

2015-2016 Permit Year

Ventura Countywide Stormwater Quality Management Program Annual Report

Attachment D Monitoring Appendix I, J and K



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

Ventura County Watershed Protection District

Appendix I. Aquatic Toxicity Testing Lab Results



November 12, 2015

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 Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms - EPA-821-R-02-013 Results were as follows:

CLIENT:

Ventura County Flood Control

SAMPLE I.D.:

MO-MPK

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.125

CHRONIC SELENASTRUM ALGAE GROWTH BIOASSAY

NOEC = -100.00 %

TUc = 1.00

IC25 - >100.00 %

IC50 = >100.00%

Yours yery truly.

fr - Scott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

40 Nov-15 10:03 (p.1 of 1)

Test Code: VCF0915.125sel | 15-9177-3437

									_		
Selonastrum (Growth Test							Aquatic B	loassay & C	onsulting	Labs, Inc.
Batch ID: Start Date: Ending Date: Duration:	15-3236-7301 16 Sep-15 12:20 20 Sep-15 84h		acol: (jas: (Cell Growth EPA/821/R-02- Selepastrum ca Aquatic Biosysi	pricornulum	ı	Analy Dilue Brine Age:	nt: Labo	oratory VVate Applicable	ef	
Sample ID:	01-1520-5899	Code	a: 1	VCF0915.125s			Clion	t: VCV	WPD		
	15 Sep-15 04:40	3 Mate	rial: 3	Sample Waler			Proje	ot: 2019	5/16-1(VVe1)		
	15 Sep-15 10:15		rce: I	Bioassay Repo	rt						
Sample Age:	326 (17.4 °C)	Stati	on: I	MO-MPK							
—— Comparison \$	Summary										
Analysis ID	Endpoint		NOEL	LOEL	TOEL	PMSD	TU	Method			
D1-823B-0173	Cell Density		100	>100	NA	8.82%	1	Dunnett M	lultiple Comp	parison l'e	કા
Point Estimat	e Summary										
Analysis ID	Endpoint		Level	%	95% LCL	95% UCL	TU	Method			
02-4254-1493	Cell Density		IC5	62.74	41 23	70.08	1.594	Linear Inte	erpolation (IC	(PIN)	
			IC10	78.23	63 73	89.15	1.278				
			IC15	93.71	79 51	N/A	1.067				
			IC20	>100	N/A	N/A	<1				
			IC25	>100	N/A	N/A	<1				
			IC40	>100	N/A	N/A	<1				
			IC50	>100	N/A	N/A	<1 				
Test Acceptat	oflity										
Analysis ID	Endpoint		Attribu		Test Stat	TAC Limi	lts	Overlap	Docision_		
01-8238-0173	•		Control		0.01468	NI, - 0.2		Yes	Passes Ad		
D2-4254-1493	-		Control		0.01468	NL + 0.2		Yes	Passes Ad		
01-8238-0173	Cell Density		Control	-	1.07E+6	1.005+5 -		Yes	Passes Ad		
02-4254-1493			Control	-	1.07E+6	1.005+5 -		Yes	Passes Ad		
01-8238-0173	-		PMSD		0.08825	0.091 - 0.2	5.9	Yes	Below Acc	eptability (
Call Density S	•									65.141	
C-%	Control Typo	Count	Mean	95% LCL			Max 4 coort d	Std Err	Std Dev	CV%	%Eftect
0	Negative Control			+6 1.047E+6			1.095E+6	7 867E+3		1 47%	0.0%
6.25		4		+6 1.255E+6					4,768F,+4	3 58% 2 40%	-24.08% -20.12%
12.5		4		•6 1.325E+6							-30.12% -48.36%
25 50		4		+6 1.443E+6 +6 1.241E+6							-48.369 -24.539
50 100		4		+6 1.049E+6							4.24%
Call Density D	netall										_
Can bensity b C-%	Control Type	Rop 1	Rep 2	Rep 3	Rep 4						
0	Negative Control			<u>·</u>		· ·					
6 25	. 10 g 0 (101.00)			+6 1.287E+6							
12.5				+6 1.388E+6							
12.5 25				+6 1,478E+6							
50		1.360E+0	1.232E	+6 1,370 E+ 6	1.334670						

1.143E+6 1.052E+6 1.159E+6 1.107E+6

100

Report Date:

10 Nov-15 10:03 (p.1 of 2)

Test Code:

VCF0915.126set - 15-9177-3437

Sefonastrum Growth Test	
Analyzed: 10 Nov-15 9:54	-
Start Date: 16 Sep-15 12.20 Protocol: EPA/821/R-02-013 (2002) Diluent: Laboratory Water	-
Ending Date 20 Sep-15 Species Sctenastrum capricornutum Brine Not Applicable	-
Source Aquatic Biosystems CO Age Source Aquatic Biosystems CO Age	-
Sample ID: 01-1520-5899 Code: VCFG915.125s Client: VCWPD	-
Sample Date: 15 Sep 15 04 43 Material: Sample Water Project: 2015/16-1(Wel)	-
Receive Date: 15 Sep-15 10:15 Source: Bioassay Report	-
Sample Age: 32h (17.4 °C) Station: MO-MPK Data Transform Zeta Alt Hyp Trials Seed PMSD NGEL LOEL TOSL Untransformed NA C > T NA NA 8.82% 100 >100 NA Dunnett Multiple Comparison Test Control vs C-% Tost Stat Critical MSD DF P-Value P-Type Decision(α:5%) Negative Control 6.25 -6.57 2.407 94620 6 1.6000 COF Non-Significant Effect 12.5 -8.217 2.407 94620 5 1.0000 CDF Non-Significant Effect 25 -13 19 2.407 94620 5 1.0000 CDF Non-Significant Effect	-
Data Transform Zeta Alt Hyp Triats Seed PMSD NGEL LOEL TOS Untransformed NA C > T NA NA 8.82% 100 >100 NA Dummett Multiple Comparison Test Control vs C-% Tost Stat Critical MSD DF P-Value P-Type Decision(a:5%) Negative Control 6.25 -6.57 2.407 94620 6 1.6000 COF Non-Significant Effect 12.5 -8.217 2.407 94620 6 1.0000 CDI* Non-Significant Effect 25 -13 19 2.407 94620 6 1.0000 CUI* Non-Significant Effect	-
Untransformed NA C > T NA NA NA 8.82% 100 >100 NA Dunnett Multiple Comparison Test Control vs C-% Tost Stat Critical MSD DF P-Value P-Type Decision(α:5%) Negslive Control 6.25 -6.57 2.407 94620 6 1.6000 CDF Non-Significant Effect 12.5 -8.217 2.407 94620 5 1.0000 CDF Non-Significant Effect 25 -13 19 2.407 94620 5 1.0000 CDF Non-Significant Effect	-
Dunnett Multiple Comparison Test Control vs C-% Tost Stat Critical MSD DF P-Value P-Type Decision(c:5%)	
Control vs C-% Tost Stat Critical MSD DF P-Value P-Type Decision(α:5%)	
Negative Control 6.25 -6.57 2.407 94620 5 1.6000 COF Non-Significant Effect 12.5 -8.217 2.407 94620 5 1.6000 COF Non-Significant Effect 25 -13.19 2.407 94620 5 1.0000 COF Non-Significant Effect	
12.5 -8.217 2.407 94620 5 1.0000 CDF Non-Significant Effect 25 -13.19 2.407 94620 6 1.0000 CDF Non-Significant Effect	
25 -13 19 2.407 94620 5 1.0000 CDF Non-Significant Effect	
·	
50 -6.69 2.407 94620 B 1.0000 CDF Non-Stanificant Effect	
•	
100 -1,157 2,407 94620 6 0,9888 CDF Non-Significant Effect	
Fest Acceptability Criteria	
Attribute Test Stat TAC Limits Overlap Decision	
Control CV 0.01468 NC - 0.2 Yos Passes Acceptability Criteria	
Control Resp 1.07E+6 1.00E+6 - NL Yes Passes Acceptability Criteria	
PMSD 0.08825 0.091 - 0.29 Yes Below Acceptability Criteria	
ANOVA Table	_
Source Sum Squares Mean Square DF F Stat P-Value Decision(6:5%)	
Between 7.223022E+11 1.444604E+11 5 46.74 <0.0001 Significant Effect	
Error 55628750000 3090485000 18	
Folal 7.779309E+11 23	
Distributional Tes(s	
Mariana was was a second of the second of th	
Variances Bartfell Equality of Variance 6.97 15.09 0.2229 Equal Variances	
Variances Bartfell Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levens Equality of Variance 1.02 4.248 0.4351 Equal Variances	
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Variances Barttett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levene Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levene Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wolk W Normality 0.9785 0.884 0.8571 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1116 2.576 0.9111 Normal Distribution	
Variances Bartlett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levene Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levene Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wdk W Normality 0.9785 0.884 0.8671 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1116 2.576 0.9111 Normal Distribution Distribution D'Agostino Kurtosis 1.003 2.576 0.3159 Normal Distribution	
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Variances Bartlett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levens Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levens Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wilk W Normality 0.9785 0.884 0.8671 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1316 2.576 0.9111 Normal Distribution Distribution D'Agostino Kurtosis 1.003 2.576 0.3159 Normal Distribution Distribution D'Agostino Pearson K2 Omnibus 1.018 9.21 0.6010 Normal Distribution Distribution Anderson-Darling A2 Normality 0.3606 3.878 0.4514 Normal Distribution	
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Variances Barttett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levene Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levene Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wolk W Normality 0.9785 0.884 0.8671 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1116 2.576 0.9111 Normal Distribution Distribution D'Agostino Kurtosis 1.003 2.576 0.3159 Normal Distribution Distribution D'Agostino-Pearson K2 Omnibus 1.018 9.21 0.6010 Normal Distribution Distribution Anderson-Darling A2 Normality 0.3606 3.878 0.4514 Normal Distribution Cell Density Summary Control Type Count Mean 95% LCL 95% UCL Modian Min Max Std Err CV Negative Control 4 1.072F.+6 1.047F.+6 1.097E+6 1068000 1.059E+6 1.095E+8 7.868E+3 1.41	% 0.0%
Variances Bartfett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levene Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levene Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wdk W Normality 0.9785 0.884 0.8671 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1116 2.576 0.9111 Normal Distribution Distribution D'Agostino Pearson K2 Omnibus 1.003 2.576 0.3159 Normal Distribution Distribution D'Agostino Pearson K2 Omnibus 1.018 9.21 0.6040 Normal Distribution Distribution D'Agostino Pearson K2 Omnibus 1.018 9.21 0.6040 Normal Distribution Cell Density Summary Cell Density S	% 0.0% % -24.0 8 °
Variances Bartlett Equality of Variance 6.97 15.09 0.2229 Equal Variances Variances Mod Levene Equality of Variance 1.02 4.248 0.4351 Equal Variances Variances Levene Equality of Variance 1.101 4.248 0.3942 Equal Variances Distribution Shapiro-Wdk W Normality 0.9785 0.884 0.8671 Normal Distribution Distribution Kolmogorov-Smirnov D 0.1321 0.2056 0.3386 Normal Distribution Distribution D'Agostino Skewness 0.1316 2.576 0.9111 Normal Distribution Distribution D'Agostino Kurtosis 1.003 2.576 0.3159 Normal Distribution Distribution D'Agostino-Pearson K2 Omnibus 1.018 9.21 0.6010 Normal Distribution Distribution Anderson-Darling A2 Normality 0.3606 3.878 0.4514 Normal Distribution Cell Density Summary C-% Control Type Count Mean 95% LCL 95% UCL Modian Min Max Std Err CV Negative Control 4 1.072F+6 1.047F+6 1.097E+6 1068000 1.059E+6 1.095E+6 7.868E+3 1.41	% 0.0% % -24.0 8 °

-4.24%

1.335E+6 1.241E+6 1.430E+6 1352000 1.252E+6 1.385E+6 2.974E+4 4.46% -24.53%

1.11BE+6 1.049E+6 1.186E+6 1125000 1.062F+6 1.159E+6 2.153E+4 3.85%

50

100

Report Date:

10 Nov-15 10 03 (p 2 of 2)

Test Code:

VCF0915.125sel | 15-9177-3437

						rest cour.	VGF0515.123801 15-5111-3451
Selenastrum	Growth Test					Aquatic Bio	oassay & Consulting Labs, Inc.
Analysis ID: Analyzed:	01-8238-0173 10 Nov-15 9:54		point: Cet ysis: Par		ilrol vs Treatments	CETIS Version: Official Results:	CETISv1.8.7 Yes
Cell Density	Detall						
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4		
D	Negative Control	1 059E+6	1.066E+6	1.069E+6	1.095E+6		
6.25		1 330E+6	1.308E+6	1.287E+6	1.397E+B		
12.5		1351E+6	1 385E+6	1.388E+6	1.457E+6		
25		1 605E+6	1.576E+6	1.478E+6	1.704E+6		
50		1.385E+6	1.252E+6	1,370E+6	1.334E+6		
100		1.143E+6	1.092E+6	1,159E+6	1.107E+6		

Report Date:

10 Nov-15 10:03 (p 1 of 2)

Test Code:

VCF0915 125sel | 15-9177-3437

							1521	. 	VGF0310 123861	112-2141-2424
Solonastrum	Growth Tost							Aquatic E	lioaseay & Consult	ing Labs, Inc.
Analysis ID: Analyzed:	02-4254-1493 10 Nov-15 9.54			ell Density near Interpola	tion (ICPIN)			S Version: al Results		
Batch IO: Start Date: Ending Date Duration:	15-3236-7301 16 Sep-15 12:2 20 Sep-15 64h	0 Prot	ocot: F cles: S	ell Growth PA/821/R-02-t elenastrum ca quatic Biosyste	pricornutum		Analy Dilue Brine Age:	nt: Lab	oratory Water Applicable	
Receive Oate	01-1520-5899 :: 15 Sep-15 04:4 e: 15 Sep-15 10:1 : 32h (17.4 °C)		mal: S rce: B	CF0915 125s amp'e Water ioassay Repor O-MPK	t		Citen Proje		NPD 5/16-1(Wet)	
Linear interp	olation Options									
X Transform	Y Transform) Seco	i R	esamples	Exp 95% (
Linear	Linear	0	24	80	Y e s	Two-9	Point Interpo	dation		
-	ability Criteria									
Attribute		TAC Limit	5	Overlap	Decision	- 1 2 4	n :- :			
Control CV	0.01468	NL - 0.2		Yes	Passes Acc					
Control Resp	1.07E+6	1.00E+6 -	NL	Yes	Passes Acc	ceptability (Criteria			
Point Eslima										
Lovel %	95% LCL	95% UCL	TU	95% LCL						
ICS 62.7		70.08	1.594	1 427	2 425					
C10 78.2		89.1 5	1.278	1.122	1,569					
C15 93.7		N/A	1.057	NA NA	1.258					
C20 >10		N/A	<1	NA.	NA					
IC25 ≻10		N/A	<1	NA.	NA.					
IC40 >10		N/A	<1	NA.	NA.					
IC50 >10	-	N/A	<1	NA	NA				····	
Call Density	•				Calc	ulated Var				
	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	¢v%	%Effect	
	Negativo Control	4	1.072E+		1 095E+6			1.47%	0.0%	
3.25		4	1.331E+		1.397É+6			3.58%	-24.08%	
12.5		4		8 1351E+6					-30.12%	
25		4		G 1.478E+6					-48.36% 34.539/	
50 502		4		6 1252E+6					-24.53% -4.24%	
t00	Datali	4	1.110€*	6 1062E16	1 199570	2. 103ET9	4.30UET4	3.0378	-4.6477	
Cell Density C-%	Control Type	Rep 1	Rep 2	Rвр 3	Rep 4					
	Negative Control			6 1.059E+6						
5. 2 5	riegadre conduit			6 1.287E+6						
12.5				6 1388E+6						
25 50				6 1478E+6						
50				6 1370E+6						
100		1.143E+6	1.062E+	6 1159E+6	1 10/E+6					

Report Date:

10 Nov-15 10:03 (p 2 of 2)

Test Code:

