	91/100	94/100	93/100	91/100
32		91/100	90/100	92/100	93/100	90/100
100		70/100	72/100	74/100	71/100	70/100
180		16/100	18/100	22/100	16/100	13/100
320		0/100	0/100	0/100	0/100	0/100



**CETIS Analytical Report**

**Report Date:** 26 Apr-22 15:57 (p 4 of 5)  
**Test Code/ID:** KLP033022 / 17-7624-2080

**Macrocystis Germination and Germ Tube Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

**Analysis ID:** 12-0979-6117      **Endpoint:** Mean Length      **CETIS Version:** CETISv2.1.1  
**Analyzed:** 26 Apr-22 15:56      **Analysis:** Parametric-Control vs Treatments      **Status Level:** 1  
**Edit Date:** 26 Apr-22 15:53      **MD5 Hash:** 082E7F953F6B98D1BE05205E9CFC1987      **Editor ID:** 008-463-000-3

**Batch ID:** 06-5861-9827      **Test Type:** Growth-Germination      **Analyst:**  
**Start Date:** 30 Mar-22 17:11      **Protocol:** EPA/600/R-95/136 (1995)      **Diluent:** Laboratory Seawater  
**Ending Date:** 01 Apr-22 17:11      **Species:** Macrocystis pyrifera      **Brine:** Not Applicable  
**Test Length:** 48h      **Taxon:** Ochrophyta      **Source:** David Gutoff      **Age:**

**Sample ID:** 09-7199-6670      **Code:** KLP033022      **Project:**  
**Sample Date:** 30 Mar-22 17:11      **Material:** Copper chloride      **Source:** Reference Toxicant  
**Receipt Date:**      **CAS (PC):**      **Station:** REF TOX  
**Sample Age:** ---      **Client:** Internal Lab

Data Transform	Alt Hyp	NOEL	LOEL	TOEL	TU	MSDu	PMSD
Untransformed	C > T	32	100	56.57	---	0.2606	1.99%

**Dunnett Multiple Comparison Test**

Control	vs	Conc-µg/L	df	Test Stat	Critical	MSD	P-Type	P-Value	Decision(α:5%)
Negative Control		5.6	8	1.478	2.407	0.2606	CDF	0.2533	Non-Significant Effect
		10	8	0.3696	2.407	0.2606	CDF	0.7338	Non-Significant Effect
		18	8	1.76E-06	2.407	0.2606	CDF	0.8571	Non-Significant Effect
		32	8	0.5544	2.407	0.2606	CDF	0.6569	Non-Significant Effect
		100*	8	27.35	2.407	0.2606	CDF	<1.0E-05	Significant Effect
		180*	8	73.18	2.407	0.2606	CDF	<1.0E-05	Significant Effect

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.12	10	<<	Yes	Passes Criteria
NOEL	32	<<	35	No	Passes Criteria
PMSD	0.01986	<<	0.2	No	Passes Criteria

**ANOVA Table**

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(α:5%)
Between	268.951	44.8252	6	1531	<1.0E-05	Significant Effect
Error	0.820001	0.0292857	28			
Total	269.771		34			

**ANOVA Assumptions Tests**

Attribute	Test	Test Stat	Critical	P-Value	Decision(α:1%)
Variance	Bartlett Equality of Variance Test	10.78	16.81	0.0955	Equal Variances
	Levene Equality of Variance Test	4.455	3.528	0.0028	Unequal Variances
	Mod Levene Equality of Variance Test	1.149	3.812	0.3698	Equal Variances
Distribution	Anderson-Darling A2 Test	0.5443	3.878	0.1656	Normal Distribution
	D'Agostino Kurtosis Test	1.883	2.576	0.0597	Normal Distribution
	D'Agostino Skewness Test	2.104	2.576	0.0353	Normal Distribution
	D'Agostino-Pearson K2 Omnibus Test	7.975	9.21	0.0185	Normal Distribution
	Kolmogorov-Smirnov D Test	0.1227	0.1723	0.1946	Normal Distribution
	Shapiro-Wilk W Normality Test	0.9483	0.9146	0.1003	Normal Distribution



**CETIS Analytical Report**

Report Date: 26 Apr-22 15:57 (p 1 of 4)  
 Test Code/ID: KLP033022 / 17-7624-2080

**Macrocystis Germination and Germ Tube Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 11-2357-6178      Endpoint: Germination Rate      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 15:56      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 26 Apr-22 15:53      MD5 Hash: E65C9D048B159C3EF89EC231B3176D96      Editor ID: 008-463-000-3

Batch ID: 06-5861-9827      Test Type: Growth-Germination      Analyst:  
 Start Date: 30 Mar-22 17:11      Protocol: EPA/600/R-95/136 (1995)      Diluent: Laboratory Seawater  
 Ending Date: 01 Apr-22 17:11      Species: Macrocystis pyrifera      Brine: Not Applicable  
 Test Length: 48h      Taxon: Ochrophyta      Source: David Gutoff      Age:

Sample ID: 09-7199-6670      Code: KLP033022      Project:  
 Sample Date: 30 Mar-22 17:11      Material: Copper chloride      Source: Reference Toxicant  
 Receipt Date:      CAS (PC):      Station: REF TOX  
 Sample Age: ---      Client: Internal Lab

**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	0.918	0.7	<<	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
EC15	77.23	69.86	82.42
EC20	92.99	85.48	99.96
EC25	103.8	100.4	106.8
EC40	124	121.1	126.9
EC50	137.5	134.6	141

**Germination Rate Summary**

Conc-µg/L	Code	Count	Calculated Variate(A/B)							Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	A/B	Mean	%Effect
0	N	5	0.9180	0.9100	0.9000	0.9400	1.79%	0.00%	459/500	0.9180	0.00%
5.6		5	0.9180	0.9100	0.9000	0.9400	1.79%	0.00%	459/500	0.9180	0.00%
10		5	0.9120	0.9100	0.9000	0.9300	1.43%	0.65%	456/500	0.9150	0.33%
18		5	0.9180	0.9100	0.9000	0.9400	1.79%	0.00%	459/500	0.9150	0.33%
32		5	0.9120	0.9100	0.9000	0.9300	1.43%	0.65%	456/500	0.9120	0.65%
100		5	0.7140	0.7100	0.7000	0.7400	2.34%	22.22%	357/500	0.7140	22.22%
180		5	0.1700	0.1600	0.1300	0.2200	19.51%	81.48%	85/500	0.1700	81.48%
320		5	0.0000	0.0000	0.0000	0.0000	---	100.00%	0/500	0	100.00%

**Germination Rate Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	0.9000	0.9300	0.9100	0.9100	0.9400
5.6		0.9400	0.9100	0.9000	0.9300	0.9100
10		0.9000	0.9300	0.9100	0.9200	0.9000
18		0.9000	0.9100	0.9400	0.9300	0.9100
32		0.9100	0.9000	0.9200	0.9300	0.9000
100		0.7000	0.7200	0.7400	0.7100	0.7000
180		0.1600	0.1800	0.2200	0.1600	0.1300
320		0.0000	0.0000	0.0000	0.0000	0.0000