VCF0915.125set | 15-9177-3437

Selonastrum Growth Tost

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

02-4254-1493 10 Nov-15 9:54

Endpoint: Cell Density

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8 7

Official Results: Yes

CETIS Measurement Report

Report Date:

10 Nov-15 10:03 (p 1 of 2)

Test Code:

VCF0915.125sel | 15-9177-3437

								1001 00001		*********	
Selenastrum (Growth Test							Aquatic	Bloassay &	Consultin	g Labs, Inc.
Batch IO:	15-3236-7301		Test Type:	Cell Growth				Analyst:			
Start Date:	16 Sep-15 12:2	20	Protocol:	FPA/821/R-02	-013 (2002)			-	aboratory W a	1er	
Ending Date:	20 Sep-15		Species:	Selenastrum c		n			ot Applicable		
Duration:	64h		Source:	Aquatic Biosys	•	•		Age:			
Sample ID:	01-1520-5899			VCF0915.125s	<u> </u>			Client: V	CWPD .		
-	15 Sep-15 04:4	13	Material:	Sample Water					015/16-1(Wet	1	
-				Bioassay Repo				F10,001. 21	21.371(2-1(14-2)	,	
	: 15 Sep-15 10:1	טו	Source:	MO-MPK	ж						
Sample Age:	32h (17.4 °C)		Station:	MO-MPK							
Alkatinity (Car											
C-%	Control Type	Count		95% LCL_	95% UCL	Mira	Max	Std Err	Std Dav	CV% 0.0%	QA Count 0
0 8.35	Negativo Confr	1	60			60	60		0	0.0%	0
6.25		1	70 CB			70	70	0	0	00%	0
12.5		1	68			68 60	68 60	0	0	00%	0
25		4	60 59			50 50	60 60	0	0	00%	0
50 400		1				59 61	59	0	0	00%	0
100 Overell		6	51			51 51	- <u>51</u> 70			00/4	0 (0%)
Overall		0	81.33			31					
Conductivity- C-%	-	Count	Maan	95% LCL	95% UCL	Min	Max	Std Err	Std Dav	CV%	QA Count
0-76	Control Type Negative Contr		Mean 429.8	428.8	430.8	429	431	0.3742	0.8367	0.19%	0
-	Negative Comi				438.4	429	438	1.581	3.536	0.81%	0
5.25 43.5		5 5	434 429	429.6 424.6	433.4	426	435	1.581	3.536	0.81%	0
12.5 25							429	0 5099	1.14	0.27%	D
∠5 50		5 5	427.6	426.2	429	425		0.7746	1.732	0.41%	G.
			425	422.8 421.4	427.2	424	428		2 28	0.54%	0
100		5	424.2	421.4	427	421	427	1.02	220	0.3475	<u>0</u> (0%)
Overall	0001	30	428 3			421	438				
Hardness (Ca		.		A=01 4 A1	0507 4101	M.	41	C4.4 F	E44 D	C1497	QA Count
C-%	Control Type	Count		95% ECE	95% UCL		Max	Std Err	Std Dev	CV%	_
0	Negative Confr		99			99	99	D	0	0.0%	0
6 2 5		1	100			100	100	D	0	0.0%	0
12.5		1	109			109	109	0	0	0.0%	0
25		1	111			111	111	0	0	0.0%	0
50		1	118			118	118	0	0	0.0%	0
100		1	121			121	121	0	<u> </u>	0.0%	0
Overall		6	109.7			99	121				0 (0%)
pH-Units											
C-%	Control Type	Count		95% LCL	95% UCL		Max	Std Err	Std Dev	CV%	QA Count
0	Negative Confr	5	7.7	7.485	7 915	7.4	7.8	0.07748		2.25%	0
ნ.25		5	7.68	7.476	7.884	7.4	78	0.07349		2.14%	Ó
12.5		5	7.68	7.476	7.884	7.4	7.6	0.07349		2.14%	0
25		5	7. 6 5	7.452	7.868	74	78	0.07483		2.19%	0
50		5	7.62	7.458	7.782	7.4	7.7	0.05831		1.71%	0
100		5	7.55	7.352	7.768	7.3	7.7	0.07483	0.1673	2 21%	0
Overall		30	7.65			7.3	7.8				0 (0%)
Temperature-	°C										
C-%	Control Type	Count		95% LCL	95% UCL		Max	Std Err	Std Dov	CV%	QA Count
0	Negative Confr		24.3	24.05	24.55	24.1	24.5	0.08944		0.82%	0
6.25		5	24.3	24.05	24.55	24.1	24.5	0.08944		0.82%	٥
125		5	24.3	24.05	24 55	24.1	24.5	0.08944		0.82%	0
25		5	24.3	24.05	24 55	24.1	24.5	0.08944		0.82%	0
50		5	24.3	24.05	24 55	24.1	24.5	0.08944		0.82%	0
100		5	24.3	24.05	24 55	24.1	24.5 24.5	0.08944	0.2	0.82%	0 (0%)

CETIS Measurement Report

Report Date:

10 Nov-15 10:03 (p 2 of 2)

Test Code: VCF0915.125sel j 15-9177-3437

Selenastrur	n Growth Test						Aquatic Bloassay & Consulting Labs, Inc
Alkalinity (C	CaCO3)-mg/L						
C-%	Control Type	1					
0	Negațive Contr	60					.
6 25		70					
12,5		68					
25		60					
50		59					
100		51					<u></u>
Conductivit	ly-pmhos						
C-%	Control Type	1	2	3	4	5	
D	Negalive Contr	430	429	431	430	429	
9.25		432	429	438	438	435	
12.5		426	427	428	429	435	
25		426	427	428	428	429	
50		474	424	424	425	428	
100		421	423	425	425	427	
Hardness (CaCO3)-mg/L						
C-%	Control Type	1					
0	Negalive Contr	99					
6.25		100					
12.5		109					
25		111					
50		118					
100		121					
pH-Units							
C-%	Control Type	1	2	3	4	5	
0	Negative Contr	7.4	7.7	7.8	7.8	7.8	· -
6.25		7.4	7.7	7.7	7.8	7.8	
12.5		7.4	7.7	7.7	7.8	7.8	
25		7.4	7.6	7.7	7.8	7.8	
50		7.4	7.6	7.7	7.7	7,7	
100		7.3	7.5	7.6	7.7	7.7	
Temperatur	re-°C						
C-%	Control Type	1	2	3	4	5	
0	Nugative Contr	24.1	24.1	24.3	24.5	24.5	
6.25		24.1	24.1	24.3	24.5	24.5	
12.5		24.1	24.1	24.3	24.5	24.5	
25		24.1	24.1	24.3	24.5	24.5	
50		24.1	24.1	24.3	24.5	24.5	
100		24.1	24.1	24.3	24.5	24.5	



November 12, 2015

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

Dear Mr. Auselm:

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*^o EPA-821-R-02-013. Results were as follows:

CLIENT:

Ventura County Flood Control

SAMPLE LD.:

MO-HUE

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.123

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL

NOEC :: 100.00 %

TUc = 1.00

IC25 = >100.00 %

IC50 - >100.00 %

REPRODUCTION

NOEC = 50.00 %

TUc = 2.00

1C25 - 43.13 %

1C50 = 61.84 %

Yours/ver/ truly,

_ Scott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

10 Nov-15 10 03 (p 1 of 2)

Test Code: VCF0915.123cer | 07-3606-9416

								Test Code:	VCF0915	.nzacer jiur	-3605.941
Ceriodaphnia	7-d Survival and	i Reprodu	action T	est			•	Aquatic I	Bioassay & (Consulting	Labs, Inc.
Batch ID:	17-0097-4706	Te	st Type:	Reproduction-S	iurvival (7d)			Analyst:			
Start Oate:	16 Sep-15 14 16	G Pro	atocol:	EPA/821/R-02-	013 (2002)			Diluent: Lal	oratory Wal	ēι	
Ending Date:	23 Sep-15 14 5	D Sp	ecies:	Ceriodaphnia d	ubia			Brino: No	Applicable		
Duration:	7d 1h	-	urce:	Aqualic Biosyst				Ago:			
Sample ID:	11-4882-2384	Co	de:	VCF0915 123c				Client: VC	WPD		
Sample Date:	15 Sep-15 04 4:	5 Ma	torial:	Sample Water				Project: 201	15/16-1(W el)		
Receive Date:	15 Sep-15 10 1:	5 \$0	urce:	Bioassay Repo	rţ						
Sample Age:	34h (18 4 °C)	Sta	ation:	MO-RUE							
Comparison 5	Summary	'									
Analysis ID	Endpoint		NOE		TOEL	PMSD	TU	Method			
14-8655-1249	7d Survival Rate	2	100	>100	NA	NA	1	Fisher Ex	kact/ Bo nferro	ŋɨ-Halm Te:	sl
09-2189-7862	Reproduction		50	100	70.71	40.9%	2	Dunnett	Mustipte Com	parison Tes	:1
Point Estimat	e Summary										
Analysis IO	Endpoint		Lavo	. <u>%</u>	95% LCL	95% UCL	TU	Method			
19-4991-4782	7d Survival Rate	2	EC5	>100	N/A	N/A	≤1	Linear In	terpolation (l	CPIN)	
			EC10		N/A	N/A	41				
			EC15	>100	NIA	N/A	<1				
			EC20	>100	N/A	N/A	<1				
			EC25	>100	N/A	N/A	<1				
			EC40	>100	N/A	N/A	≤1				
			F,C\$Q	>100	N/A	N/A	<1				
07-5486-4581	Reproduction		105	28.63	27.67	30.94	3.49	 Linear In 	terpolation (l	CPIN)	
			rC10	32.25	30 35	36,89	3.10	1			
			IC15	35.88	33 02	42.83	2.78	.7			
			IC20	39.5	35.7	48.78	2.53	2			
			IC25	43.13	38.37	52.51	2.31	9			
			IC40	54.21	45.39	52.01	1.84	5			
			IC50	61.84	53.05	68.34	1.51	7			
Test Acceptab	oility										
Analysis ID	Endpoint		Attrit		Test Slat	–	its	Overlap	Decision		
14-8655-1249	7d Survival Rate			ol Résp	1	0 8 - NL		Yes		cceptability	
19-4991-4782		2		ol Resp	1	08-NL		Yes		cceptability	
07-5486-4581	Reproduction		Contr	ol Resp	15.3	15 - NL		Yes	Passes A	coeptability	Criteria
	Reproduction			ol Resp	15.3	15 - NL		Yes		oceptability	
09-2189-7862	Reproduction		PMSI		0.4094	0 13 - 0.47	,	Yes	Passes A	cceptability	Criteria
7d Survival Ra	-	_									A/ =//
	Control Type	Count	Меал		95% UCL		Max		Std Dev	CV%	%Effect
D a o r	Negative Control		1	1	1	1	1	0	0	0.0%	0.0%
6.25		10	1	1	1	1	í	0	0	0.0%	0.0%
12.5		10	1	1	1	1	í	0	0	0.0%	0.0%
25		10	1	1	1	1	1	0	0	0.0%	0.0%
50		10	1	1	1	1	1	0	0	0.0%	0.0%
100		10 		1		1	1		0	0.0%	0.0%
Reproduction	-	0		AFW LET	Dec 117			e de de esta en esta e Esta en esta e	Stant Phone	CHRI	D/ E-45
	Control Type	Count	Mean		95% UCL		Max		Std Dev	CV%	%Elfec
0	Negative Control		15.3	13.22	17.38	10	20	0 9195	2.908	19.01%	0.0%
6.25 45.5		10	27.4	20.32	34.46	9	42	3 131	9,902	36.14%	-79.08%
12.5		10	25.3	20.89	29.71	19	39	1.95	6.165	24,37%	-65.36%
25		10	30.9	27.06	34.74	23	36	1.695	5.363	17.36%	-102.0%
50		10	16.2	12.6	19.8	7	23	1.59	5.029	31.04%	-5 88%
100		10	0	0	0	D	0	Ð	D.		100 6%

CETIS Summary Report

100

Report Date:

10 Nov-15 10:03 (p.2 of 2)

Test Code:

VCF0915.123cer | 07-3606-9416

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

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Ç-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1	1	1	1	1	1	1	1	1	1
6.25		1	1	1	1	1	1	1	1	1	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	1	1
50		1	1	1	1	1	1	1	1	1	1
100		1	1	1	1	1	1	1	1	1	1

Reproduc	ction Detail										
C-%	Control Type	Rep 1	Rep 2	Ввр 3	Rep 4	Rep 5	Rep 6	Rép 7	Rop 8	Rep 9	Rep 10
0	Negalive Control	20	15	17	17	16	16	11	10	16	15
6.25		36	27	21	38	24	23	9	21	33	42
12.5		31	25	23	24	22	19	22	19	39	29
25		35	30	24	36	33	36	23	24	32	36
50		16	23	7	22	13	19	21	13	13	15

0

0

10 Stitals	vai Rate Binomiais										
C-%	Control Type	Rep 1	Rap 2	Квр 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rop 9	Rep 10
0	Negalive Control	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		101	111	1/1	1/4	471	1/1	1/1	1/5	1/5	1/1

Report Date:

10 Nov-15 10:03 (p 1 of 2)

Test Code:

VCF0915 123cer | 07-3606-9416

Ceriodaphnia	7-di S	urvival and	I Ropre	eduction To	osl					Aquatic B	loassay & C	onsulang	Labs, Inc
Analysis ID:	09-2	189-7862		Endpoint:						S Version:		8.7	
Analyzed:	10 N	Nov-15 9:54		Analysis:	Para	ametric-Con	trol vs Treat	tments	Offic	ial Results:	: Yes		
Batch ID:	17-0	097-470В	-	Test Type:	Rep	roduction-S	urvival (7d)		Anal	yst:			
Start Date:	16 S	ep-15 14.16		Protocol:		7821/R-02-0			Pilue	-	oratory Wate	1	
Ending Date:	23 S	вр-15 14.50)	Species:	Ceri	odaphnia di	ubia		Brio	e: Not	Applicable		
Duration:	7d 1			Source:	Aqua	atic Biosysti	ems, CO		Age:				
Sample ID:	11.4	882-2384		Code:	VCF	0915.1236			 Clier	nt: VCV	WPD		
Sample Date:				Material:		sple Water			Praje		5/16-1(Wet)		
Receive Date:				Source:		ssay Repor	·+				011011(1100)		
Sample Age:				Station:		HUE	•						
gembie wie.	3 41.2	(10 4 07											
Data Transfor			Zota	AR H		Trials	Seed		PMSD	NOEL	LÖEL	TOEL	TU
Untransformed	I		NA	C > T		NA .	NA		40.9%	50	100	70 71	5
Dunnott Multip	ple Co	omparison	Test										
Control	VS	C-%		Test:	Stat	Critical	MSD DF	P-Value	Р-Туре	Decisioni	(q: 5%)		
Negațive Confr		6 25		-4.293		2.222	6.263 18		CDF		ticant Effect		
		12.5		-3.548		2 222	6.263 18		CDF		ficant Effect		
		25		-5.538		2.222	6.253 18		CDF	-	ficant Effect		
		50		-0 319		2 222	6.263 18		CDF		ficant Effect		
			_			-	-						
 4													
	ішту С												
Attribute	эШту С	Test Stat	TAC L			Overlap	Decision						
Attribute Control Resp	ollity (Test Stat 15.3	15 - N	IL		Yes	Passes A	coeptability					
Attribute Control Resp	ollity (Test Stat		IL			Passes A	coeptability					
Attribute Confro! Resp PMSD		Test Stat 15.3	15 - N	IL		Yes	Passes A						
Attribute Confro! Resp PMSD 		Test Stat 15.3	15 - N 0.13 -	IL	ո Ֆգտ	Yes Yes	Passes A				(a:5%)		
Attribute Confroi Resp PMSD 		Test Stat 15.3 0.4094	15 - N 0.13 -	IL 0.47		Yes Yes	Passes Ar Passes Ar	coeptability	Criteria	Decision) Significan	• •		
Attribute Confro! Resp PMSD ANOVA Table Source Between		Test Stat 15.3 0.4094 Sum Squa	15 - N 0.13 -	IL 0.47 Mean	17	Yes Yes	Passes Ad Passes Ad DF	F Stat	Criterio P-Value		• •		——
Attribute Confroi Resp PMSD		Test Stat 15.3 0.4094 Sum Squa 1925.88	15 - N 0.13 -	Mean 481.4	17	Yes Yes	Passes Ad Passes Ad DF	F Stat	Criterio P-Value		• •		
Attribute Confroi Resp PMSD ANOVA Table Source Between Error		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98	15 - N 0.13 -	Mean 481.4	17	Yes Yes	Passes Ad Passes Ad DF 4 45	F Stat	Criterio P-Value		• •		_
Attribute Confrol Resp PMSD ANOVA Table Source Between Error Total		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98	15 - N 0.13 -	Mean 481.4	17	Yes Yes are	Passes Ad Passes Ad DF 4 45 49	F Stat 12.12	P-Value <0.000t	Significan	• •		
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 s	15 - N 0.13 - iro\$	Mean 481.4 39.71	333	Yes Yes are	Passes Ad Passes Ad DF 4 45 49	F Stat 12.12 P-Value	P-Value <0.000i Decision	Significan	• •		
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barliett Ed	15 - N 0.13 - iroš	Mean 481.4 39.71	333	Yes Yes are Test Stat 12 59	Passes Ad Passes Ad DF 4 45 49 Critical	F Stat 12.12 P-Value 0 0135	P-Value <0.000i Decision Equal Var	Significan (a:1%) itances	• •		
Attribute Control Resp PMSD ANOVA Table Source Between Error Folat Distributional Attribute Variances		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barlett Ed Mod Level	15 - N 0.13 - iros quality « ne Equ	Mean 481.4 39.71 of Variance	17 1333 іалсе	Yes Yes are Test Stat 12 59 2.821	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767	F Stat 12.12 P-Value 0.0135 0.0359	P-Value <0.000i Decision Equal Var Equal Var	Significan (a:1%) iances iances	• •		_
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed	15 - N 0.13 - iros quality « ne Equ quafity»	Mean 481.4 39.71 of Variance rality of Variance	17 1333 іалсе	Yes Yes are Test Stat 12 59 2.821 3.649	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 3.767	P-Value 0 0135 0.0359 0 017	P-Value <0.000; Decision Equal Var Equal Var Equal Var	Significan (a:1%) fiances fiances fiances	• •	-	_
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Ustribution		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed Shapiro-W	15 - N 0.13 - rros quality « ne Equ quality « Vilk W I	Mean 481.4 39.71 of Variance rality of Variance Normality	17 1333 іалсе	Yes Yes are Tost Stat 12:59 2:821 3:649 0:9754	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 3.767 0.9367	P-Value 0 0135 0.0359 0 017 0.3769	P-Value <0.000i Decision Equal Var Equal Var	Significan (a:1%) fiances fiances fiances fiances fiances	• •		_
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Ustribution Distribution		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed Shapiro-W Kolmagore	15 - N 0.13 - guality « ne Equ quality « Vilk W I ov-Smi	Mean 481.4 39.71 of Variance ality of Variance Normality	17 1333 іалсе	Yes Yes are Test Stat 12 59 2.821 3.649	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 3.767	P-Value 0 0135 0.0359 0 017	P-Value <0.000; Decision Equal Var Equal Var Equal Var Normal D	Significan (a:1%) fiances fiances fiances fiances fistribution fistribution	• •		
Attribute Confro! Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Distribution Distribution Distribution		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed Shapiro-W	15 - N 0.13 - guality « ne Equ quality « Vilk W I ov-Smi o Skew	Mean 481.4 39.71 of Variance ality of Variance Normality irnov D	17 1333 іалсе	Yes Yes are Test Stat 12:59 2:821 3:649 0:9754 0:06843	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 0.9367 0.1453	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233	P-Value <0.000; Decision Equal Var Equal Var Normal D Normal D	Significan (a:1%) fiances fiances fiances fiances fistribution fistribution	• •		
Attribute Confroi Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Oistribution Distribution Oistribution Oistribution		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leverso Ed Shapiro-W Kolmogork D'Agostino D'Agostino	15 - N 0.13 - uros ne Equ quafity o Vik W I ov-Smi o Skew o Kurto	Mean 481.4 39.71 of Variance ality of Variance Normality irnov D	17 1333 1333 iance	Test Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 0.9367 0.1453 2.576	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8546	P-Value <0.000i Decision Equal Var Equal Var Normal D Normal D Normal D	Significan (a:1%) fizances fizances fizances fistribution fistribution fistribution	• •		
Attribute Confroi Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Oistribution Distribution Distribution Distribution Oistribution		Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed Shapiro-W Kolmagore D'Agostine D'Agostine	15 - N 0.13 - 0.13 - iros iros ne Equ quafity o Vik W I ov-Smi o Skew o Kurto o-Pears	Mean 481.4 39.71 of Variance ality of Variance Normality rnov D mess s:s	iance	Test Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706 1.515	Passes Ad Passes Ad DF 4 45 49 Critical 13.28 3.767 3.767 0.9367 0.1453 2.576 2.576	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8646 0.1297	P-Value <0.000; Decision Equal Var Equal Var Normal D Normal D Normal D Normal D	Significan (a:1%) izances izances istribution istribution istribution istribution	• •		
Attribute Control Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leveno Ed Shapiro-W Kolmagori D'Agostino D'Agostino Anderson-	15 - N 0.13 - 0.13 - iros iros ne Equ quafity o Vik W I ov-Smi o Skew o Kurto o-Pears	Mean 481.4 39.71 of Variance vality of Variance Normality rnov D vness sis	iance	Test Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325	Passes Ad Passes Ad Passes Ad 4 45 49 Critical 13.28 3.767 0.9367 0.1463 2.576 2.576 9.21	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8546 0.1297 0.3127	P-Value <0.000t Decision Equal Var Equal Var Equal Var Normal D Normal D Normal D Normal D Normal D	Significan (a:1%) izances izances istribution istribution istribution istribution	• •		
Attribute Confroi Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Oistribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leverso Ed Shapiro-W Kolmagori D'Agostino D'Agostino D'Agostino D'Agostino D'Agostino Majostino Majostino Majostino Majostino Majostino	uality of ne Equality of the United Street of the U	Mean 481.4 39.71 of Variance vality of Variance Normality irnov D iness son K2 Omi	333 Januariance	Test Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694	Passes Ad Passes Ad Passes Ad 4 45 49 Critical 13.28 3.767 0.9367 0.1463 2.576 2.576 9.21 3.878	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8546 0.1297 0.3127 0.4312	P-Value <0.000; Decision Equal Var Equal Var Rormal D Normal D	Significan (a:1%) fizances fizances fizances fistribution fistribution fistribution fistribution fistribution fistribution	t Effect	CV%	%EHar
Attribute Confroi Resp PMSD ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Variances Ustribution Distribution	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barllett Ed Mod Level Leveno Ed Shapiro-W Kolmogori D'Agostino D'Agostino D'Agostino Anderson- mary rol Type	quality of ne Equality of Skew of Kurto of Pears (Darling	Mean 481.4 39.71 of Variance vality of Variance Normality rnov D vness son K2 Omr g A2 Norma	333 Januariance	Test Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694	Passes Ad Passes Ad 4 45 49 Critical 13.28 3.767 0.9367 0.1453 2.576 2.576 9.21 3.878	P-Value 0 0135 0.0359 0 017 0.3769 0.8233 0.8546 0.1297 0.3127 0.4312 Median	P-Value <0.000i Decision Equal Var Equal Var Equal Var Normal D	Significan (a:1%) fizances fizances fizances fistribution fistribution fistribution fistribution fistribution fistribution fistribution fistribution fistribution	t Effect	CV%	%Effec
Attribute Confroi Resp PMSD	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Bartlett Ed Mod Level Leverso Ed Shapiro-W Kolmagori D'Agostino D'Agostino D'Agostino D'Agostino D'Agostino Majostino Majostino Majostino Majostino Majostino	quality one Equipment Equipment Sharing Skewno Pears Darling Count	Mean 481.4 39.71 of Variance rality of Varianco Normality imov D riness sis son K2 Omir g A2 Norma	333 Januariance	Yes Yes Yes are Tost Stat 12 59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694 95% LCL 13.22	Passes Ar Passes Ar 4 45 49 Critical 13.28 3.767 0.9367 0.1463 2.576 2.576 9.21 3.878	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8546 0.1297 0.4312 Median 16	P-Value <0.000i Decision Equal Var Equal Var Rormal D Normal D	Significan (a:1%) izances izances izances istribution istribution istribution istribution Max 20	Std Err 0 9195	19.01%	0.0%
Attribute Confroi Resp PMSD	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barllett Ed Mod Level Leveno Ed Shapiro-W Kolmogori D'Agostino D'Agostino D'Agostino Anderson- mary rol Type	quality one Equipment of Skew of Kurto opening County 10	Mean 481.4 39.71 of Variance vality of Variance Normality mov D mess sis son K2 Omi p A2 Norma 15.3 27.4	333 Januariance	Yes Yes Yes are Tost Stat 12:59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694 95% LCL 13.22 20:32	Passes Ar Passes Ar 4 45 49 Critical 13.28 3.767 0.9367 0.1453 2.576 2.576 9.21 3.878 95% UCL 17.38 34.48	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8646 0.1297 0.4312 Median 16 25.5	P-Value <0.000i Decision Equal Var Equal Var Rormal D Normal D	Significan (a:1%) fiances fian	Std Err 0 9195 3 131	19.01% 36 I4%	0.0% -79.08%
Attribute Confroi Resp PMSD	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barllett Ed Mod Level Leveno Ed Shapiro-W Kolmogori D'Agostino D'Agostino D'Agostino Anderson- mary rol Type	15 - N 0.13 - 0.13 - 0.13 - 0.13 - 0.15 - 0.16 - 0.	Mean 481.4 39.71 of Variance vality of Variance Normality rnov D vness sis son K2 Omr 2 A2 Norma 15.3 27.4 25.3	333 Januariance	Yes Yes Yes are Test Stat 12:59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694 95% LCL 13.22 20:32 20:89	Passes Ar Passes Ar Passes Ar 4 45 49 Critical 13.28 3.767 0.9367 0.1453 2.576 2.576 9.21 3.878 95% UCL 17.38 34.48 29.71	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8646 0.1297 0.4312 Median 16 25.5 23.5	P-Value <0.000i Decision Equal Var Equal Var Rormal D Normal D 10 9 19	Significan (a:1%) fignices fignices fignices fignices fistribution fistribution fistribution fistribution fistribution Max 20 42 39	Std Err 0 9195 3 131 1 95	19.01% 36 F4% 24 37%	0.0% -79.08% -65.36%
	Tests	Test Stat 15.3 0.4094 Sum Squa 1925.88 1787.1 3712.98 Test Barllett Ed Mod Level Leveno Ed Shapiro-W Kolmogori D'Agostino D'Agostino D'Agostino Anderson- mary rol Type	quality one Equipment of Skew of Kurto opening County 10	Mean 481.4 39.71 of Variance vality of Variance Normality mov D mess sis son K2 Omi p A2 Norma 15.3 27.4	333 Januariance	Yes Yes Yes are Tost Stat 12:59 2.821 3.649 0.9754 0.06843 0.1706 1.515 2.325 0.3694 95% LCL 13.22 20:32	Passes Ar Passes Ar 4 45 49 Critical 13.28 3.767 0.9367 0.1453 2.576 2.576 9.21 3.878 95% UCL 17.38 34.48	P-Value 0 0135 0.0359 0 0117 0.3769 0.8233 0.8646 0.1297 0.4312 Median 16 25.5	P-Value <0.000i Decision Equal Var Equal Var Rormal D Normal D	Significan (a:1%) fiances fian	Std Err 0 9195 3 131	19.01% 36 I4%	

Roport Date:

10 Nov-15 10:03 (p.2 of 2)

Test Code:

VCF0915 123cer | 07-3606-9416

Ceriodaphnia	: 7-d S	Survival	and Re	production	Test
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Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

09-2189-7862 10 Nov-15 9 54 Endpoint: Reproduction Analysis:

Parametric-Control vs Trealments

CETIS Version:

CETISV1.8.7

Official Results: Yes

Roprodu	Reproduction Detail													
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rop S	Rep 6	Rop 7	Rep 8	Rep 9	Rep 10			
0	Negative Confro	20	15	17	17	15	16	11	10	16	15			
G 25		36	27	21	38	24	23	9	21	33	42			
12.5		31	25	23	24	22	19	22	19	39	29			
25		35	30	24	35	33	35	23	24	32	3 6			
50		16	23	7	22	13	19	21	13	13	15			
100		0	0	0	0	0	0	O	0	O	0			

Report Date:

10 Nov-15 10.03 (p 1 of 4)

Test Code:

VCF0915.123cer | 07-3606-9416

Cerloda	aphnia 7-d Survival an	d Reprodu	tion To	est				Aqua	tic Bioas	ssay & (Consulting	Labs, Inc
Analysi	is ID: 19-4991-4782	End	point:	7d Survival Rate	0		(ETIS Vers	don: C	ETISv1	.8.7	
Analyzi	ed: 10 Nov-15 9.54	Ana	lysis:	Linear Interpola	tion (ICPIN))	(Official Res	sults: Y	es		
Batch I	D: 17-0097-4706	Test	Туре:	Reproduction-S	urvival (7d)		,	nalyst:				
Start D	ate: 16 Sep-15 14:1	fi Prol	ocol:	EPA/82 (/R-02-0	013 (2002)		[iluent:	Laborate	ory Wate	H	
Ending			cies:	Ceriodaphnia di				arine:	Not App	licable		
Duratio	on: 7d 1h	Sou	rce:	Aquatic Biosyst	ems, CO		,	kge:				
Sample		Cad	e:	VCF0915.123c				illent:	VCMPD			
-	Date: 15 Sep-15 04.4		erial:	Sample Water			F	roject:	2015/16	-1(Wet)		
	e Date: 15 Sep-15 10.1		rce:	Bloassay Repel	ıl							
	Age: 34h (18.4 °C)	Stat	ion:	MO-HUE								
	Interpolation Options											
X Trans			d .	Resamples	Exp 95%		Nethod					
inear	Linear	0		280	Yes		wo-Point In	(etbo.atioi)		_		
Test Ad	captability Criteria											
Attribu		TAC Limit	s	Overlap	Doctsion							
Control	Resp 1	0.8 - NL		Yes	Passes A	cceptab:	lity Criteria	_				
olnt 5	stimates											
Level	% 95% LCL		TU	95% LCL	95% UCL							
ECS	>100 N/A	N/A	< h	NA.	NA							
FC10	>100 N/A >100 N/A	N/A	< §	NA NA	NA NA							
EC15 EC20	>100 N/A >100 N/A	N/A N/A	<1 <1	NA NA	NA NA							
1025	>100 N/A	N/A	<1	NA	NA.							
EC40	>100 N/A	N/A	<1	NA	NA							
C50	>100 N/A	N/A	<1	NA.	NA							
	vival Rate Summary		-		Calcu	lated Va	ariate(A/B)					
C-%	Control Type	Count	Moan	Min	Max	Sid Er		ev CV%	. %	Effect	A	В
)	Negative Control	10	1	1	1	0	0	0.0%		0%	10	10
5.25	·	10	1	1	1	0	0	0.0%	0.	0%	10	10
12.5		10	1	1	1	0	0	0.0%	ο,	0%	10	10
25		10	1	1	1	0	Ó	0.0%	0.	0%	10	10
50		1Đ	í	1	1	0	O	0.0%		0%	10	10
100		10	្រ	1	. 1	0	0	0.0%	0.	0%	10	. 10
/d Sun	vival Rate Detail											
C-%	Control Type	Rep 1	Rep 2	2 Rep3	Rep 4	Rep 5	Repé	Rep		op 8	Rep 9	Rep 10
)	Negative Control	1	1	1	1	1	1	1	1		1	1
3.25		1	í	1	1	1	1	1	1		1	1
12.5		1	1	1	1	1	1	1	1		1	1
25		1	í .	1	1	1	1	1	1		1	1
i0		1	£	1	1	1	1	1	1		1	1
100		1 	1	1	1	1	1	1	1 		1	1
	rival Rate Binomials											
3-%	Control Type	Rep 1	Rep 2		Rep 4	Rep 5				ер В	Rep 9	Rep 10
)	Negative Contro		3/1	1/1	1/1	1/1	1/1	1/1	1/		1/1	1/1
		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/		1/1	1/1
		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/		173	1/1 1/1
12.5			4.14	414	414							371
5. 2 5 1 2 .5 2 5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/		1/1	
12.5			171 171 171	1/1 1/1 1/1	1/1 1/1 1/1	1/1 1/1 1/1	1/1 1/1 1/1	1/1 1/1 1/1	1/	1	1/1	1/1