**CETIS Analytical Report**

Report Date: 26 Apr-22 15:57 (p 3 of 4)  
 Test Code/ID: KLP033022 / 17-7624-2080

**Macrocystis Germination and Germ Tube Growth Test**

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: 18-3917-4175      Endpoint: Mean Length      CETIS Version: CETISv2.1.1  
 Analyzed: 26 Apr-22 15:56      Analysis: Linear Interpolation (ICPIN)      Status Level: 1  
 Edit Date: 26 Apr-22 15:53      MD5 Hash: 082E7F953F6B98D1BE05205E9CFC1987      Editor ID: 008-463-000-3

Batch ID: 06-5861-9827      Test Type: Growth-Germination      Analyst:  
 Start Date: 30 Mar-22 17:11      Protocol: EPA/600/R-95/136 (1995)      Diluent: Laboratory Seawater  
 Ending Date: 01 Apr-22 17:11      Species: Macrocystis pyrifera      Brine: Not Applicable  
 Test Length: 48h      Taxon: Ochrophyta      Source: David Gutoff      Age:

Sample ID: 09-7199-6670      Code: KLP033022      Project:  
 Sample Date: 30 Mar-22 17:11      Material: Copper chloride      Source: Reference Toxicant  
 Receipt Date:      CAS (PC):      Station: REF TOX  
 Sample Age: ---      Client: Internal Lab

**Linear Interpolation Options**

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2058477	280	Yes	Two-Point Interpolation

**Test Acceptability Criteria**

Attribute	Test Stat	TAC Limits		Overlap	Decision
		Lower	Upper		
Control Resp	13.12	10	<<	Yes	Passes Criteria

**Point Estimates**

Level	µg/L	95% LCL	95% UCL
IC15	76.7	73.25	80.04
IC20	92.11	88.63	95.89
IC25	105.2	102.8	107.7
IC40	136.9	133.7	140.3
IC50	158.1	153.9	163.2

**Mean Length Summary**

Conc-µg/L	Code	Count	Calculated Variate						Isotonic Variate	
			Mean	Median	Min	Max	CV%	%Effect	Mean	%Effect
0	N	5	13.12	13.1	13	13.3	0.84%	0.00%	13.12	0.00%
5.6		5	12.96	12.9	12.9	13.1	0.69%	1.22%	13.06	0.50%
10		5	13.08	13.1	12.9	13.3	1.13%	0.30%	13.06	0.50%
18		5	13.12	13.1	13	13.3	0.99%	0.00%	13.06	0.50%
32		5	13.06	13.1	12.9	13.2	0.87%	0.46%	13.06	0.50%
100		5	10.16	10.1	10	10.3	1.32%	22.56%	10.16	22.56%
180		5	5.2	5	4.9	5.7	6.52%	60.37%	5.2	60.37%
320		5	0	0	0	0	---	100.00%	0	100.00%

**Mean Length Detail**

Conc-µg/L	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	N	13.1	13.1	13	13.1	13.3
5.6		12.9	12.9	12.9	13	13.1
10		13	13.3	13.1	13.1	12.9
18		13	13	13.1	13.3	13.2
32		13	13.1	13.1	13.2	12.9
100		10.1	10.1	10.3	10	10.3
180		5.4	5.7	4.9	5	5
320		0	0	0	0	0

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**CETIS Measurement Report**

Report Date: 26 Apr-22 15:58 (p 1 of 1)  
 Test Code/ID: KLP033022 / 17-7624-2080

**Macrocyctis Germination and Germ Tube Growth Test**

**Aquatic Bioassay & Consulting Labs, Inc.**

<b>Batch ID:</b> 06-5861-9827	<b>Test Type:</b> Growth-Germination	<b>Analyst:</b>
<b>Start Date:</b> 30 Mar-22 17:11	<b>Protocol:</b> EPA/600/R-95/136 (1995)	<b>Diluent:</b> Laboratory Seawater
<b>Ending Date:</b> 01 Apr-22 17:11	<b>Species:</b> Macrocyctis pyrifera	<b>Brine:</b> Not Applicable
<b>Test Length:</b> 48h	<b>Taxon:</b> Ochrophyta	<b>Source:</b> David Gutoff <b>Age:</b>
<b>Sample ID:</b> 09-7199-6670	<b>Code:</b> KLP033022	<b>Project:</b>
<b>Sample Date:</b> 30 Mar-22 17:11	<b>Material:</b> Copper chloride	<b>Source:</b> Reference Toxicant
<b>Receipt Date:</b>	<b>CAS (PC):</b>	<b>Station:</b> REF TOX
<b>Sample Age:</b> ---	<b>Client:</b> Internal Lab	

**Dissolved Oxygen-mg/L**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	6.5	2.688	10.31	6.2	6.8	0.2121	0.4243	6.53%	0
5.6		2	6.65	4.744	8.556	6.5	6.8	0.1061	0.2121	3.19%	0
10		2	6.45	4.544	8.356	6.3	6.6	0.1061	0.2121	3.29%	0
18		2	6.5	3.959	9.041	6.3	6.7	0.1414	0.2828	4.35%	0
32		2	6.55	2.103	11	6.2	6.9	0.2475	0.495	7.56%	0
100		2	6.6	4.059	9.141	6.4	6.8	0.1414	0.2828	4.29%	0
180		2	6.5	3.959	9.041	6.3	6.7	0.1414	0.2828	4.35%	0
320		2	6.5	3.959	9.041	6.3	6.7	0.1414	0.2828	4.35%	0
Overall		16	6.531	6.401	6.661	6.2	6.9	0.06105	0.2442	3.74%	0 (0%)

**pH-Units**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
5.6		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
10		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
18		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
32		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
100		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
180		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
320		2	7.9	7.884	7.916	7.9	7.9	0	0	0.00%	0
Overall		16	7.9	7.9	7.9	7.9	7.9	0	0	0.00%	0 (0%)

**Salinity-ppt**

Conc-µg/L	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
5.6		2	34	34	34	34	34	0	0	0.00%	0
10		2	34	34	34	34	34	0	0	0.00%	0
18		2	34	34	34	34	34	0	0	0.00%	0
32		2	34	34	34	34	34	0	0	0.00%	0
100		2	34	34	34	34	34	0	0	0.00%	0
180		2	34	34	34	34	34	0	0	0.00%	0
320		2	34	34	34	34	34	0	0	0.00%	0
Overall		16	34	34	34	34	34	0	0	0.00%	0 (0%)

**Temperature-°C**

Conc-µg/L	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	N	2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
5.6		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
10		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
18		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
32		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
100		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
180		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
320		2	14.85	14.21	15.49	14.8	14.9	0.03539	0.07077	0.48%	0
Overall		16	14.85	14.82	14.88	14.8	14.9	0.01291	0.05164	0.35%	0 (0%)

CHEMICAL ANALYSIS DATA SHEET- VCF 2

Start Date: 3/29/22 1100

Lab#: VCF 0322.208

End Date: 4/5/22 1320

Date Rec'd: 3/28

YSI Used: B B B B<sub>10</sub> B b B B  
 Renewal Sample Used:

DAY	<u>3/29</u>	<u>3/30</u>	<u>1</u>	<u>3/31</u>	<u>2</u>	<u>3/4/22</u>	<u>4/2</u>	<u>4</u>	<u>4/3</u>	<u>5</u>	<u>4/4</u>	<u>6</u>	<u>4/5</u>
Initials	<u>TG</u>	<u>TG</u>	<u>U940</u>	<u>TG</u>	<u>U859</u>	<u>TG</u>	<u>U824</u>	<u>U730</u>	<u>M</u>	<u>U737</u>	<u>U737</u>	<u>U737</u>	<u>TG</u>

DISSOLVED OXYGEN mg/L

CONTROL	<u>7.6</u>	<u>7.3</u>	<u>7.0</u>	<u>7.4</u>	<u>7.4</u>	<u>7.2</u>	<u>7.6</u>	<u>7.4</u>	<u>7.0</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.3</u>	<u>7.2</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.4</u>	<u>7.4</u>
0.25	<u>7.9</u>	<u>7.3</u>	<u>7.0</u>	<u>7.4</u>	<u>7.3</u>	<u>7.2</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>	<u>7.0</u>	<u>7.7</u>	<u>7.2</u>	<u>7.2</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.6</u>	<u>7.3</u>
12.5	<u>7.8</u>	<u>7.3</u>	<u>7.0</u>	<u>7.5</u>	<u>7.3</u>	<u>7.0</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.0</u>	<u>7.1</u>	<u>7.1</u>	<u>7.8</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.1</u>	<u>7.1</u>	<u>7.6</u>	<u>7.3</u>
25	<u>7.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.5</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.8</u>	<u>7.3</u>	<u>7.1</u>	<u>7.7</u>	<u>7.0</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>
50	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.8</u>	<u>7.4</u>	<u>7.1</u>	<u>7.7</u>	<u>7.0</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>
100	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.0</u>	<u>7.1</u>	<u>7.8</u>	<u>7.3</u>	<u>7.0</u>	<u>7.7</u>	<u>7.0</u>	<u>7.0</u>	<u>7.6</u>	<u>7.2</u>

TEMPERATURE °C

CONTROL	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
0.25	<u>24.2</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
12.5	<u>24.3</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
25	<u>24.3</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.2</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
50	<u>24.3</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
100	<u>24.4</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.1</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>

pH

CONTROL	<u>8.2</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
0.25	<u>7.6</u>	<u>7.9</u>	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>7.8</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
12.5	<u>7.6</u>	<u>7.9</u>	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>7.8</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
25	<u>7.6</u>	<u>7.9</u>	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>7.8</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
50	<u>7.6</u>	<u>7.9</u>	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>7.8</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
100	<u>7.6</u>	<u>7.9</u>	<u>7.9</u>	<u>7.7</u>	<u>7.8</u>	<u>7.8</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>

CONDUCTIVITY umohs

CONTROL	<u>364</u>	<u>367</u>	<u>364</u>	<u>360</u>	<u>362</u>	<u>365</u>	<u>367</u>	<u>364</u>
0.25	<u>487</u>	<u>482</u>	<u>480</u>	<u>486</u>	<u>488</u>	<u>485</u>	<u>490</u>	<u>486</u>
12.5	<u>482</u>	<u>460</u>	<u>487</u>	<u>490</u>	<u>495</u>	<u>495</u>	<u>502</u>	<u>501</u>
25	<u>530</u>	<u>539</u>	<u>540</u>	<u>542</u>	<u>546</u>	<u>547</u>	<u>549</u>	<u>550</u>
50	<u>670</u>	<u>677</u>	<u>670</u>	<u>673</u>	<u>682</u>	<u>687</u>	<u>690</u>	<u>682</u>
100	<u>974</u>	<u>990</u>	<u>992</u>	<u>992</u>	<u>990</u>	<u>995</u>	<u>997</u>	<u>996</u>

ALKALINITY

CONTROL	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>
W	<u>116</u>	<u>116</u>	<u>116</u>	<u>116</u>	<u>116</u>	<u>116</u>	<u>116</u>	<u>116</u>

HARDNESS

CONTROL	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>
W	<u>213</u>	<u>213</u>	<u>213</u>	<u>213</u>	<u>213</u>	<u>213</u>	<u>213</u>	<u>213</u>

Residual Chlorine 1<sup>st</sup> Sample LO.1 2<sup>nd</sup> Sample \_\_\_\_\_ 3<sup>rd</sup> Sample \_\_\_\_\_

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF <sup>2</sup>

Lab #: VCF 03 22. 208

Sample I.D.: \_\_\_\_\_

Date & Time Start: 3/29/22

Date & Time End: 4/5/22

Conc.	Rep.#	INITIAL <sup>mm</sup>	1 <sup>TB</sup>	2 <sup>TB</sup>	3 <sup>TB</sup>	4 <sup>m</sup>	5 <sup>m</sup>	6 <sup>TB</sup>	FINAL <sup>pd</sup>
VCF CONTROL or VCF 0.2M. 208	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					
EC 1-4	6.25%	1		0.83172	0.83486	0.01314	
		2		0.83869	0.84271	0.00402	
		3		0.83289	0.83792	0.00503	
		4		0.84772	0.85486	0.00714	
EC 5-8	12.5%	1		0.84923	0.85447	0.00524	
		2		0.83959	0.84469	0.00479	STO ~
		3		0.84034	0.84542	0.00508	
		4		0.84126	0.84639	0.00513	
EC 9-12	25%	1		0.83852	0.84367	0.00515	
		2		0.83712	0.84259	0.00547	
		3		0.83749	0.84256	0.00507	
		4		0.84429	0.84937	0.00508	
EC 13-16	50%	1		0.85167	0.85679	0.00512	
		2		0.84602	0.85129	0.00527	
		3		0.85659	0.86169	0.00510	
		4		0.83304	0.83842	0.00538	
EC 17-20	100%	1		0.83844	0.84326	0.00482	
		2		0.82227	0.82839	0.00512	
		3		0.81279	0.81786	0.00507	
		4		0.82397	0.82842	0.00445	

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 2

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 3/29/22

Lab #: VCF 03 22.208

End Date: 4/5/22

Conc.	Day#	Initial	# YOUNG / REPLICATE										
			1	2	3	4	5	6	7	8	9	10	
CON	3	TD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	m	1	1	2	1	1	2	1	2	1	3	
	5	m	6	7	5	7	7	7	6	5	7	7	
	6	TD	7	10	10	7	7	6	8	10	9	9	
	7	TD	7	12	8	9	13	10	8	14	10	13	
	Total			18	32	25	24	28	25	23	31	24	33
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	1	1	2	1	1	2	1	1	
	5	-	7	5	7	6	5	7	6	5	5	4	
	6	-	7	8	7	6	5	7	7	5	9	8	
	7	-	9	10	10	9	7	14	12	8	13	14	
	Total	-		25	28	25	22	18	29	26	21	28	27
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	2	2	1	2	1	1	2	1	1	
	5	-	5	5	7	6	5	5	7	7	6	5	
	6	-	6	9	7	7	10	9	9	8	7	6	
	7	-	10	9	13	12	10	8	7	11	9	9	
	Total	-		23	25	29	26	27	23	24	28	23	27
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	1	1	2	2	1	1	2	2	
	5	-	5	5	7	6	5	5	7	6	5	7	
	6	-	10	12	11	10	9	9	8	12	10	10	
	7	-	8	12	11	13	8	12	13	8	14	12	
	Total	-		25	29	28	30	24	28	35	27	34	31
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	2	1	1	2	1	1	2	2	
	5	-	7	8	7	7	9	5	5	5	5	7	
	6	-	13	10	9	8	12	10	10	12	13	14	
	7	-	13	12	14	12	13	12	14	10	11	10	
	Total	-		35	31	32	28	35	32	30	28	31	33
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	1	2	1	2	3	2	2	1	
	5	-	12	8	7	7	6	5	7	5	7	7	
	6	-	12	10	11	11	12	11	12	9	9	8	
	7	-	10	10	12	13	14	15	12	13	12	10	
	Total	-		29	26	29	33	33	38	29	29	30	26