Report Date:

10 Nov-15 10:03 (p.2 of 4)

Test Code:

VCF0915.123cer | 07-3606-9416

Cerlodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:

19-4991-4782

Endpoint: 7d Survival Rate

CETIS Version: CETISv1 8.7

Analyzed:

10 Nov-15 9:54

Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

Attachment D Appendix I Analyst QA:

Report Date:

10 Nov-15 10:03 (p 3 of 4)

Test Code:

VCF0915.123cer | 07-3606-9416

Ceriodaphnia 7-d Surviv	al and Re	eproduct	ion Test
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Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:	07-5486-4581 10 Nov-15 9:54	Endpoint: Analysis:	Reproduction Linear Interpolation (ICPIN)	CETIS Vo Official Re	rsion: CETISv187 asuits: Yes	
Batch ID: Start Date: Ending Date: Duration:	47-0097-4706 46 Sep-15 14:16 23 Sep-15 14:50 7d 1h	Test Type: Protocol; Species: Source:	Reproduction-Survival (7d) FPA/821/R-02-013 (2002) Ceriodaphnia dubia Aqualic Biosystems, CQ	Analyst: Diluent: Brine: Age:	Laboratory Water Not Applicable	
Receive Date:	11-4882-2384 15 Sep-15 04.45 15 Sep-15 10.15 34h (18.4 °C)	Code: Material: Source: Station:	VCF0915.123c Sample Water Bioassay Report MO-HUE	Client: Project:	VCWPD 2015/16-1(Wet)	

Linear Interpolation Options

X Transform	Y Transform	Seed	Resamples	Exp 95% CL	Method
Linear	Linear	2104798	280	Yes	Two-Point Interpolation

Test Acceptability Criteria

Attributo	Test Stat	TAC Limits	Decision	
Control Resp	15.3	15 - NL	Passes Acceptability Criteria	

Point Estimates

evel	%	95% LCL	95% UCL	TU	95% LCL	95% UCL	
5	28.63	27.67	30.94	3 493	3.232	3.614	
Q.	32.25	30.35	36 89	3 101	2,711	3 295	
5	35.88	33 02	42.83	2 787	2 335	3.028	
20	39.5	35.7	48.78	2.532	2.05	2.801	
15	43.13	38.37	62.61	2 319	1.904	2.606	
40	54.21	46.39	62.01	1.845	1.613	2.156	
50	61.84	53.05	68.34	1.617	1.463	1.885	

Reproduction Summary Calc	ulated Variato
---------------------------	----------------

C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dov	CV%	%Effect
0	Negative Control	10	15.3	10	20	0.9195	2 908	19.01%	0.0%
6.25		10	27.4	9	42	3.131	9 902	36.14%	-79.08%
12.5		10	25.3	19	39	1.95	6 165	24.37%	-65.36%
25		10	30.9	23	36	1.696	5.363	17.36%	-102 0%
50		10	16.2	7	23	1.59	5 029	31,04%	-5 88%
100		10	0		a	0	0		100.0%

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	20	15	17	17	16	16	11	10	16	15
6.25		36	27	21	38	24	23	9	21	33	42
12.5		31	25	23	24	22	19	22	19	39	29
25		35	30	24	36	33	36	23	24	32	36
50		16	23	7	22	13	19	21	13	13	16
100		0	0	a	0	O-	0	0	0	0	0

Report Date:

10 Nov-15 10:03 (p.4 of 4)

Test Code:

VCF0915.123cer | 07-3606-9416

Coriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis 1D: Analyzed:

07-5486-4581 10 Nov-15 9:54

Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:03 (p 1 of 3)

Tost Code:

VCF0915.123cer | 07-3505-9416

	a 7-d Survival and	1 Danza	 duction Ti	ne I					Aguatic i	linaccau &	Consulting	ılahs (nı	
								<u> </u>		. —		2 E003, NII	
Analysis ID: Analyzed:	14-8655-1249 10 Nov-15 9:54		Endpoint: Analysis:		Burvival Rat 2x2 Contir	e igency Tabli	os		TIS Version: CETISv1.6.7 icial Results: Yes				
Batch ID:	17-0097-470G	1	est Type:	Rep	roduction-S	Survival (7d)		Ana	lyst:				
Start Date:	16 Sep-15 14:10	3 F	ratocal:	EPA	V821/R-02-	013 (2002)		Dilu	ent: Lat	oratory Wa	iler		
Ending Date:	: 23 Sep-15 14:50) 5	Species:	Ceri	iodaphnia d	ubi a		Brin	e: Not	: Applicable	•		
Duration:	7d 1h	5	Saurce:	Aqu	atic Biosysl	lems, CO		Age	:				
Sample ID:	11-4882-2364	(Code:	VCF	F0915 123c			Clie	nt: VC	WPD			
Sample Date	: 15 Sep 15 04:45	5 N	datorial:	San	nple Water			P roj	ect: 201	15/1 6-1(W e	l)		
Receive Date	:: 15 Sep 15 10:15	5 5	Source:	Bios	assay Repo	r1							
Sample Age:	34h (18.4 °C)	5	Station:	MO	HUE								
Data Transfo	rni	Zeta	Alt H	уp	Triple	Seed			NOEL	LOEL	TOEL	ΤU	
Untransforme	đ		C > T	'	NA	NA			100	>100	NA	1	
Fisher Exact	/Bonferroni-Holm	Test											
Control	vs C-%		Tost :	Stat	P-Value	Р-Туре	Decision						
Negative Con	trol 6.25		1		1.0000	Exact		ificant Effec					
	12.5		1		1.0000	Exact	-	ificant Effec					
	25		1		1.0000	Exact	-	ificant Ef fec					
	5D		1		1.0000	Exact	_	rficant Effec					
	100		1		1.0000	Exact	Non-Sign	rficant Effec	t .				
Test Accepta	bility Criteria												
Attribute	Test Stat				Overlap	Decision							
Control Resp	1	0.8 - N	L		Yes	Passes A	coeptability	Criteria					
Data Summa	ry:												
C-%	Control Type	NR	R		NR + R	Prop NR	Prop R	%Effect					
٥	Negative Contr	10	0		10	1	0	0.0%					
6 25		10	0		10	1	0	0.0%					
12.5		10	0		10	1	0	0.0%					
25		10	0		10	1	0	0.0%					
50		10	D î		10	1	0	0.0%					
100		10	0		10			0.0%					
7d Survival F													
C•%	Control Type	Rep 1	Rep 2	2	Rep 3	Rep 4	Rap 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10	
0	Negative Control	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						4	4	4	1	1	1	1	
12.5 2 5		1	1		1	1	'	'	'		'	'	
12.5		1 1	1 1		1	1	1	1	1	1	1	1	

Rep 9

1/1

1/1

1/1

1/1

1/1

1/1

Rep 10

1/1

2/1 1/1

1/1

1/1

1/1

7d Survival Rate Binomials

Control Type

Negative Control 1/1

Rep 1

1/1

1/1

1/1

1/1

1/1

Rep 2

1/8

1/1

1/1

1/1

1/1

1/1

Rep 3

1/1

1/1

1/1

1/1

1/1

1/1

Rep 4

1/1

5/1

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Rep 5

1/1

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1/1

1/1

Rep 6

1/1

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171

Rep 7

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Rop 6

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Report Date:

10 Nov-15 10:03 (p.2 of 3)

Test Code:

VCF0915.123cer | 07-3606-9416

Cerlodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzod:

14-8655-1249 10 Nov-15 9:54

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CE (%V1.8.7

Official Results: Yes

Ventura Countywide Stormwater Quality

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Attachment D Appendix I

Report Date:

10 Nov-15 10:03 (p 3 of 3)

Test Code:

VCF0915 123cer | 07-3606-9416

Ceriodaphula 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

14-8655-1249 10 Nov-15 9.54

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Continguncy Tables

CETIS Version: CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:03 (p.1 of 3)

Test Code:

VCF0915.123ccr | 07-3505-9416

							16	St 2.008.	VOP OF IS	3.1233361 J O	1-2060-0410
Ceriodaphnia	7-d Survival an	ıd Repi	roduction To	est				Aquatic	Bloassay &	Consulting	, Labs, Inc.
Batch (D: Start Date: Ending Date: Duration:	17-0097-4706 16 Sep-15 14:1 23 Sep-15 14:5 7d 1h		Test Type: Protocol: Species: Source:	Reproduction- EPA/821/R-02 Ceriodaphnia d Aquatic Biosys	Analyst: Diluent: Laboratory Water Brine: Not Applicable Age:						
Sample ID:	11-4882-2384		Сабв:	VCF0915.1236		· · · · · · · · · · · · · · · · · · ·	CI	ient: VC	WPD		
Sample Date:	15 Sep-15 04.4	45	Material:	Sample Water			Pr	oject: 201	15/16-1(We t)	
Receive Date:	15 Sep-15 10 1	15	Source:	Bioassay Repo	or1						
Sample Age:	346 (18.4 °C)		Station:	MO-HUE							
Alkalinity (Cal	CO3}-mg/L						= .=				
C-%	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	63.88	61.71	55.04	62	67	0.9149	2.588	4.05%	0
100		3	211	211	211	211	211	0	0	0.0%	0
Overall		11	137.4			62	211				0 (0%)
Conductivity-	µmhos										
C-%	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	335.1	326 9	345.4	326	358	3.903	11.04	3.26%	Ò
6.25		8	854	822 6	885.4	811	913	13.26	37.5	4.39%	0
12.5		8	1352	1316	1387	1301	1416	14.93	42.22	3.12%	0
25		8	2424	2392	24 56	2364	2493	13.53	38.27	1.58%	0
50		8	4400	4367	4434	4357	4450	14.03	39.68	0.9%	0
100		3	8384	7874	8893	8251	8620	118.5	205.2	2.45%	0
Overali 		43	2958			326	8 620				0 (0%)
Dissolved Oxy	ygan-mg/L										
C-%	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
D	Negative Contr	8	7.625	7.091	8.159	6.5	8.7	0.2258	0.6386	8.38%	0
6.25		8	6.725	6.064	7.386	5.2	7.8	0.2795	0.7906	11.76%	0
12.5		8	6 725	6 101	7.349	5.2	7.8	0.2637	0.7459	11.09%	0
25		а	6 388	5 458	7.317	4	7.3	0.393	1.112	17.4%	0
50		8	5 888	5 041	6 734	4.1	72	0.3578	1.012	17.19%	0
100		2	6.55	4 644	8 456	6.4	67	0.15	0.2121	3.24%	0
Overall		42	6.65			4	87	—			0 (0%)
Hardness (Cat	CO3)-mg/L										
<u>C-%</u>	Control Type	Count			95% LICL		Max.	Std Err	Std Dev	CV%	QA Count
	Negative Confr		83.13	81.83	84.42	82	85	0.5489	1.553	1.87%	0
100		3	1196	1196	1198	1195	1196	0	0	0.0%	0 (0%)
Overall pH-Units		11	639.6			82	1196				0 (0%)
	Control Type	Count	Mean	96% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
	Negative Contr		8 113	7.968	8 257	7.8	83	0.06105	0.1727	2.13%	0
6.25		8	7,763	7,539	7 986	7.2	8	0 09437	0.2669	3.44%	0
12.5		8	7.588	7.341	7 834	7	79	0 1043	0.2949	3.89%	Ö
25		8	7.488	7.262	7.713	ÿ	7.8	0.09531	0.2696	3.6%	ā
		8	7.513	7.326	7 699	7.4	7.8	0 07892	0.2232	2.97%	ā
50											
50 100		2	7.7	7.698	7.702	7.7	77	0	0	0.0%	0

CETIS Measurement Report

Report Date:

10 Nov-15 10 03 (p.2 of 3)

Test Code:

VCF0915.123cer | 07-3606-9416

Coriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Temperatu	ire-°C										
C-%	Control Type	Count	Mean	9 5% L CL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	24.79	24.47	25 1	24.3	25.5	0.1329	0.3758	1.52%	0
6.25		8	26.7	24.41	24 99	242	25.1	0 1239	0.3505	1.42%	0
12.5		8	24.61	24.36	24 86	24.2	25	0.106	0.2997	1.22%	0
25		8	24.75	24.51	24.99	24.3	25.2	0.1018	0.2879	1.16%	0
50		8	24.54	24.2	24 87	24 2	25.4	0 1426	0.4033	1.64%	0
100		3	25	22,72	27.28	24 2	26	0.5291	0.9165	3.67%	0
Overall		43	24.73		••••	24.2	25				0 (0%)

Roport Dale:

10 Nov-15 10 03 (p 3 of 3)

Test Code: VCF0915 123cer | 07-3606-9416

							10:	st Gode:	VCF0915 123cer 07-3606-941
Ceriodaph	Inity (CaCO3)-mg/L Control Type 1 Negative Control 68		luction Tes	t				Aquatic	Bloassay & Consulting Labs, Inc.
Alkalinity ((CaCO3)-mg/L								
C-%	Control Type	1	2	3	4	5	6	7	8
)	Negative Contr	65	62	62	62	62	67	67	67
5.25									
12.5									
25									
50									
100		211	211	211					
Conductiv	lty-µmhos								
C-%	Control Type	1	2	3	4	5	6	7	8
)	Negative Confr	358	326	335	329	335	332	327	347
5 2 5		820	811	913	870	895	865	824	834
12.5		1320	1347	1358	1358	1301	1309	1405	1416
25		2388	2425	2493	2421	2364	2444	2420	2437
50		4425	4415	4450	4360	4359	4449	4357	4388
100		6251	8280	8520					
	Oxygen-mg/L								
C-%	Control Type	1	2	3	4	6	6	7	8
D 	Negative Contr	7.5	7.9	7.1	7.8	7.8	87	7.7	65
6.25		6.8	7.8	6.1	7	7	66	7.3	5 2
12.5		7.3	76	6.2	6.9	7	66	7	52
25		7,1	7.3	5.5	6.9	7	6.5	6.8	4
50		7.2	7	4.9	5.9	6	б	G	4.1
100		5.4	5.7						
	(CaCO3)-mg/L								
Ç-%	Control Type	1	Z	3	4	5		7	
0	Negative Contr	82	82	82	82	82	85	85	85
6.25									
12.5									
25 50									
50		1.100	4100	1100					
100		1196	1196	1196	·				
pH-Units			_			_	_	_	_
C-%	Control Type	1	2	3	4	5	6	7	8
0	Negative Contr	8.2	7.9	82	8.3	8.2	8.2	8.1	7.B
5.25		8	7.6	7.9	7.9	8	7.8	7.7	7.2
12.5		7.9	7.4	7.7	77	7.9	7.5	7.6	7
25 50		7.8	7.3	7.6	77	7.7	7.3	7.5	7
90 100		7.8 7.7	7.3 7.7	7.6	7.5	7,6	7.7	7.5	7.1
	00	 :/							
Γemperatu Na		_						_	
C-%	Control Type	1 25.1	24.7	3	25.5	5	6	7 24.5	8 24.3
	Negative Costr	25.1	24.7	24.6	25.5 25.1	24 7 25	24.9 25.1	24.5 24.7	24.3 24.3
		24.2	24 6					***	214.3
6 2 5		24.7	24.5 25	24.2					
6 25 12.5		24.7	25	24.2	25	24 7	24.4	24.6	24.3
6 25 12.5 25 50									



November 12, 2015

Mr. Ame 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*. Results were as follows:

CLIENT:

Ventura County Flood Control

SAMPLE LD.:

MO-THO

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.124

CHRONIC CERIODAPTINIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL	NOEC -	100,00 %
	TUq 🕟	1.00
	IC25 =	>100.00 %
	[C50 =	>100.00 %

REPRODUCTION NOEC = 100.00 %

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

IC:50 - >10

Youy∦yery truly,

Scott Johnson
Laboratory Director

CETIS Summary Report

Report Date:

10 Nov-15 10:03 (p 1 of 2)

Tost Code:

VCF0915.124cer 01-9919-8760

	• '						Tost Code:		VCF0915	.124cer 01	-9919-876
Ceriodaphnia	7-d Survival and	Reproduction T	est		_		Aqua	ntic Bl	oassay & C	Consulting	Labs, Inc.
Batch ID: Start Date: Ending Date: Duration:	09-1316-3617 16 Sep-15 14;20 23 Sep-15 14;52 7d 1h	Species:	Reproduction- EPA/821/R-02 Ceriodaphnia Aquatic Biosy	?-013 (2002) dubia			Analyst: Diluent: Brine:		ratory Wete Applicable	er	
DOM(IOI);	70 111	Source:	Addatic blosy	sieilis, co			Age:				
Sample ID:	03-1338-0515	Code:	VCF0915 124				Cliont:	VCV			
	15 Sep-15 06:18		Sample Wate				Project:	2019	716-1 (We1)		
	15 Jun-15 10.15	Source:	Bioassay Rep	ort							
Sample Age:	32h (16.5 °C)	Station:	MO-THO								
Comparison S	ummary										
Analysis ID	Endpoint	NOEI		TOEL	PM\$D	1UT	Meth		<u> </u>	. =	
21-2789-6449	7d Survival Rate		>100	NA	NA	1				ni-Holm Te:	
19-4650-7443	Reproduction	100	>100	NA .	. 58.0% 	1	Danr	neit M	ullipia Com	parison Tes	it
Point Estimate	- Summarγ										
Analysis ID	Endpoint	Leve	l %	95% LCL	95% UCL	τU	Moth				
05-5459-3866	7d Survival Rate		>100	N/A	N/A	<1	Linea	ar Inte	rpolation (K	CPIN)	
		EC10		N/A	N/A	<1					
		EC15	>100	N/A	N/A	<1					
		F,C20	>100	N/A	N/A	<1					
		EC25	>100	N/A	N/A	≺1					
		EC40	>100	N/A	N/A	<1					
		EG50	>100	N/A	N/A	<1					
00-2094-4399	Reproduction	IC5	>100	N/A	N/A	<1	1,ine;	ar Inte	rpolation (R	CPIN)	
		IC10	>100	N/A	N/A	<1					
		IC15	>100	N/A	N/A	<1					
		IC20	>100	N/A	N/A	<1					
		IC25	>100	N/A	N/A	<1					
		IC40	>100	N/A	N/A	<1					
		IC50	>100	N/A	N/A	<1					
Test Acceptab	ility										
Aπalysis ID	Endpoint	Attrib		Test Stal	TAC Limi	its	Over	riap_	Docision		
05-5459-3866	7d Survival Rate		rol Resp	1	0.8 - NL		Yes			cceptability	
21-2789-6449	7d Survival Rate		al Resp	1	0.8 - NL		Yes			cceptability	
00-2094-4399	Reproduction		ol Resp	15.3	15 - NL		Yes			coeptability	
	Reproduction		rol Resp	15.3	15 - NL	_	Yes			coeptability	
19-4650-7443	Reproduction	PMSI	D	0.5802	0.13 - 0.47	7	Yes		Above Ac	ceptability (Criteria
7d Survival Ra	•										
	Control Type	Count Mean		. 95% UCL	Min	Max		Eur	Std Day	CV%	%Effoct
	Negative Control		1	1	1	1	0		D.	0.0%	0.0%
6 25		10 1	1	1	1	1	đ.		0	0.0%	0.0%
12.5		10 1	1	1	1	1	0		0	0.0%	0.0%
25		10 1	1	1	1	1	0		0	0.0%	0.0%
50		10 1	1	1	1	1	0		0	0.0%	0.0%
100		10 1	1 	1	1	. 1	0		D	0.0%	0.0%
Reproduction	Summary										
C-%	Control Type	Count Mean	95% LC	95% UCL	Min	Max	Std	Егг	Std Dov	¢v%	%Effect
0	Negative Control	10 15.3	13.22	17.38	10	20	0.91	95	2.908	19,01%	0.0%
6 25		10 27.4	19.9	34.9	11	43	3.31-	4	10 46	38,25%	-79.08%

10

10

10

10

12,5

25

50

100

28.9

26.8

33.2

28

21.33

20.25

22.44

26.93

36.47

33.35

33.56

39,47

10

13

9

21

46

37

36

45

36.6%

34.14%

27.77%

26.4%

10.58

9.151

7.775

8.768

3.345

2.894

2.459

2.772

-88 89%

475,16%

-93.01%

-117.0%

CETIS Summary Report

Report Date:

10 Nov-15 10:03 (p 2 of 2)

Test Code:

VCF0915.124cer | 01-9919-8760

Cariodephnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

C-%	Control Type	Rep 1	Rep 2	Rop 3	Rep 4	Rep 6	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1	1	1	1	1	1	1	1	1	1
6 25		1	1	1	1	1	1	1	1	1	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	1	1	1	1	1	1	i	1
50		1	1	1	1	1	1	1	1	í	1
100		1	1	1	1	1	1	1	1	í	1

Reproduct	ion Detail										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rвр 4	Rep 5	Rep 6	Вер 7	Rep 8	Rep 9	Rop 10
0	Negative Control	20	15	17	17	16	16	11	10	16	15
6.25		41	43	21	37	20	32	19	11	25	25
12.5		39	35	21	31	21	32	10	21	33	46
25		35	14	24	36	28	25	13	20	36	37
50		32	35	9	31	30	27	30	28	36	2 2
100		43	42	37	21	45	32	23	36	24	29

7d Şurviy	val Rate Binomiais										
C-%	Control Type	Rep 1	Rep 2	Вер 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	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	171	1/1	1/1	1/1
12.5		1/1	6/1	1/1	1/1	1/1	1/1	171	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1	171	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	174	171	1/1	1/1	1/1
100		1/1	5/1	1/1	1/1	1/1	1/4	1/1	1/1	1/1	1/1

Report Date:

10 Nov-15 10:03 (p.1 of 2)

Test Code:

VCF/0915 124cer | 01-9919-8760 c Bioessay & Consulting Labs, Inc.

Ceriodaphnia 7-d Survival and F Analysis ID: 19 4650-7443				oduction T	65 [Aqua	itic Bio	assay & C	Consulting	Labs, Inc
•	Analyzed: 10 Nov-15 9:55				-	roduction				TIS Vers		CETISv1.	.B.7	
Analyzed:	10 N	ov 15 9:55		Analysis:	Para	ametric-Con	itral vs Tre	atments	_ Of	ficial Res	sults:	Yes		
Batch (0:	09-13	316-3617		Test Type:	Rep	roduction-S	urvival (7d)	An	alyst:				
Start Date:	16 S	ep-15 4:21	0	Protocol:	EPA	A/821/R-02-1	013 (2002)		DII	uent:	Labora	alory Wate	Cr Cr	
Ending Date: 🗆	23 S	ep-15 4:53	2	Species:	Ceri	iodaphaia di	ubia		Bri	ne:	Not Ap	pplicable		
Duration:	70 1	h		Source:	Aqu	ațio Biosysț	ems, CO		Ag	e:				
Sample ID:	03-1	33B-0515		Code:	VCF	-0915.124c			CII	ent:	VCWF	PO		
Sample Date: 1	15 S	ep-15 06:11	В	Material:	Sam	nplu Water			Pre	ojost:	2015/1	16-1(Wet)		
Receive Date:	15 Ju	ın-15 10:16	5	Source:	Bioa	assay Ropoi	ıl							
Sample Age:	32h (16.5 °C)		Station:	MO-	THO								
Data Transform	n		Zeta	Alt I	lур	Triats	Seed		PMSD	NÓE	٠	LOEL	TOEL	TU
Untransformed			NA	C>T	Г	NA	NA		%0.B č	100	:	>100	NA -	1
Dunnett Multipl	la Co	mparison	Test											
Control	٧s	C-%		Test	Stat	Critical	MSO D	F P-Value		Deci	sion(a:	:5%}		
Negative Contro	ol 💮	6 25		-3 12		2 289		8 1,0000	CDF		-	ant Effect		
		12.5		-3.60		2 289		8 1.0000	CDF		_	ant Effect		
		25		-2 96	5	2 289	8.878 1	8 10000	ÇDF		_	ant Effect		
		50		-3.27	5	2.289	8.878 1	8 1.0000	CDF	Non-	Signific	ant Effect		
		100		-4.61	G	2.289	8.878 1	8 1.0000	CDI	Non-	Signific	ant Effect		
Test Acceptabil	illy C	riteria												
	•	riteria Test Stat	TAC L	lmits		Overlap	Decision	1						
Attribute			TAC L			Overlap Yes		ı Acceptabili	ty Criteria					
Attribute Control Resp		Test Stat		L			Passes /		-					
Attribute Control Resp PMSD		Test Stat 15 3	15 · N	L		Yes	Passes /	Acceptabili	-					
Attribute Control Resp PMSD ANOVA Tablo		Test Stat 15 3	15 - N 0.13 -	C 0 47	n Squ	Yes Yes	Passes /	Acceptabili	-	ı Deci	 sion{q:	:5%)		
Attribute Control Resp PMSD ANOVA Tablo Source		Test Stat 15 3 0.5802	15 - N 0.13 -	C 0 47		Yes Yes	Passes / Above A	Acceptability coeptability	Criteria		sion(a:	· <u></u>		,
Attribute Control Resp PMSD ANOVA Tablo Source Between		Test Stat 15-3 0.5802 Sum Squa	15 - N 0.13 -	C 0 47 Mear	36	Yes Yes	Passes A Above A	Acceptabili cceptability F Stat	Crileria P-Value			· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error		Test Stat 15-3 0.5802 Sum Squa 1791.8	15 - N 0.13 -	C 0 47 Mear 358.3	36	Yes Yes	Passes A Above A DF	Acceptabili cceptability F Stat	Crileria P-Value			· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal		Test Stat 15 3 0.5802 Sum Squa 1791.8 4060.6 5852.4	15 - N 0.13 -	C 0 47 Mear 358.3	36	Yes Yes	Passes / Above A DF 5	Acceptabili cceptability F Stat	Crileria P-Value			· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Tolal Distributional T		Test Stat 15 3 0.5802 Sum Squa 1791.8 4060.6 5852.4	15 - N 0.13 -	C 0 47 Mear 358.3	36	Yes Yes	Passes / Above A DF 5 54 59	Acceptabili cceptability F Stat	P-Value		ificant 6	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test	15 • N 0.13 •	C 0 47 Mear 358.3	36 963	Yes Yes are	Passes / Above A DF 5 54 59	Acceptability Coeplability F Stat 4.766	P-Value 0.0011	Signi	ficant 6	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Tolal Distributional T Attribute Variances		Test Stat 15 3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed	15 · N 0.13 · res	Mear 358.3 75 16	36 963	Yes Yes are Test Stat 12.93	Passes / Above A DF 5 54 59 Critical 15.09 3.377	F Stat 4.766 P-Value 0.0241 0.0543	P-Value 0.0011	Signi n(a:1%)	ficant 6	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal Distributional T Attribute Variances		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve	15 - N 0.13 - eres quality (ne Equ	Mear 358.3 75 19	36 963	Yes Yes are Test Stat 12.93	Passes A Above A DF 5 54 59 Critical 15.09	F Stat 4.766 P-Value 0.0241	P-Value 0.0011 Dectsto Equal V Cqual V	Signi n(o:1%) ariances	ficant E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal Distributional T Attribute Variances Variances		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve	15 - N 0.13 - eres quality a ne Equ quality	Mear 358.3 75 19 of Vartance ality of Variance	36 963	Yes Yes are Test Stat 12.93 2.231	Passes / Above A DF 5 54 59 Critical 15.09 3.377	F Stat 4.766 P-Value 0.0241 0.0543	P-Value 0.0011 Dectsto Equal V Equal V Equal V	Signi in(o:1%) ariances ariances	ificant E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal Distributional T Attribute Variances Variances Ustribution		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartlett Ed Mod Leve Levene Ed	15 - N 0.13 - eres quality (ne Equ quality (Vitx W)	Mear 358.3 75 19 of Varrance ality of Var of Variance Normality	36 963	Yes Yes are Test Stat 12.93 2.231 3.059	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377	F Stat 4.766 P-Value 0.0241 0.0167	P-Value 0.0011 Dectslo Equal V Equal V Roual V Normal	Signi n(o:1%) ariances ariances ariances	ificant E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Ustribution Oistribution Oistribution		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Er Mod Leve Levene Er Shapiro-W	15 - N 0.13 - res quality (quality (Vitx VV) ov-Smi	Mear 358.3 75 19 of Varrance ality of Var of Variance Normality	36 963	Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029	Passes A Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331 2.576	P-Value 0.0241 0.0643 0.0667 0.6667 0.3666	P-Value 0.0011 Decisio Equal V Equal V Normal Normal	Signi in(o:1%) ariances ariances ariances Distributi Distributi Distributi	incent E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Variances Obstribution Obstribution Obstribution		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Er Mod Leve Levene Er Shapiro-W Kolmogor	quality on the second s	Mear 358.3 75 19 of Varrance ality of Variance Normality mov Diness	36 963	Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891	Passes A Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331	P-Value 0.0241 0.0643 0.0167 0.6647 0.6550 0.7682	P-Value 0.0011 Decisio Equal V Equal V Normal Normal Normal	Signi in(o:1%) ariances ariances ariances Distributi Distributi Distributi Distributi	incent E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Variances Ostribution Distribution Distribution Distribution		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartlett Ec Mod Leve Levene Ec Shapiro-W Kolmogor D'Agostion D'Agostion	15 - N 0.13 - 0.13 - 0.	Mean 358.3 75 19 of Varrance ality of Variance Normality rnov D ness sis	36 963 ianco	Test Stat 12.93 2.231 3.059 0.9649 0.06891 0.9029 0.2947 0.9021	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377 0.9459 0.1331 2.576 2.576 9.21	P-Value 0.0241 0.0643 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369	P-Value 0.0011 Decision Equal V Equal V Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances ariances Distributi Distributi Distributi Distributi	incent E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal Distributional T Attribute Variances Variances Ostribution Distribution Distribution Distribution Distribution		Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartlett Ec Mod Leve Levene Ec Shapiro-W Kolmogor D'Agostion D'Agostion	15 - N 0.13 - 0.13 - 0.	Mear 358.3 75 19 of Varrance ality of Variance Normality mov D ness sis	36 963 ianco	Test Stat 12.93 2.231 3.059 0.9649 0.06891 0.9029 0.2947	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377 0.9459 0.1331 2.576 2.576	P-Value 0.0241 0.0643 0.0167 0.6647 0.6550 0.7682	P-Value 0.0011 Decision Equal V Equal V Normal Normal Normal Normal Normal	Signi in(o:1%) ariances ariances ariances Distributi Distributi Distributi Distributi	incent E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Folal Distributional T Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Tests	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Er Mod Leve Levene Er Shapiro-W Kolmogor D'Agostion D'Agostion Andorson	15 - N 0.13 - 0.13 - 0.	Mean 358.3 75 19 of Varrance ality of Variance Normality rnov D ness sis	36 963 ianco	Test Stat 12.93 2.231 3.059 0.9649 0.06891 0.9029 0.2947 0.9021	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377 0.9459 0.1331 2.576 2.576 9.21	P-Value 0.0241 0.0643 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369	P-Value 0.0011 Decision Equal V Equal V Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances ariances Distributi Distributi Distributi Distributi	incent E	· <u></u>		
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Variances Distribution	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostion D'Agostion D'Agostion D'Agostion Andorson	15 · N 0.13 · 0.13 · ores na Equality · virx W if ov-Smi o Skew o Kurto o-Pears -Darling	Mean 358.3 75 19 of Variance variance Normality rnov D ness sis son K2 Om g A2 Norma	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377 0.9459 0.1331 2.576 2.576 9.21 3.878	P-Value 0.0241 0.0543 0.0167 0.6550 0.3666 0.7682 0.6369 0.6800	P-Value 0.0011 Decisio Equal V Equal V Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances bistributi Distributi Distributi Distributi Max	incent E	SId Err	¢v%	%Effoc
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Variances Distribution	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostini D'Agostini D'Agostini Andorson	quality on Equation of Skew of County 10	Mean 358.3 75 19 of Variance Normality rnov D ness sis son K2 Om g A2 Normal	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779	Passes / Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331 2.576 2.576 5.21 3.878 95% UCI	P-Value 0.0241 0.0543 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369 0.63690 Median	P-Value 0.0011 Decisio Equal V Equal V Normal Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances bistributi Distributi Distributi Distributi Max 20	incent E	SId Err 0 9195	19.01%	0.0%
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Variances Ostribution Distribution Distribution Distribution Distribution Costribution	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostion D'Agostion D'Agostion D'Agostion Andorson	quality on the second of the s	Mear 358.3 75 19 of Varrance validy of Var of Variance Normality rnov D ness sis son K2 Om a A2 Norma t Mear 15 3 27 4	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779 95% LCL 13.22 19.9	Passes / Above A DF 5 54 59 Critical 15.09 3.377 3.377 0.9459 0.1331 2.576 2.576 9.21 3.878	P-Value 0.0241 0.0543 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369 0.6800 Median 16 25	P-Value 0.0011 Dectslo Equal V Equal V Normal Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances bistributi Distributi Distributi Distributi Max 20 43	incent &	SId Err 0 9195 3 314	19.01% 38.25%	0.0% -79.099
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Obstribution Distribution	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostion D'Agostion D'Agostion D'Agostion Andorson	quality on the second of the s	Mear 358.3 75 19 of Varrance ality of Var of Variance Normality mov D ness sis son K2 Om g A2 Norma t Mear 15 3 27 4 28 9	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779 95% LCL 13.22 19.9 21.33	Passes / Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331 2.576 2.576 9.21 3.878 95% UCI 17.38 34.9 35.47	P-Value 0.0241 0.0543 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369 0.6369	P-Value 0.0011 Dectslo Equal V Equal V Normal Normal Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances bistributi Distributi Distributi Distributi Max 20 43 46	incent E	SId Err 0 9195 3 314 3 345	19.01% 38.25% 36.6%	0.0% -79.099 -88.899
Attribute Control Resp PMSD ANOVA Tablo Source Between Error Total Distributional T Attribute Variances Variances Oistribution Oistribution Distribution Distribution Costribution Costribu	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostion D'Agostion D'Agostion D'Agostion Andorson	quality on the second of the s	Mear 358.3 75 19 of Varrance ality of Variance Normality mov D ness sis sen K2 Om g A2 Norma t Mear 15 3 27 4 28 9 26 8	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779 95% LCL 13.22 19.9	Passes / Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331 2.576 2.576 9.21 3.878 95% UCI	P-Value 0.0241 0.0543 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369 0.6800 Median 16 25	P-Value 0.0011 Dectslo Equal V Equal V Normal Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances ariances bistributi Distributi Distributi Distributi 0: Max 20 43 46 37	incent E	SId Err 0 9195 3 314 3 345 2 894	19.01% 38.25% 36.6% 34.14%	0.0% -79.099 -88.899 -75.169
	Sum:	Test Stat 15.3 0.5802 Sum Squa 1791.8 4060.6 5852.4 Test Bartleff Ed Mod Leve Levene Ed Shapiro-W Kolmogor D'Agostion D'Agostion D'Agostion D'Agostion Andorson	quality on the second of the s	Mear 358.3 75 19 of Varrance ality of Var of Variance Normality mov D ness sis son K2 Om g A2 Norma t Mear 15 3 27 4 28 9	aldy	Yes Yes Yes are Test Stat 12.93 2.231 3.059 0.9849 0.06891 0.9029 0.2947 0.9021 0.2779 95% LCL 13.22 19.9 21.33	Passes / Above A DF 5 54 59 Critical 15.09 3.377 0.9459 0.1331 2.576 2.576 9.21 3.878 95% UCI 17.38 34.9 35.47	P-Value 0.0241 0.0543 0.0167 0.6647 0.6550 0.3666 0.7682 0.6369 0.6369	P-Value 0.0011 Dectslo Equal V Equal V Normal Normal Normal Normal Normal Normal Normal	Signi n(o:1%) ariances ariances bistributi Distributi Distributi Distributi Max 20 43 46	incent E	SId Err 0 9195 3 314 3 345	19.01% 38.25% 36.6%	0.0%