Hydro

# Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF <sup>2</sup> Lab #: VCF 1822.208

Start date and time: 3/19/22 11:30 Sample ID:

End date and time: 4/12/22 13:15 Date Rec'd: 3/28

YSI Used: B B B B B

Day	0	1	2	3	4
Analyst	TD	TD	TD	TD	N
Time	1140	1136	1456	1500	1315

### Dissolved Oxygen

Control	7.6	7.8	7.6	7.7	7.2
6.25%	7.9	7.3	7.8	7.0	7.2
12.5%	7.8	7.3	7.8	7.0	7.1
25%	7.7	7.3	7.8	7.0	7.0
50%	7.7	7.2	7.8	7.0	7.0
100%	7.7	7.2	7.8	7.0	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	8.0	8.2	7.9	8.0
6.25%	7.6	7.9	7.7	8.0	8.0
12.5%	7.6	7.9	7.7	8.0	8.0
25%	7.6	7.9	7.8	7.9	7.9
50%	7.6	7.9	7.8	7.9	8.0
100%	7.6	7.8	7.8	7.9	7.9

### Conductivity

Control	364		364		369
6.25%	487		480		435
12.5%	452		487		478
25%	530		540		550
50%	690		690		725 650 <sup>2</sup>
100%	974		990		1068 955

### Alkalinity

Control	116		116		116
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### Hardness

Control	83		83		83
	213		213		213

QC: AM PASS

# Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 2

Lab #: VCF 0322208

Sample ID: \_\_\_\_\_

Start Date: 3/29/22

End Date: 4/2/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0					
	1	TB				
	2	TB				
	3	TB				
	4	TB				
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 P



Chiro

# Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF <sup>2</sup> Lab #: VCF 103-22-208

Start date and time: 5/19/22 1120 Sample ID:

End date and time: 5/22/22 1212 Date Rec'd: 5/28

YSI Used:

Day	0	1	2	3	4
Analyst	TD	M	TD	TD	M
Time	1120	1217	1459	1503	1212

## Dissolved Oxygen

Control	7.6	7.3	7.6	7.7	7.2
6.25%	7.9	7.3	7.8	7.6	7.2
12.5%	7.8	7.3	7.8	7.6	7.1
25%	7.7	7.3	7.8	7.6	7.0
50%	7.7	7.2	7.8	7.6	7.0
100%	7.7	7.2	7.8	7.6	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	8.0	8.2	7.9	8.0
6.25%	7.6	7.9	7.7	8.0	8.0
12.5%	7.6	7.9	7.7	8.0	8.0
25%	7.6	7.9	7.8	7.9	7.9
50%	7.6	7.9	7.8	7.9	8.0
100%	7.6	7.8	7.8	7.9	7.9

## Conductivity

Control	3104		3104		369
6.25%	487		487		435
12.5%	452		487		478
25%	530		540		550
50%	670		670		680
100%	974		992		995

680

## Alkalinity

Control	116		116		116
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## Hardness

Control	83		83		83
	213		213		213

QC: EM TASS

# Acute **Chironomus** survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF *2*

Lab #: VCF0322.208

Sample ID: \_\_\_\_\_

Date Time & Start: 3/29/22 9/2/22

Conc.	Rep.#	INITIAL	1 <i>h</i>	2 <i>m</i>	3 <i>m</i>	FINAL <i>h</i>
<i>USE CONTROL</i> <i>VC Form 207</i>	1					<i>5</i>
	2					<i>5</i>
	3					<i>5</i>
	4					<i>5</i>
6.25	1	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	3	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	4	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
12.5	1	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	3	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	4	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
25	1	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	3	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	4	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
50	1	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	3	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	4	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
100	1	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	2	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	3	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
	4	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

CHEMICAL ANALYSIS DATA SHEET - VCF 1

Start Date: 3/29/22 1145

Lab#: VCF 0322.207

End Date: 4/5/22 1312

Date Rec'd: 3/28

YSI Used: B B B B B B B B  
 Renewal Sample Used:

DAY	<u>3/29</u>	<u>3/30</u>	<u>1</u>	<u>3/31</u>	<u>2</u>	<u>4/01</u>	<u>3</u>	<u>4/2</u>	<u>4</u>	<u>4/3</u>	<u>5</u>	<u>4/4</u>	<u>6</u>	<u>4/5</u>
Initials	<u>TB</u>	<u>TB</u>	<u>U930</u>	<u>TP</u>	<u>U846</u>	<u>TP</u>	<u>U807</u>	<u>0715</u>	<u>0715</u>	<u>0714</u>	<u>0714</u>	<u>TP</u>	<u>1049</u>	<u>TP</u>

DISSOLVED OXYGEN mg/L																				
CONTROL	<u>7.0</u>	<u>7.3</u>	<u>7.7</u>	<u>7.4</u>	<u>7.2</u>	<u>7.0</u>	<u>7.4</u>	<u>7.0</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.3</u>	<u>7.2</u>	<u>7.8</u>	<u>7.2</u>	<u>7.0</u>	<u>7.4</u>	<u>7.4</u>	
6.25	<u>7.9</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.3</u>	<u>7.0</u>	<u>7.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.5</u>	<u>7.5</u>
12.5	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.6</u>	<u>7.3</u>	<u>7.0</u>	<u>7.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.7</u>	<u>7.1</u>	<u>7.0</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.5</u>	<u>7.5</u>
25	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.6</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.6</u>	<u>7.1</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.6</u>	<u>7.5</u>
50	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.0</u>	<u>7.3</u>	<u>7.0</u>	<u>7.6</u>	<u>7.1</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.6</u>	<u>7.4</u>
100	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.1</u>	<u>7.0</u>	<u>7.3</u>	<u>7.0</u>	<u>7.6</u>	<u>7.0</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>7.0</u>	<u>7.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.6</u>	<u>7.4</u>

TEMPERATURE °C																				
CONTROL	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
6.25	<u>24.2</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
12.5	<u>24.2</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
25	<u>24.3</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
50	<u>24.4</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>
100	<u>24.5</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>	<u>24.0</u>

pH																				
CONTROL	<u>8.2</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>7.8</u>	<u>8.2</u>	<u>8.0</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
6.25	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>7.8</u>	<u>7.7</u>	<u>7.8</u>	<u>8.0</u>	<u>7.7</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
12.5	<u>7.7</u>	<u>7.8</u>	<u>8.0</u>	<u>7.8</u>	<u>7.7</u>	<u>7.8</u>	<u>8.0</u>	<u>7.7</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
25	<u>7.6</u>	<u>7.8</u>	<u>8.0</u>	<u>7.8</u>	<u>7.7</u>	<u>7.9</u>	<u>8.0</u>	<u>7.6</u>	<u>7.8</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>
50	<u>7.0</u>	<u>7.8</u>	<u>7.9</u>	<u>7.8</u>	<u>7.7</u>	<u>7.9</u>	<u>8.0</u>	<u>7.6</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>7.9</u>
100	<u>7.0</u>	<u>7.8</u>	<u>7.9</u>	<u>7.8</u>	<u>7.7</u>	<u>7.9</u>	<u>8.0</u>	<u>7.6</u>	<u>7.7</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>8.0</u>	<u>7.9</u>

CONDUCTIVITY umohs																				
CONTROL	<u>364</u>	<u>367</u>	<u>364</u>	<u>360</u>	<u>362</u>	<u>365</u>	<u>367</u>	<u>364</u>	<u>362</u>	<u>365</u>	<u>367</u>	<u>364</u>	<u>362</u>	<u>365</u>	<u>367</u>	<u>364</u>	<u>362</u>	<u>365</u>	<u>367</u>	<u>364</u>
6.25	<u>433</u>	<u>432</u>	<u>430</u>	<u>437</u>	<u>414</u>	<u>415</u>	<u>449</u>	<u>450</u>	<u>414</u>	<u>415</u>	<u>449</u>	<u>450</u>	<u>414</u>	<u>415</u>	<u>449</u>	<u>450</u>	<u>414</u>	<u>415</u>	<u>449</u>	<u>450</u>
12.5	<u>469</u>	<u>470</u>	<u>477</u>	<u>469</u>	<u>473</u>	<u>477</u>	<u>480</u>	<u>490</u>	<u>473</u>	<u>477</u>	<u>480</u>	<u>490</u>	<u>473</u>	<u>477</u>	<u>480</u>	<u>490</u>	<u>473</u>	<u>477</u>	<u>480</u>	<u>490</u>
25	<u>531</u>	<u>552</u>	<u>549</u>	<u>552</u>	<u>555</u>	<u>565</u>	<u>562</u>	<u>552</u>	<u>555</u>	<u>565</u>	<u>562</u>	<u>552</u>	<u>555</u>	<u>565</u>	<u>562</u>	<u>552</u>	<u>555</u>	<u>565</u>	<u>562</u>	<u>552</u>
50	<u>712</u>	<u>710</u>	<u>713</u>	<u>710</u>	<u>716</u>	<u>722</u>	<u>729</u>	<u>730</u>	<u>716</u>	<u>722</u>	<u>729</u>	<u>730</u>	<u>716</u>	<u>722</u>	<u>729</u>	<u>730</u>	<u>716</u>	<u>722</u>	<u>729</u>	<u>730</u>
100	<u>1040</u>	<u>1059</u>	<u>1062</u>	<u>1047</u>	<u>1053</u>	<u>1055</u>	<u>1062</u>	<u>1052</u>	<u>1053</u>	<u>1055</u>	<u>1062</u>	<u>1052</u>	<u>1053</u>	<u>1055</u>	<u>1062</u>	<u>1052</u>	<u>1053</u>	<u>1055</u>	<u>1062</u>	<u>1052</u>

ALKALINITY																				
CONTROL	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>	<u>60</u>
100	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>	<u>96</u>

HARDNESS																				
CONTROL	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>	<u>83</u>
100	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>	<u>340</u>

Residual Chlorine 1<sup>st</sup> Sample LOJ 2<sup>nd</sup> Sample \_\_\_\_\_ 3<sup>rd</sup> Sample \_\_\_\_\_

Chronic juvenile Fathead minnow (*Pimephales promelas*) toxicity test - Survival

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1

Lab #: VCF 03 22. 207

Sample I.D.:

Date & Time Start: 3/29/22

Date & Time End: 4/8/22

Conc.	Rep.#	INITIAL	1 TB	2 TB	3 TB	4 M	5 M	6 TB	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)
EB 1	CONTROL	1		0.83096	0.83599	0.0503	
2		2		0.84584	0.85090	0.0512	
3		3		0.84482	0.84960	0.0508	
4		4		0.82880	0.83396	0.0516	
EB 5	6.25%	1		0.84756	0.83267	0.0511	
6		2		0.83921	0.83742	0.0521	
7		3		0.83646	0.84157	0.0511	
8		4		0.82509	0.83049	0.0540	
EB 9	12.5%	1		0.82163	0.82677	0.0514	
10		2		0.84045	0.84559	0.0514	
11		3		0.84089	0.84542	0.0503	
12		4		0.84136	0.84649	0.0513	
EB 13	25%	1		0.84652	0.85167	0.0515	
14		2		0.84679	0.85186	0.0507	
15		3		0.83488	0.83997	0.0509	
16		4		0.84675	0.85186	0.0511	
EB 17	50%	1		0.83339	0.83842	0.0503	
18		2		0.83906	0.84456	0.0550	
19		3		0.84553	0.85067	0.0514	
20		4		0.81766	0.82274	0.0508	
EB 21	100%	1		0.83482	0.83997	0.0515	
22		2		0.84030	0.84549	0.0519	
23		3		0.82259	0.82764	0.0505	
24		4		0.82167	0.83142	0.0515	

Chronic *Ceriodaphnia dubia* survival and reproduction - VCF 1

Aquatic Bioassay & Consulting Laboratories, Inc.

Start Date: 3/29/22

Lab #: VCF 03.22.207

End Date: 4/5/22

Conc.	Day#	Initial	# YOUNG / REPLICATE											
			1	2	3	4	5	6	7	8	9	10		
CON	3	TO	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4	ND	2	1	2	2	2	1	1	2	2	1		
	5	ND	5	6	5	5	4	5	4	5	4	5		
	6	TO	9	7	5	9	10	10	9	6	7	5		
	7	TO	10	13	12	10	13	12	10	11	13	10		
	Total			26	27	21	26	29	28	24	24	26	23	
6.25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	1	1	2	1	1	1	2	1	1	1		
	5	-	5	7	6	5	4	5	5	7	8	2	6	
	6	-	5	10	6	7	7	10	9	8	9	7		
	7	-	12	10	6	9	14	15	12	8	12	10		
	Total	-		23	28	29	21	26	27	28	24	29	24	
12.5%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	1	1	2	1	1	2	1	1		
	5	-	5	4	5	5	7	6	5	5	5	5		
	6	-	10	11	9	6	8	13	12	10	13	12		
	7	-	13	12	8	12	13	10	14	14	10	14		
	Total	-		30	28	23	24	30	30	27	31	29	32	
25%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	1	2	1	1	2	1	1	1	1	2		
	5	-	7	7	8	7	6	5	5	5	5	5		
	6	-	7	9	8	9	6	10	12	13	13	14		
	7	-	16	12	9	13	10	10	14	12	9	16		
	Total	-		31	30	26	30	24	26	32	31	28	32	
50%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	1	1	2	1	1	1	2	1		
	5	-	7	7	6	5	5	7	6	5	5	5		
	6	-	7	12	10	10	9	7	13	10	10	14		
	7	-	13	14	12	10	12	12	14	14	12	17		
	Total	-		29	34	29	26	28	27	34	30	29	32	
100%	3	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	-	2	1	1	2	1	1	1	1	2	1		
	5	-	5	7	6	5	5	7	7	6	5	5		
	6	-	12	10	16	12	12	10	13	14	12	10		
	7	-	12	13	14	12	13	12	16	12	10	13		
	Total	-		31	31	37	31	31	30	37	33	29	29	