Report Date:

10 Nov-15 10:03 (p.2 of 2)

Test Code:

VCF0915.124cer | 01-9919-8760

Ceriodaphnia 7-d Survival and Reproduction Tost

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:	19-4650-7443 10 Nov-15 9.55			eproduction arametric-Co		alments		fi\$ Version iclai Rosult		1,87	
Reproduction	n Detail										
C-%	Control Type	Rop 1	Rop 2	Rep 3	Rep 4	Rep 6	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	20	15	17	17	16	16	11	10	16	15
6.25		41	43	21	37	20	32	19	11	25	25
12.5		39	35	21	31	21	32	10	21	33	46
25		35	14	24	36	28	25	13	20	36	37
50		32	35	9	31	30	27	30	28	36	22
100		43	42	37	21	45	32	23	36	24	29

Report Date:

10 Nov-15 10:03 (p 1 of 4)

Test Code:

VCF0915 124cer | 01-9919-8760

									Tast	Code:	VCF091	5 124cer 0	1-8818-846
Cerioda	ophnia	7-d Survival and	– I Reproduc	tion To	est					Aquatic	Bloassay &	Consulting	Labs, Inc
Analysi Analyzi		05-5459-3866 10 Nov-15 9:55		- point: lysis:	7d Servival Rat Linear Interpola		ľj			IS Version ial Resul		1.8.7	
Batch I	D:	09-1316-3617	Tost	Type:	Reproduction-S	urvival (7d))		Anal	yst:			
Start D	ate:	16 Sep-15 14:20) Prot	ocol:	EPA/821/R-02-6	013 (20 02)			Dilu	ont: La	aboratory Wa	iter	
Ending	Oate:	23 Sep-15 14:52	? Sp e	cles:	Ceriodaphnia d	ubia			Brim	o: No	ot Applicable		
Duratio	311 :	7d 1h	Sou	rce:	Aquatic Biosyst	oms. CO			Ago:				
Sample	iD:	03-1338-0515	Cod	o:	VCF0915 124c	-			Clier		CWPD		
Sample	e Date:	15 Sep-15 05:18	3 Mate	orial:	Sample Water				Proj	ect: 20	015/16-1(W e	l)	
		15 Jun-15 10.15		rce:	Bloassay Repor	rl							
Sample	e Age:	32h (16.5 °C)	Stat	ion:	MO-THO								
Linearl	Interpo	lation Options											
X Trans	aform	Y Transform		d	Resamples	Ехр 95%	. CL	Method		•			
Linear		Linear			280	Yes		Two-Poir	nt Interp — -	olation -			
rest Ac	ceptab	ility Griteria											
Attribul		Tost Stat		s	Overlap	Decision							
Control	Resp	1	08 · NL		Yes	Passes A	ccepta	ability Crite	aria · ——			_	
Point E	istimate	es											
Level	%	95% LCL	95% UCL	ΤŲ	95% LCL	95% UCL							
EC5	>100	N/A	N/A	<1	NA	NA							
EC10	>100	N/A	N/A	41	NA	NA							
EC15	>100	N/A	N/A	<1	NA	NA							
E C2 0	> 100 > 500	N/A	N/A N/A	<1 <1	NA NA	NA NA							
EC25 EC40	>100 >100	N/A N/A	N/A N/A	<1 <1	NA NA	NA NA							
EC50	>100	N/A	N/A	<1	NA.	NA.							
 7d Surv	vival Ra	ite Summary				Calc	 ulated	Variate(A	_ — /В)				
C-%		ontrol Type	Count	Mean	Min	Max	Std	Err St	d Dev	C V %	%Effect	A	В
0	Ŋ	egative Control	10	1	1	1	0	0		0.0%	0.0%	10	10
5.25			10	1	1	1	0	0		0.0%	0.0%	10	10
12.5			10	1	1	ż	0	0		00%	00%	10	10
25			10	1	1	1	0	0		0.0%	0.0%	10	10
50			10	1	1	1	0	0		0.0%	0.0%	10	10
100			10	1	1	1	0	. 0		0.0%	0.0%	10	10
		ite Defall											
C-%		antrol Type	Rep 1	Rep 2		Rep 4	Rep		вр 6	Rep 7	Rop 8	Rop 9	Rep 10
0	N	egative Control	1	1	1	1	1	1		1	1	1	1
6.25			1	1	1	1	1	1		1	1	1	1
12.5			1	1	1	1	1	1		1	1	1	1
26			1	1	1	1	1	1		1	1	1	1
50			1	1	1	1	l	1		1	1	1	1
100 			1	1		1	1	1.		1	1	1 	
		ite Binomiats		_		_	_		=				
C-%		Control Type	Rep 1	Rep 2		Rep 4	Rep		3p6	Rep 7	Rep 6	Rep 9	Rep 10
0		Negative Control		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	8/1	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	1/1	1/1	1/1	1/		1/1	1/1	1/1	1/1
			4.14	4 44	4 44	414	414		4	4 / 4	4 74	4 /4	
25 50 100			1/1 1/1	1/3	1/1 1/1	1/1 1/1	1/1	1/		1/1 1/1	1/1 1/1	1/1 1/1	1/1 1/1

Report Date:

10 Nov-15 10:03 (p.2 of 4)

Test Code:

VCF0915 124cer | 01-9919-8760

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

05-5459-3866 10 Nov-15 9:55

Endpoint: 7d Survival Rate

Analysis: Linear Interpolation (ICPIN)

CETI\$ Version:

CETISV1.8.7 Official Results: Yes

Report Date:

10 Nov-15 10.03 (p 3 of 4)

Test Code:

VCF0915.124cer | 01-9919-8760

		•							Test 🤇	ode:	VCF0915	.124cer 0	1-9919-876
Ceriod	aphnla	7-d Survival and	d Reprodu	ction T	est		-			Aquatic Bi	oassay & (Consulting	Labs, Inc
Analys Analyz		00-2094-4399 10 Nov-15 9:55		ipoint: ilysis:	Reproduction Linear Interpola	ition (ICPIN)			Version: al Results:	CETISv1 Yes	8.7	
Beich I	 PD:	09-1316-3617	Tes	t Type:	Reproduction-9	Survival (7d)			Apaly	51:			
Start D		16 Sep-15 14 2		tocol:	EPA/821/R-02-				Oltuer		ratory Wat	ůi.	
	Date:	23 Sep-15 14 5		icles:	Ceriodaphnia d	-			Brine	Not a	Applicable		
Duratio		7d 1h	•	Jrce:	Aquatic Biosyst				Age:				
Sample	e ID:	03-1338-0515	Çot	de:	VCF0915.124c				Client	: VCW	VPD		
		15 Sep-15 06 1	8 Mat	eriat:	Sample Water				Projec	st: 2015	716-1(Wet)		
Receiv	e Dato:	15 Jun-15 10:19	5 S ol	irce:	Bioassay Repo	Н							
Sample	e Ago:	32h (16 5 °C)	Sta	tion:	MO-THO								
Linear	Interpo	lation Options											
X Trans	sform	Y Transform	. Soc	иd	Resamples	Ехр 95%	, CL	Method					
Linear		Linear	383	442	280	Yes		Two-Point	Interpo	lalion			
Fost A	cceptab	illty Critoria											
Attribu	te	Test Stat	TAC Limi	its	Overlap	Decision							
Control	Resp	15.3	15 - NL		Yes	Passes A	ccepia	bility Criter	ria				
Paint E	etimale	25											
Level	%	95% LCL	95% UCL	. T ⊔	95% LCL	95% UCL							
C5	>100	N/A	N/A		NA	NA							
C10	>100	N/A	N/A	<\$	NA	NΛ							
IQ 6 5	> 100	N/A	N/A	<1	NA	NA							
C20	>100	N/A	N/A	<1	NA	NA							
C25	>100	N/A	N/A	<1	NA	NA							
IC40	>100	N/A	N/A	<1	NA	NA							
C50	>100	N/A	N/A	<1	NA	NA					_		
Ropros	duction	Summary				Ca	lculate	d Variate					
2-%	С	ontrol Type	Count	Mear	n Min	Max	_Std I	Err Sto	d Dev	ÇV%	%Effect		
)	N	legative Control	10	15.3	10	2 0	0.91	95 29	08	19 01%	0.0%		
\$ 25			10	27.4	11	43	3.31	4 10.	48	38 25%	-79.08%		
12.5			10	28.9	10	46	3.349	5 10.	58	36.6%	-88.89%		
25			10	26.8	13	37	2.89	4 9.1	51	34.14%	-75.16%		
50			10	88	9	36	2 45			27.77%	-83 01%		
(CO			10	33.2	21	45	2.77	2 B.7 ——	66	25.4%	-117.0%		
Reprod	duction	Detail											
C-%		ontrol Type	Rep 1	Rep :	2 Квр3	Rep 4	Rep	5 Re	p 6	Rep 7	Rep 8	Rep 9	Rep 10
0	N	egative Contro:	20	15	17	17	15	16		11	10	16	15
6.25			41	43	21	37	20	32		19	11	25	25
12.5			39	35	21	31	21	32		10	21	33	46
25			35	14	24	36	28	25		13	20	36	37
50			32	35	9	31	30	27		30	28	36	22
- -					-								~~

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Report Date:

10 Nov-15 10:03 (p 4 of 4)

Test Code:

VCF0915 124cer ; 01-9919-8760

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

00-2094-4399 10 Nov-15 9:55 Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yos

Report Date:

10 Nov-15 10:03 (p.1 of 3)

Test Code:

VCF0915.124cer | 01-9919-8760

Ceriodapinnia	7-d Survival and	Rep	roduction Te	st					Agi	uațic Bi	oassay &	Consulting	Labs, In
Analysis ID: Analyzed:	21-2789-6449 10 Nov-15 9:55		Endpoint: Analysis:		Surviyal Ra 2 2x2 Conti	te ngency Tabl	es		ETIS Ve Miclai R		CETISV Yes	1,87	
Batch ID:	09-1316-3617		Test Type:	Rep	production-s	Survival (7d)		Α	natyst:				
Start Date:	16 Sep-15 14:20	5	Protocol:	EPA	4/8 21/R -02-	013 (2002)		D	iluont:	Labo	ratory Wa	ter	
Ending Date:	23 Sep-15 14:53	2	Species:	Cer	iođaphnja <mark>o</mark>	lubia		В	rino:	Not /	Applicable		
Duration:	7d 1b		Source:	Aqu	ratic Biosys	tems, CO		A	g o :				
Sample ID:	03-1338-0515		Cade:	VCF	F0915.124c	·-··-		C	lient:	VCW	/PD		
Sample Date:	15 Sep 15 06:18	3	Material:	San	nple Water			P	roject:	2015	/16-1(Wol	t)	
Receive Date:	15 Jun-15 10:15	5	Source:	Вю	assay Ropo	яL							
Sample Age:	32h (16.5 °C)		Station:	MO	-THO								
Dala Transfor		Zeta	AR H	уŖ	Trials	Seed			NO	EL	LOEL	TOEL	TU
Untransformed	i		C > T		NΑ	NA			100)	>100	NA	1
 Elsher Exact/6	3onferroni-Holm	Test											
Control	vs C-%		Test \$	Stat	P-Value	Р-Турв	Decision	n(q:5%)					
Negative Coat	ro\$ 6.25		1		1.0000	Exacl	Non-Sign	nificant Ef	iecl .				
	12.5		1		1 000D	Exact	Non-Sign	nificant E9	feal				
	25		1		1 0000	Exact	Non-Sign	nificant Ef	fect				
	50		1		1 0000	Exact	Non-Sign	nificant Ef	fect				
	100		1		1.0000	Exact	Non-Sign	nificant ES	fect				
Fost Acceptat	oility Critoria												
Attribute	Test Stat	TAC	Limits		Overlap	Decision							
Control Resp	1	-80	NL		Yes	Passes A	cceptability	y Critoria					
Data Summar	γ												
C-%	Control Type	NR	R		NR+R	Prop NR	Prop R	%Effe	cl				
)	Negative Contr	10	0		10	1	0	0.0%					
3.25		10	0		10	1	0	0.0%					
12.5		10	D-		10	1	0	0.0%					
25		10	0		10	1	0	0.0%					
50		10	Ð		10	1	0	0.0%					
100		10	Ð		10	1	۵	0.0%					
d Survival Ra	ate Dotail												
	Control Type	Rep '	1 Rop 2		Rep 3	Rep 4	Rep 5	Rap 6	Rej	p 7	Rep 8	Rep 9	Rep 10
)	Negative Control	1	1		1	1	1	1	1		1	1	1
3.25		1	1		1	1	1	1	1		1	1	1
12.5		1	1		1	1	1	1	1		1	1	1
5		t	1		1	1	1	1	1		1	1	1
0		1	1		1	1	1	1	1		1	1	1
:00		1	1		1	1	1	1	1		1	1	1
d Survival Ra	nto Binomials												
-%	Control Type	Rep	1 Rep 2		Rep 3	Rep 4	Rop 5	Rop 6	Re	p 7	Rop 8	Rep 9	Rep 10
)	Negative Control	1/1	1/1		1/1	1/1	1/1	1/1	1/1		1/1	1/1	1/1
5.25		1/1	1/1		1/1	1/1	1/1	1/1	1/1		1/1	1/1	1/1
		4.74	4.14		1/1	1/1	1/1	1/1	1/1		1/1	9/1	1/1
		1/1	1/1		11.1	11 1	17.4						
		1/1	1/1		1/1	1/1	1/1	1/1	1/1		1/1	1/1	1/1
12.5 ?S SO													

Report Date:

10 Nov-15 10:03 (p.2 of 3)

Test Codo:

VCF0915 124cer | 01-9919-8760

Cerlodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

21-2789-6449 10 Nov-15 9:55

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:03 (p.3 of 3)

Test Code:

VCF0915.124cer | 01-9919-8760

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

21-2789-6449 10 Nov-15 9 55

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CETISv1.8.7 Official Results: Yos

CETIS Measurement Report

Report Date:

10 Nov-15 10 03 (p 1 of 2)

Test Code:

VCF0915 124cer | 01-9919-8760

								Test Coop:	VC+ 051	0 124000 0) 1-95 (3-07 O
Ceriodaphni	a 7-d Survival ar	id Repr	oduction To	est				Aquat	ic Bioassay &	Consulting	g Labs, Inc.
Batch ID: Start Date: Ending Oate: Duration:	09-1316-3617 16 Sep-15 14.3 : 23 Sep-15 14.3 7d 1h		Test Type: Protocol: Species: Source:	EPA/821/R-02 Ceriodaphoia d	Reproduction Survival (7d) EPA/621/R-02-013 (2002) Ceriodaphnia dubia Aquatic Biosystems, CO				Laboratory Wa Not Applicable	ter	
Sample ID:	03-1338-0515		Code:	VCF0915.124d	:			Client:	VCWPD		
Sample Date	s: 15 Sep-15 06:	1 B	Material:	Sample Water				Project:	2015/16-1(Wet)	
Receive Date	a: 15 Jun-15 10:1	5	Source:	Bioassay Repo	ert						
Sample Aga:	32ii (16.5 °C)		Station:	мо-тио							
Alkalinity (Ca	aCO3)-mg/L										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Er	r Std Dev	CV%	QA Count
0	Negalive Contr	8	63.88	61.71	66.04	62	67	0.9149	2.588	4.05%	D
100		8	G3	63	63	63	53	0	•	0.0%	G
Overall		16	63.44			62	67				0 (0%)
Conductivity	r-µmhos										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Er	r Std Dov	CV%	QA Count
0	Megative Contr	8	336 1	326.9	345.4	326	35B	3.903	11,04	3,28%	O
6,25		8	352 9	338,5	367.3	342	395	6.09	17.22	4.88%	0
125		8	338 8	332.8	344 7	331	347	2.527	7 146	2.11%	0
25		8	351 6	332.3	370 9	331	391	8.161	23.08	6.57%	D .
50		8	3368	334.7	342 8	334	345	1.69B	4.803	1.42%	0
100		8	349.4	332.7	366 1	338	398	7.0SB	19.96	_ 5 .7 1 %	0
Overall		48	344 6			326	398				0 (0%)
Dissolved O	xygen-mg/L										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Er	v Std Dev	¢V%	QA Count
0	Negative Contr	8	7.625	7.091	8.159	6.5	8.7	0.2258		8 38%	0
6.25		8	7.163	6.54	7.785	5.9	8	0.2632	0.7444	10.39%	0
12.5		8	6.9	6.237	7.963	5.2	7.7	0.2803	0.7928	11.49%	O.
25		8	6.55	5,758	7.342	4.6	7.4	0.3349	0.9472	14.46%	0
50		8	6.163	5.283	7 042	4	7.1	0.3717		17.06%	0
100		8	5.825	5.07	6 58	4	7.1	0.3195	0.SD35	15.51%	0
Overall		48	6.704			_4	8.7				0 (0%)
Hardness (C	aCO3)-mg/L										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Ed	r Std Dev	¢v%	QA Count
0	Negative Contr	8	83.13	81.83	84.42	82	85	0 5489	1.553	1.87%	0
100		88	113	113	113	113	113	D	0	0,0%	
Overall		16	96 06			82	113				0 (0%)
pH-Units											
C-%	Control Type	Count			95% UCL		Max	Std Er	 -	CV%	QA Count
0	Negative Contr	8	8,113		8 257	7.8	8.3	0.0610		2.13%	0
6.25		8	8.238		83	8 1	8.3	0.0263		0.9%	0
12.5		8	8,088	7.974	8 201	7.9	8.3	0.0479		1.68%	0
25		8	7.95	7.75	8.15	7.7	83	0.0849		3.01%	0
50		8	7. 8 38	7.589	8.086	7.4	83	0.1051		3.79%	0
100		8	7.65	7.325	7.976	7	8.3	0.137€	i 0.3891	5.09%	Ð

0 (0%)

48

7.979

Overall

8.3

Report Date: Test Code:

10 Nov-15 10:03 (p.2 of 2)

VCF0915.124cer | 01-9919-6760

Cerlodaphi	nia 7-d Survival an 	d Reprod	luction Tes	t			Aquatic	Bioassay &	Consulting	j Labs, Inc.	
Temperatu	ге-∘С										
¢-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	24.76	24.24	25.29	24	25.8	0.2212	0.6255	2 5 3%	0
6.25		8	24.79	24.28	25.32	24	26.8	0.2248	0.6357	2 57%	0
125		8	24.6	24.33	24.87	24.2	25 1	0.1134	0.3207	1.3%	0
25		8	23.31	20.46	26.16	14.9	25	1.205	3 408	14.62%	0
50		8	24.6	24.12	25.08	24	25.8	0.2027	0 5732	2 33%	0
10 <u>0</u>		8	24.59	23.95	25.18	24	20 .	0.2591	0 7328	2 98%	0
Overall Allee Helles at		48	24 44			14.9	26				0 (0%)
жиканицу (с С-%	CaCO3)-ing/L		•	•		ė	<u>.</u>		9		
D	Control Type	1	62	62	62	6 2	6 7	- 7 - 67	8 67		
	Negative Contr	62									
100	<u></u>	63	63	63	63	63	63	63	G3		
Conductivi											
<u>c-%</u>	Control Type	1	2	3	4	5	6	7	8		
0	Negative Confr	35B	326	335	329	335	332	327	347		
6 25		342	395	344	347	348	349	350	348		
12.5		345	332	331	34B	347	331	335	343		
25		364	331	332	340	343	334	378	391		
50		335	334	334	345	344	336	338	344		
100		345	339	338	398	340	34 3	343	349		
	Dxygen-mg/L										
C-% _	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	7.5	7.9	7.1	7.8	7.8	8.7	7.7	6.5		
6.25		7.5	8	63	7.5	7.7	68	7.6	5.9		
12.5		7.5	7.7	64	7	7.3	69	72	5.2		
25		7,4	7.2	5.7	6.9	7.2	68	6.6	4,6		
50		7	6.8	5.3	6.5	7.1	66	6	4		
100		5.7	5.9	5.4	6.4	7.1	63	5.8	4		
Hardлess (ч	CaCO3}-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	82	82	82	83	82	85	85	85		
100		113	113	113	113	113	113	113	113		
pH-Units											
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Confr	8.2	7.9	18.2	83	8.2	83	8.1	7.8		
6.25		8.2	8,2	83	83	8.2	8.3	8.3	8.1		
12.5		8	8	8.1	8.3	8.2	ô	8.2	7.9		
25		8	7.7	7.9	83	8.3	7.8	7.9	7.7		
50		79	7.4	7.8	8.2	8.3	7.7	7.8	7.6		
100		7.7	7	7.7	8	8.3	7.5	7.6	7.4		
Tamperatui	re-°C										
C-%	Control Type	1	2	3	4	5	6	7	8		
0 "	Negative Confr	24	25 8	24.5	24.5	24 8	25 6	24.G	24.3		
6.25		24	25 8	24.4	24.5	25.5	25 ?	24.6	24.3		
12.5		24.4	25 1	24.2	24.6	24 7	25	24.5	24 3		
25		14.9	25	24 2	24.5	24 7	24 4	24.5	24 3		
50		25	25.8	24.2	24.4	24.7	24	24.4	24.3		
100		25.4	26	24.4	24	24.2	24	24.2	24.3		



November 12, 2015

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

Dear Mr. Auselm:

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*. Results were as follows:

CLIENT:

Ventura County Flood Control

SAMPLE LD.:

MO-SIM

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.126

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL NOEC = 100.00 %

TUe = 1.00

IC25 :: >100.00 %

IC50 = >100.00 %

REPRODUCTION NOEC - 100,00 %

TUe : 1.00

IC25 = >100.00 %

IC50 = >100,00 %

72. Scott Johnson

Laboratory Director

CETIS Summary Report

Report Date: 10 Nov-15 10 04 (p.1 of. 2)
Test Code: VCF0915.126cer | 18-7659-0216

								Tost Code:	VGF0915	3.126cer 18	-7659- 0 21		
Ceriodaphnia i	7-d Survival and	l Reproductio	и То	st 				Aquatic Bioassay & Consulting Labs, Inc.					
Batch ID:	09-0561-2287	_	-	Reproduction-S	-			Analyst:					
Start Date:	16 Sep-15 14:28			EPA/821/R-02-					aboratory Wat	er			
-		-		Ceriodaphnia d				Brine: N	of Applicable				
Duration:	7d 1h	Source	: 	Aqualic Biosyst	ems, CO			Age:					
Sample (D;	02-0823-7794	Code:		VCF0915,126c					CWPD				
-	15 Sep-15 05;30		d:	Sample Water				Project: 20	015/16-1(Wet)	1			
Receive Date:	15 Sep-15 10;15	5 Source		Bioassay Repo	rţ								
Sample Age:	33h (15.6 °C)	Station	:	MO-SIM									
Comparison \$	ummary												
Analysis ID	Endpoint		OEL	LOEL	TOEL	PMSD	T⊔	Method					
	7d Survival Rale		00	>100	NA	NA	1		Exact/Bonfesto				
14-3870-8073	Reproduction	10	00	>100	NA	40.2%	5 1 Dunnelt Multiple Corepanson Test				it		
Point Estimate	Summary												
Analysis ID	Endpoint		evel	%	95% LCL	95% UCL	TU	Method	1				
01-0659-3688	76 Survival Rate		C5	>100	N/A	N/A	<1	Lrnear I	nterpolation (4	CPIN)			
			C10	>100	N/A	N/A	51						
			C15	>100	N/A	N/A	<1						
		E	C20	>100	N/A	N/A	41						
		E	C25	>100	N/A	N/A	<1						
		E	C40	>100	N/A	N/A	<1						
_			C50	>100	N/A	N/A	<1						
12-7522-4430	Reproduction	ונ	5	>100	N/A	N/A	<1	Linear I	Linear Interpolation (ICPIN)				
			:10	>100	N/A	N/A	<1						
			15	>100	N/A	N/A	<1						
			20	>100	N/A	N/A	<1						
			25	>100	N/A	N/A	<1						
		Ю	40	>100	NW	N/A	≺1						
		IC	50	>100	N/A	N/A	<1						
Test Acceptabl	IIIty												
Analysis ID	Endpoint		(trib.		-	TAC LIMI	ts	Overla					
	7d Survivat Rate			l Resp	0.9	0.8 - NL		Yes		cceptability			
	7d Survival Rate			l Rosp	0.9	0.8 - NL		Yes		cceptability			
2-7522-4430	•			l Resp	15	15 - NL		Yes		cceptability			
14-3870-8073	•			l Resp	15	15 - NL	_	Yes		cceptability			
4-3870-8073		P	MSD		0 4021	0,13 - 0 47 	7	Yes · ·-	Passes A	.cceptabi1ily	Criteria		
d Survival Ra		Count	laa-	DEN LOS	OEW LICE			, 614 F	. Pld Da	Cue	W.EKaa		
	Control Type		lean n	95% LCL 0.6738	95% UCL	O O	<u>Маз</u> 1	Std Err 0.1	Std Dev 0.3152	CV% 35.14%	%Effec 0.0%		
·	Marantina Control		4		1	1	1	0.1	0.3152	0.0%	-11,119		
· · · · · · · · · · · · · · · · · · ·	Negative Control			5		L		v		41.11.72			
5.25	Negative Control	10 1		í 4	1		1						
5.25 12.5	Negative Control	10 1 10 1		1	1	1	1	0	0	0.0%	-11,119		
5.25	Negative Control	10 1			1 1 1		1 1 1						

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dov	CV%	%€ffect
0	Negative Control	10	15	10.63	19.37	0	21	1.932	611	40.73%	0.0%
6 25		10	18.8	15.6	22	13	27	1.413	4.467	23.76%	-25.33%
12.5		10	23.2	19.87	26.53	ខេ	32	1.474	4.662	20.09%	-54 67%
25		10	20.6	16.17	25.03	11	30	1.956	6.185	30.03%	-37.33%
50		10	28.3	23.42	33.18	19	39	2.155	6.816	24.08%	-88 67%
100		10	25.6	20.83	30.37	11	36	2.109	6.67	26.05%	-70 67%

CETIS Summary Report

Report Date:

10 Nov-15 10.04 (p 2 of 2)

Tost Code:

VCF0915.126cer | 18-7659-0216

Aquatic Bloaseay & Consulting Labs, Inc.