A49

# Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1	Lab #: VCF 1322.207				
Start date and time: 8/19/22 11:45	Sample ID:				
End date and time: 8/22/22 1:05	Date Rec'd: 8/28				
YSI Used:					
Day	0 8/19	1 8/20	2 8/21	3 8/21	4 8/22
Analyst	TD	TD	TD	TD	TD
Time	1145	1135	1442	1450	1300

**Dissolved Oxygen**

Control	7.6	7.3	7.6	7.7	7.2
6.25%	7.9	7.2	7.7	7.7	7.1
12.5%	7.7	7.2	7.7	7.7	7.0
25%	7.6	7.2	7.7	7.6	7.1
50%	7.6	7.2	7.7	7.6	7.1
100%	7.6	7.2	7.7	7.6	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	8.2	8.0	8.2	8.0	8.0
6.25%	7.7	8.0	7.8	7.8	8.0
12.5%	7.7	8.0	7.8	7.8	8.0
25%	7.6	8.0	7.8	7.8	7.9
50%	7.6	8.0	7.9	7.7	7.9
100%	7.6	8.0	7.9	7.7	7.9

**Conductivity**

Control	364		364		369
6.25%	433		430		435
12.5%	469		477		478
25%	531		549		550
50%	772		713		725
100%	1040		1062		1068

**Alkalinity**

Control	60		60		60
WS	96		96		96

**Hardness**

Control	83		83		83
WS	340		340		340

QC: DM 1135

# Acute *Hyaella azteca* survival test

Aquatic Bioassay & Consulting Laboratories, Inc.

Client: VCF 1  
 Sample ID: \_\_\_\_\_  
 Start Date: 3/29/22

Lab #: VCF 0322.207  
 End Date: 4/2/22

Conc.	Day#	Initials	# YOUNG / REPLICATE			
			1	2	3	4
CON	0	M	0	0	0	0
	1	TD	0	0	0	0
	2	TD	0	0	0	0
	3	TD	0	0	0	0
	4	TD	0	0	0	0
6.25	0	-	0	0	0	0
	1	-	0	0	0	0
	2	-	0	0	0	0
	3	-	0	0	0	0
	4	-	0	0	0	0
12.5	0	-	0	0	0	0
	1	-	0	0	0	0
	2	-	0	0	0	0
	3	-	0	0	0	0
	4	-	0	0	0	0
25	0	-	0	0	0	0
	1	-	0	0	0	0
	2	-	0	0	0	0
	3	-	0	0	0	0
	4	-	0	0	0	0
50	0	-	0	0	0	0
	1	-	0	0	0	0
	2	-	0	0	0	0
	3	-	0	0	0	0
	4	-	0	0	0	0
100	0	-	0	0	0	0
	1	-	0	0	0	0
	2	-	0	0	0	0
	3	-	0	0	0	0
	4	-	0	0	0	0

QC: emf

Chico

# Chemical Analysis Data Sheet

Aquatic Bioassay & Consulting Laboratories, Inc.

Company: VCF 1 Lab #: VCFU322.207  
 Start date and time: 3/19/22 (11:0) Sample ID:  
 End date and time: 3/22/22 1155 Date Rec'd: 3/28

YSI Used: B B B B B

Day	0	3/19	1	3/20	2	3/21	3	3/22	4	3/22
Analyst		TB	M	TB	TB	TB	TB	TB	M	
Time		11:0	11:5	1444	1444	1452	1452	1452	1155	

Dissolved Oxygen

Control	7.6	7.3	7.6	7.7	7.2
6.25%	7.9	7.2	7.7	7.7	7.2
12.5%	7.4	7.2	7.7	7.7	7.0
25%	7.6	7.2	7.7	7.6	7.0
50%	7.6	7.2	7.7	7.0	7.0
100%	7.6	7.2	7.7	7.0	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	8.0	8.2	8.0	8.0
6.25%	7.7	8.0	7.8	7.8	8.0
12.5%	7.7	7.9	7.8	7.8	8.0
25%	7.6	7.9	7.8	7.8	8.0
50%	7.6	7.8	7.9	7.7	7.9
100%	7.6	7.7	7.9	7.7	7.9

Conductivity

Control	364		364		365
6.25%	433		430		435
12.5%	469		477		478
25%	531		549		550
50%	712		713		725
100%	1040		1062		1068

Alkalinity

Control	9.6		9.6		9.6
	9.6		9.6		9.6

Hardness

Control	83		83		89
	340		340		340

QC: EM-135



# Acute *Chironomus* survival toxicity test

Aquatic Bioassay & Consulting Laboratories, Inc

Company: VCF 1

Lab #: VCF0322.207

Sample ID:

Date Time & Start: 3/29/22 7/2/22

Conc.	Rep.#	INITIALS	1	2	3	FINAL
CONTROL	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S
6.25	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S
12.5	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S
25	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S
50	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S
100	1	S	S	S	S	S
	2	S	S	S	S	S
	3	S	S	S	S	S
	4	S	S	S	S	S

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CHEMICAL ANALYSIS

VCF - Topsmelt

3

Start Date: 3/29/22 1130

Lab #: VCF 0322. 210

End Date: 4/5/22 1108

Date Rec'd: 3-28-22

YSI Used:

Sample used for renewal: B B B B B B B B

Day	3/29	3/30	1	3/31	2	4/1	3	4/2	4	4/3	5	4/4	6	4/5
Analyst Int.	M	0945M		T01032		T01145		ESC M		1500M		1900M		T0

DISSOLVED OXYGEN (mg/L)														
CONTROL	7.5	7.2	7.2	7.0	7.2	7.0	7.2	7.0	7.4	7.1	7.5	7.0	7.2	7.0
6.25%	7.7	7.2	7.3	7.2	7.2	7.2	7.2	7.0	7.5	7.1	7.5	7.0	7.3	7.1
12.5%	7.7	7.2	7.3	7.1	7.3	7.2	7.0	7.0	7.5	7.1	7.6	7.0	7.3	7.1
25%	7.7	7.2	7.4	7.1	7.3	7.2	7.0	7.0	7.4	7.1	7.7	7.0	7.2	7.1
50%	7.7	7.2	7.5	7.0	7.3	7.2	7.0	7.0	7.5	7.1	7.6	7.0	7.2	7.0
100%	7.7	7.2	7.5	7.0	7.4	7.2	7.0	7.0	7.4	7.1	7.6	7.0	7.2	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	7.6	7.5	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.6	7.7	7.7	7.7	7.6
6.25%	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.8	7.7	7.6
12.5%	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.8	7.7	7.6
25%	7.6	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.8	7.7	7.6
50%	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.6	7.7	7.8	7.7	7.6
100%	7.5	7.5	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.6	7.7	7.8	7.7	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: .210 ppt → 34 ppt

**TOPSMELT SURVIVAL**

Company: VCF 3

Sample ID: \_\_\_\_\_

Lab#: VCF03 22. 210

Start Date: 3/29/22

End Date: 4/15/22

Daily # of Surviving Fish									
Concentration	Rep. #	Initial	1 <u>N</u>	2 <u>10</u>	3 <u>10</u>	4 <u>6</u>	5 <u>7</u>	6 <u>N</u>	Final <u>10</u>
SUM RW	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

*Aquatic Bioassay & Consulting Laboratories, Inc.*

QC: our p

**TOPSMELT GROWTH**

Company: VCF 3 3/29/22

Lab#: VCF 0322.210

Sample ID: \_\_\_\_\_

Chamber #	Eff Conc.	Rep. #	Number Fish	Boat Tare	Boat + Fish	Fish Wt. (mg)	Average Weight Per Fish (mg)
EG 1	CON	1		0.89780	0.83496	0.0770	
2		2		0.80976	0.81082	0.0706	
3		3		0.80863	0.81577	0.0714	
4		4		0.83514	0.84246	0.0732	
5		5		0.83492	0.84197	0.0705	
EG 6	6.25%	1		0.83649	0.84359	0.0770	
7		2		0.82381	0.84096	0.0715	
8		3		0.82146	0.82859	0.0713	
9		4		0.82949	0.83657	0.0708	
10		5		0.81989	0.82699	<del>0.0701</del> 0.0710	
EG 11	12.5%	1		0.81902	0.81946	0.0744	
12		2		0.82997	0.83708	0.0705	
13		3		0.89787	0.83497	0.0710	
14		4		0.82499	0.83201	0.0702	
15		5		0.82816	0.84529	0.0713	
EG 16	25%	1		0.82930	0.83641	0.0711	
17		2		0.82543	0.84262	0.0719	
18		3		0.81186	0.81897	0.0711	
19		4		0.83302	0.84022	0.0720	
20		5		0.83153	0.83869	0.0716	
EG 21	50%	1		0.84641	0.85381	0.0740	
22		2		0.82269	0.82982	0.0713	
23		3		0.83523	0.84257	0.0734	
24		4		0.84198	0.84901	0.0703	
25		5		0.83682	0.84352	0.0720	
EG 26	100%	1		0.82582	0.83289	0.0707	
27		2		0.82269	0.82976	0.0714	
28		3		0.83349	0.84054	0.0701	
29		4		0.83236	0.84452	0.0716	
30		5		0.84192	0.84897	0.0705	

Aquatic Bioassay & Consulting Laboratories, Inc.

Toxicity Test Data Sheet

VCF copy

DATE		CLIENT	CONC (%)	TEMP (Deg. C)		pH		D.O.		SALINITY (ppt)	
Initial	Final										
3.29.22	3.29.22	STD TOX	CON	15.8	15.8	7.8	7.8	7.0	7.0	34	34
1700 VM	1740 VM	UF	18	15.8	15.8	7.8	7.8	6.9	6.9	34	34
			32	15.8	15.8	7.8	7.8	6.9	6.9	34	34
			56	15.8	15.8	7.9	7.9	6.8	6.8	34	34
			100	15.8	15.8	7.9	7.9	6.8	6.8	34	34
			180	15.8	15.8	7.8	7.8	6.8	6.8	34	34
3.29.22	3.29.22	VCF	CON	15.8	15.8	7.8	7.8	7.0	7.0	34	34
1702 VM	1742 VM	UF	6.25	15.8	15.8	7.6	7.6	6.8	6.8	34	34
		(.210)	12.5	15.8	15.8	7.7	7.7	6.9	6.9	34	34
			25	15.8	15.8	7.8	7.8	6.9	6.9	34	34
			50	15.8	15.8	7.8	7.8	6.8	6.8	34	34
			100	15.8	15.8	8.0	8.0	6.7	6.7	34	34
3/29/22	3/29/22	PGE	CON	15.8	15.8	7.8	7.8	7.0	7.0	34	34
1703	1743	UF	6.25	15.8	15.8	7.9	7.9	6.6	6.3	34	34
		.207	12.5	15.8	15.8	7.9	7.9	6.5	6.3	34	34
			25	15.8	15.8	7.9	7.9	6.7	6.2	34	34
			50	15.8	15.8	8.0	7.9	6.5	6.3	34	34
			100	15.8	15.8	8.0	7.9	6.6	6.4	34	34

## PURPLE URCHIN FERTILIZATION TEST DATA SHEET

Test Start Date: 3/29/22 1200  
 Test End Date: 3/29/22 1740  
 Microscope: 1  
 Urchin Source: Ventura Div  
 Analyst: J

Company: STANDARD TOX.  
 Sample Rec'd: 3/29  
 Lab No.: na  
 Sample I.D.: URUP032922  
 Dilution Water: cm 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	26	74	
4	32	73	27	
5	100	8	92	
6	56	21	79	
7	CON	93	7	
8	100	6	94	
9	CON	94	8	
10	100	3	7	
11	CON	96	4	
12	18	98	2	
13	18	97	3	
14	18	95	5	
15	32	79	21	
16	18	96	4	
17	56	22	78	
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: 3/29/22 1702 Company: VCF  
 Test End Date: 3/29/22 1742 Sample Rec'd: 3/31  
 Microscope: 1 1742 Lab No.: 04  
 Urchin Source: Urchin Bay Sample I.D.: VCF 322, 210  
 Analyst: W Dilution Water: con 54M

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	96	4	
3	25	94	6	
4	12.5	95	5	
5	50	93	7	
6	25	96	4	
7	CON	95	5	
8	50	93	7	
9	CON	94	6	
10	50	97	3	
11	CON	93	7	
12	6.25	96	4	
13	6.25	94	6	
14	6.25	95	5	
15	12.5	93	7	
16	6.25	96	4	
17	25	94	6	
18	100	95	5	
19	100	97	3	
20	12.5	93	7	
21	50	96	4	
22	100	94	6	
23	100	95	5	
24	25	95	5	

### Toxicity Test Data Sheet

DATE		CLIENT	CONC (%)	TEMP (Deg. C)		pH		D.O.		SALINITY (ppt)	
Initial	Final										
3.30.22	4/1/22	STD TOX	CON	14.8	14.9	7.9	7.9	6.8	6.2	34	34
1711	1711	K	5.6	14.8	14.9	7.9	7.9	6.8	6.5	34	34
			10	14.8	14.9	7.9	7.9	6.6	6.3	34	34
			18	14.8	14.9	7.9	7.9	6.7	6.3	34	34
			32	14.8	14.9	7.9	7.9	6.9	6.2	34	34
			100	14.8	14.9	7.9	7.9	6.8	6.4	34	34
			180	14.8	14.9	7.9	7.9	6.7	6.3	34	34
			320	14.8	14.9	7.9	7.9	6.7	6.3	34	34
3/30/22	4/1/22	VCF	CON	14.8	14.9	7.9	7.9	6.8	6.2	34	34
1710	1710	K	6.25	14.8	14.9	7.9	7.9	6.6	6.7	34	34
		(.210)	12.5	14.8	14.9	7.9	7.9	6.5	6.6	34	34
			25	14.8	14.9	8.0	7.7	6.7	6.5	34	34
			50	14.8	14.9	8.0	7.9	6.8	6.3	34	34
			100	14.8	14.9	8.1	8.0	6.6	6.3	34	34

LIGHT INTENSITIES BY QUADRANT							
START	286	277	FINISH	START	296	281	FINISH
	LEFT REAR			RIGHT REAR			
START	277	276	FINISH	START	268	266	FINISH
	LEFT FRONT			RIGHT FRONT			



## MACROCYSTIS TOXICITY TEST DATA SHEET

Test Start Date: 3/30/22 1711  
 Test End Date: 3/1/22 1711  
 Microscope: 1  
 Micrometer Conversion Factor: NA  
 Kelp Source: Ventura Blvd  
 Date Collected: 3/30  
 Analyst: [Signature]

Company: STANDARD TOX  
 Sample Rec'd: 3/30  
 Lab No.: NA  
 Sample I.D.: 1CLP033022  
 Dilution Water: Con 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	12	13	14	14	13	12	12	13		13.0
2	10	90	10		13	12	14	13	12	14	13	13	12	14		13.1
3	CON	90	10		14	13	12	14	13	13	12	14	13	13		13.1
4	100	70	30		12	10	10	8	10	11	11	10	9	10		10.1
5	10	93	7		14	13	12	14	14	13	13	12	14	14		13.3
6	5.6	94	6		13	12	14	13	13	12	14	13	13	12		12.9
7	10	91	9		14	13	12	14	13	13	12	14	13	13		13.1
8	100	72	28		10	11	11	10	8	9	11	10	10	11		10.1
9	18	90	10		13	12	14	13	12	14	14	13	13	12		13.0
10	10	92	8		14	13	12	14	13	13	12	14	13	13		13.1
11	18	91	9		13	12	14	14	13	13	12	14	13	12		13.0
12	CON	93	7		14	13	12	14	13	13	12	14	13	13		13.1
13	10	90	10		13	13	12	14	13	13	12	14	13	12		12.9
14	18	94	6		14	13	13	12	14	13	13	12	14	13		13.1
15	CON	91	9		13	12	14	13	12	14	14	13	13	12		13.0
16	18	93	7		14	13	12	14	13	13	13	14	14	13		13.3
17	32	90	10		13	13	13	12	14	14	13	12	14	13		13.1
18	32	92	8		13	12	14	14	13	12	14	13	13	13		13.1
19	CON	91	9		12	14	13	12	14	13	12	14	13	13		13.1
20	32	93	7		14	14	13	12	14	13	12	14	13	13		13.2
21	100	74	26		11	11	11	10	10	9	10	11	10	10		10.3
22	5.6	91	9		12	12	14	13	12	14	13	13	12	14		12.9
23	CON	94	6		14	13	12	14	13	13	14	13	14	13		13.3
24	100	71	29		10	10	9	10	11	10	8	10	11	11		10.0
25	5.6	90	10		14	13	12	14	13	12	12	14	13	12		12.9
26	18	91	9		14	13	12	14	13	13	12	14	14	13		13.2
27	5.6	93	7		13	12	14	11	13	12	14	13	13	13		13.0
28	5.6	91	9		14	13	12	14	13	13	12	14	13	13		13.1
29	100	70	30		11	11	10	10	9	10	11	11	10	10		10.3
30	32	90	10		13	12	14	13	13	12	14	13	13	12		12.9
31	180	16	84		6	5	5	6	4	6	5	5	6	6		5.4
32	180	18	82		6	4	8	5	6	5	5	6	4	5		5.7
33	180	22	78		5	3	5	6	4	4	6	5	5	8		4.9
34	180	16	84		4	6	5	5	4	6	5	5	6	4		5.4
35	180	13	87		5	6	5	4	4	6	4	5	5	6		5.0
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: 3/30/22 1710  
 Test End Date: 4/1/22 1710  
 Microscope: 1  
 Micrometer Conversion Factor: 1/4  
 Kelp Source: UETA Mm  
 Date Collected: 3/31  
 Analyst: JR

Company: VCF  
 Sample Rec'd: 3/28  
 Lab No.: nt  
 Sample I.D.: VCF0322-210  
 Dilution Water: Control  
 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	13	13	14	13	13		13.2
2	12.5	90	10		13	13	14	13	14	13	15	13	14	14		13.6
3	Control	93	7		14	13	12	14	13	13	14	14	13	13		13.3
4	100	94	6		13	14	14	13	12	14	14	13	13	13		13.3
5	12.5	96	4		13	13	14	13	13	14	13	13	14	13		13.3
6	6.25	92	8		14	13	14	13	13	14	13	14	13	13		13.4
7	12.5	91	9		13	13	14	13	12	14	13	14	13	13		13.2
8	100	93	7		13	14	13	12	14	13	13	12	14	14		13.2
9	25	90	10		14	13	12	14	13	12	14	13	12	14		13.1
10	12.5	94	6		13	12	14	13	12	14	13	14	13	12		13.0
11	25	93	7		13	14	14	13	12	14	13	14	13	12		13.2
12	Control	96	4		14	13	13	12	14	13	13	12	14	14		13.2
13	12.5	91	9		14	13	12	14	13	12	14	13	13	14		13.2
14	25	95	5		13	14	14	13	13	12	14	13	12	14		13.2
15	Control	93	7		14	13	12	14	13	12	14	13	13	14		13.2
16	25	95	5		13	12	14	13	13	12	14	13	13	14		12.9
17	50	90	4		14	13	12	14	13	13	12	14	13	13		13.1
18	50	93	7		13	12	14	13	13	12	14	13	13	14		13.1
19	Control	94	6		14	13	12	14	13	13	12	14	13	13		13.1
20	50	96	4		13	12	14	13	12	14	14	13	13	12		13.0
21	100	95	5		12	14	13	12	14	14	13	12	14	14		13.2
22	6.25	95	5		14	13	12	14	13	13	12	14	13	13		13.1
23	Control	93	7		13	13	12	14	13	12	14	13	12	14		13.0
24	100	96	4		14	13	12	14	13	12	14	13	12	14		13.1
25	6.25	91	9		14	13	13	12	14	13	12	14	14	13		13.2
26	25	94	6		13	13	12	14	13	12	14	14	13	13		13.1
27	6.25	95	5		13	12	14	13	12	14	13	12	14	14		13.1
28	6.25	96	4		13	12	14	13	12	14	13	13	12	14		13.0
29	100	95	5		14	13	13	13	14	13	12	14	13	13		13.2
30	50	95	5		13	14	13	12	14	14	13	13	12	14		13.2