/al Rate Detail										
Control Type	Rep 1	Rep 2	Вар 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
Negative Control	1	0	1	1	1	1	1	1	E	1
	1	1	1	1	1	1	1	1	5	1
	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1
	Control Type		Control Type Rep 1 Rep 2	Control Type Rep 1 Rep 2 Rep 3	Control Type Rep 1 Rep 2 Rep 3 Rep 4	Control Type Rep 1 Rep 2 Rep 3 Rep 4 Rep 5	Control Type Rep 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6	Control Type Rep 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rep 7	Control Type Rep 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rep 7 Rep 8	Control Type Rep 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rep 7 Rep 8 Rep 9

Reprodu	+ i	
Reprod		UBLAN

C-%	Control Type Rep 1	Rep 2	Rop 3	Rep 4	Rep 6	Rep 6	Rap 7	Rep B	Rep 9	Rep 10
0	Negative Control 18	0	17	13	13	14	21	14	19	21
6 25	18	23	27	23	16	16	15	16	21	13
12.5	23	26	21	20	30	20	18	32	22	20
25	24	15	11	23	30	23	45	23	27	15
50	2 5	30	28	24	36	19	22	34	39	24
100	27	31	25	23	36	11	21	30	26	26

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	R ap 7	Rep 8	Rop 9	Rep 10
0	Negative Control	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
6.25		1/1	1/1	1/1	176	177	1/1	1/1	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/4	1/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	1/1	171	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	171	1/1	1/1	1/1	1/1

Report Date:

10 Nov-15 10:04 (p 1 of 2)

Test Code:

VCF0915.126cer | 18-7659-0216

Ceriodaphnia 7-d Survival and Reproduction Test	Aquetic Bloassay & Consulting Labs, Inc.

Analysis ID:	0: 14-3870-8073 Endpoint: Reproduction 10 Nov-15 9:55 Analysis: Parametric-Control vs Treatments		CETIS Ver	rsion: CETISv1.8.7	
Analyzed:			Official Re	esuits: Yes	
Batch ID:	09-0661-2287	Test Type:	Reproduction-Survival (/d)	Analyst:	Laboratory Water Not Applicable
Start Date:	16 Sep-15 14 28	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	
Ending Date:	23 Sep-15 15 15	Species:	Coriodaphria dubia	Brine:	
Duration:	7d 1h	Source:	Aquatro Biosystems, CO	Age:	
Receive Date:	02-0823-7794 15 Sep-15-05-30 15 Sep-15-10-15 33h (15.6 °C)	Code: Material: Source: Station:	VCF0915 126c Sample Water Bioassay Report MO-SIM	Client: Project:	VCWPD 2015/16-1(Wet)

Data Transform	Zeta	All Hyp	Trials	Seed	PMSD	NOEL	LOEL	TOEL	TU	
Untransformed	NA	C>T	NA	NA	40.2%	100	>100	NΑ	1	

Dunnett Multiple Comparison Test Control ٧s C-% Test Stat Critical MSD DF P-Value P-Type Decision(a:5%) G 25 CDF Non-Significant Effect Negative Control -1.4422.289 8 031 18 0.9961 Non-Significant Effect 12.5 -3.112 2 289 8 031 18 1.0000 CDF 25 -2.126 2 289 CDF Non-Significant Effect 8 031 18 0.9997 2 289 COF Non-Significant Effect 50 -5.048 6 031 18 1.0000 Non-Significant Effect -4 023 2.289 6 031 18 1.0000 COF 100

Test Acceptability Criteria

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	15	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.4021	0 13 - 0.47	Yes	Passes Acceptability Onteria

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	P-Value	Decision(a:5%)	
Between	1152.483	230 4967	5	6.641	<0.0001	Significant Effect	
Error	1874.1	34.70555	54				
Total	3026.583		59				

Distributional Tosts

Attribute	Test	Tost Stat	Critical	P-Value	Decision(a:1%)
Variances	Bartlett Equality of Variance	2 682	15.09	0.7489	Equal Variances
Variances	Mod Levene Equality of Variance	0.3686	3 377	0.8679	Equal Variances
Variances	Levene Equality of Variance	0.5196	3 377	0.7603	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9772	0.9459	0.3216	Normal Distribution
Distribution	Kolmogorov-Smirnov D	0.05838	0.1331	0.6678	Normal Distribution
Distribution	D'Agostino Skewness	0.8915	2.576	0.3726	Normal Distribution
Distribution	D'Agostino Kurlosis	0.5922	2.578	0.5537	Normal Distribution
Distribution	D'Agosting-Pearson K2 Omnibus	1.146	9.21	0.5640	Normal Distribution
Distribution	Anderson-Darling A2 Normality	0.3316	3.878	0.5234	Normal Distribution

Reproduction Summary

C-%	Control Type	Count	Moan	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%EMect
0	Negative Control	10	15	10.63	19.37	15.5	-0	21	1.932	40.73%	0.0%
6.25		10	18.8	15.G	22	17	13	27	1.413	23,76%	-25.33%
12.5		10	23.2	19.87	26.53	21.5	18	32	1.474	20.09%	-54 67%
25		10	20.6	16.17	25.03	23	11	30	1.956	30.03%	37.33%
50		10	28.3	23.42	33.18	26.5	19	39	2.155	24.08%	-88.67%
100		10	25.6	20.83	30 37	26	11	36	2.109	26.05%	-70.67%

Report Date:

10 Nov-15 10:04 (p 2 of 2)

Test Code:

VCF0915 126cer | 18-7659-0216

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis (D)	14-3870-8073	Endpoint:	Reproduction	CETIS Version:	CETTSv1.8.7
Analyzed:	10 Nov-15 9:55	Analysis:	Parametric Control vs Treatments	Official Results:	Yes

Reproduc	ction Detall										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 6	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
D	Negative Control	18	0	17	13	13	14	21	14	19	21
6.25		18	23	27	23	16	16	15	16	21	13
12.5		23	26	21	20	30	20	18	32	22	20
25		24	15	11	23	30	23	15	23	27	15
50		25	30	28	24	38	19	22	34	39	24
100		27	31	25	23	36	11	21	30	26	26

Report Date:

10 Nov-15 10:04 (p.1 of 4)

Tost Code:

VCF0915 126cer | 18-7659-0216

								10	St Codo:		ACLOAIS	150cer 1	a-7629-02
Ceriod	aphnia	7-d Survival an	d Reprod	iuction T	est				Aquat	ic Blo	oassay & C	Consulting	g Labs, Ind
Analys	is ID:	01-0659-3688	E	ndpoint:	7d Survival Ra	le		CI	ETIS Versi	ion:	CETISv1	.8.7	
Analyz	e d :	10 Nov-15 9:56	Α.	nalysis:	Linear Interpota	ation (ICPIN)		Ol	ficial Res	ulis:	Yes		
Batch	ID:	09-0661-2287	Te	est Type:	Reproduction-9	Survival (7 d)		Ar	nalyst:				
Start D	ato:	16 Sep-15 14.2	8 P	rotocol:	EPA/821/R-02-	013 (2002)			-	Labor	ratory Wale	er.	
Ending	Date:	23 Sep-15 15.1		pecles:	Ceriodaphina d	lubia		Бг			opticable		
Duratio	-	7d 1h		ourca:	Aquatro Biosys	lems, CO		Αş	jo:				
— Sample	e ID:	02-0823-7794	С	ode:	VCF0915.126c			CI	ient:	vcw	PD		
Sample	e Date:	15 Sep-15 05:3	0 M	atorial:	Sample Water			Pr	oject:	2015/	/16-1(Wel)		
Receiv	e Date:	15 Sep-15 10:1	5 S	ource:	Bioassay Repo	rt			-				
Sample	e Age:	33h (15.6 °C)	S	talion:	MO-SIM								
Linoar	Interpo	lation Options											,
X Tran	sform	Y Transform	S - S	ecd	Rosamples	Ехр 95%	CL Me	thod					
l,inear		l.inear	0		280	Yes	Two	o-Point Inte	erpolation				
 Test Ar	cceptab	ifity Crijeria		· · · · · · · · ·									
Attribu	te	Test Stat	TAC Lir	nits	Overlap	Decision							
Control	Resp	១១	0.8 - NU		Yes	Passes Ad	ceptabild	y Critena					
Point E	—∙ Estirnate	19											
Leve1	%	95% LCL	95% UC	L TU	95% LCL	95% UCL							
FC5	≥100	N/A	N/A	<1	NA	NA							
EC10	>100	N/A	MA	<1	NΑ	NA							
EC15	>100	N/A	N/A	<1	NA	NA							
EC20	>100	N/A	N/A	<1	NA	NA							
EC25	>100	N/A	N/A	<1	NA	NA							
EC40	>100	N/A	N/A	<1	NA	NA							
EC50	>100	N/A	N/A	< 6	NA	NA							
7d Sur	vival Ra	ite Summary				Calcul	aled Vari	iate(A/B)					
C-%-		ontrol Type	Count	Mear		Max	Sld Err	Std De			%Effect	A	8
0	N	egative Control	10	0.9	0	1	0.1	0.3162	35.14	76	0.0%	9	10
5.25			10	1	1	1	0	0	0.0%		-11.11%	10	10
12.5			10	1	1	1	0	0	0.0%		-11.11%	10	10
25			10	i	1	1	0	D.	0.0%		-11.11%	10	10
50			10:	1)	1	0	0	0.0%		-11.11%	10	10
100			10	í	i	1 .	0	ů.	0.0%		-11.11%	10	10
		ite Dotali	0 1	D 1	n n n	D 4	D 5	D C	п		D+4 B	Dar D	Dag 41
C-%		ontrol Type	Rep 1	Rep 2		Rep 4	Rep 5	Rep 6	Rep 7		Rop 8	Rep 9	Rop 10
0	N	egative Control	1	0	1	1	1	1	1			1	
6.25			1	1	1	1	1	1	1		1	1	1
12.5			1	í	1	1	1	1	1		1	1	1
			1	1	1	1	1	1	1		1	1	1
25									1		1	1	1
			i	1	1	1	1	1	1		1	1	1

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rop 5	Rop 6	Rop 7	Rop 8	Rep 9	Rep 10
0	Negative Control	1/1	0/1	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		171	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		1/1	171	1/1	1/1	171	1/1	1/1	1/1	1/1	1/3

Report Date:

10 Nov-15 10:04 (p.2 of 4)

Test Code:

VCF0915.126cer | 18-7659-0216

Cerlodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis tD: Analyzed:

01-0659-3688 10 Nov-15 9:56

Endpoint: 7d Survival Rale

Analysis: Linear Interpolation (ICPIN)

CETIS Version:

CETISV1.8 7 Official Results: Yes

Attachment D Appendix I

Report Date:

10 Nov-15 10:04 (p 3 of 4)

Test Code:

VCF0945.126cer | 18-7659 0216

								Tes	st Code:	VCF0935	.12 6 0er 18	1-7 6 59 0216
Ceriod	aphnia	7-d Survival and	d Reprodu	ction Te	est				Aquatic E	Sioassay & C	Consulting	Labs, Inc.
Analysi	is ID:	12-7522-4430	Ene	ipolnt:	Reproduction			ĈE	TIS Vorsion:	CETI\$v1	8.7	
Analyz		10 Nov-15 9:56		ilysis:	Linear Interpola	alion (ICPIN	1)	ОН	icial Rosults	: Yes		
Batch I	ID:	09-0661-2287	Tes	t Type:	Reproduction-S	Survival (7d)		An	 alyst:			
Start D	ate:	16 Sep-15 14:2		tocol:	EPA/821/R-02-			Dill	vent: Lab	oratory Wat	21	
Ending	Date:			cles:	Ceriodaphnia d			Bri	ine: Not	Applicable		
Duratio		7d 1h		ILCO:	Aquatro Biosyst			Agı	e:			
Sample	e ID:	02-0823-7794	Co	de:	VCF0915 126c		_	Gli	ont: VC	WPD.	• .	
Sample	e Date:	15 Sep-15 05:3	0 Ma	torial:	Sample Water			Pro	oject: 201	5/16-1(Wet)		
Receiv	e Date:	15 Sep-15 10:1:	5 Şaı	irce:	Bioassay Repo	rt						
Sample	e Age:	33h (15.6 °C)	Sta	flon:	MO-SiM							
Linear	Interpo	lation Options										
X Trans	slorm	Y Transform			Rosamples	Exp 95%		L hod				
Linear		Linear	193	7294	280	Yes	Two	o-Point Inter	ipolation			
Tost Ac	cc e ptab	liity Criteria										
Attribu		Test Stat	TAC Lim	its	Overlap	Decision	<u> </u>					
Control	Resp	15	15 - NL		Yes	Passes A	voc e ptability	y Criteria				
Point E	Estimate	25.										
Level	%	95% LCL	95% UCL	. TU	95% LCL	95% UCL						
IC5	>100	NΛ	N/A	<1	NA	NA						
IC10	>100	N/A	N/A	<1	NΑ	NA						
IC15	>100	N/A	N/A	≺1	NA	NA						
IC20	>100	N/A	N/A	<1	NA.	NA						
IC25	>100	N/A	N/A	≺1	NA.	NA						
IC40	>100	N/A	N/A	<1	NA NA	NA						
IC50	>100	N/A	N/A	<1	. <u>NA</u>	NA						
Reproc	duction	Summary				Ca	ilculated V	'ariato		-		
C-%		ontrol Type	Count	Mean	 - ·	Max	Std Err	Std Dev		%Effect		
	N	egative Control	10	15	Ů.	21	1,932	611	40.73%	0.0%		
6.25			10	18.8	13	27	1.413	4 467	23.76%	-25.33%		
12.5			10	23.2	18	32	1.474	4 662	20.09%	-54.67% 27.2264		
25			10 10	20.6 28.3	11	30 30	1.956 2.166	6.186 6.816	30.03% 24.08%	-37.33% -88.67%		
50 100			10	25.6	19 11	39 36	2.155 2.109	6.816 6.67	24.08% 26.05%	-70,67%		
				23.0		·	2.105	0.01	20.0079	-10,0170	_	
•	duction		Dan 4	0 1	D *	Pac 4	Pa- 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0.%		ontrol Type egalive Control	Rep 1	Rep 2	2 Rep 3	Rep 4	Rep 5 _ 13	14	21	14	19	21
6 25	14	agains control	18	23	27	23	15	16	15	16	21	13
125			23	26	21	20	30	20	18	32	22	20
			24	15	11	23	30	23	15	23	27	15
25					1.1			2.3	1.0	2.0	4.1	
25												24
25 50 100			25 27	30 31	28 25	24 23	38 36	19 11	22 21	34 30	39 26	24 26

Report Date:

10 Nov-15 10:04 (p 4 of 4)

Test Code:

VCF0915.126cer | 18-7659-0215

Cerlodaphula 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labe, Inc.

Analysis ID: Analyzod:

12-7522-4430 10 Nov-15 9:56

Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:04 (p 1 of 3)

Test Code:

VCF0915.126cer | 18-7659-0216

Ceriodaphni	a 7-d Survival and	d Repr	oduction Te	ist				Aquatic	Bioassay &	Consulting	Labs, In
Analysis ID:	15-5451-422B		Endpoint:	7d Survival I	Rate		CETI	\$ Version	n: CETISV	4.8.7	
Analyzed:	10 Nov-15 9:58		Analysis:	STP 2x2 Co	ntingency Tab	iles .	Offic	jai Result	s: Yes		
Batch ID:	09-0661-2287		Test Type:	Reproductio	n-Survival (7d)	Anat	yşt:			
Start Date:	18 Sep-15 14:28	8	Protocol:	EPA/821/R-	02-013 (2002)		DJIua	ent: La	boratory Wa	alar	
Ending Date	: 23 Sep-15 15:18	5	Species:	Ceriodaphni	a dubia		Brine	e: No	ot Applicable	•	
Duration:	7d 1h		Source:	Aquatic Bios	ystems, CO		Age:				
Sample ID:	02-0823-7794		Code:	VCF0915.12	.6c		Clien	it: Vo	CWPD		
-	: 15 Sep-15 05:30		Material:	Sample Wat			Proje	oct: 20	115/16 1(We	1)	
	e: 15 Sep-15 10:15	5	Source:	Bioassay Re	port						
Sample Age	33h (15,6 °C)		Station:	MO-SIM							
Data Transfo	erm	Zeta	Alt H	yp Trials	Seed			NOEL	LOEL	TOEL	ΤŲ
Untransforme	·d		C > T	NA	NA			100	>100	NA	1
Fisher Exact	/Bonferroni-Holm	Test									
Control	vs C-%		Test 9	Stat P-Value	в Р-Туре	Oscision	(a:5%)				
Negative Cor	trol 6.25		1	1.0000	Exact	Non-Sign	ificant Effect				
	125		1	1.0000	Exact	Non-Sign	ificant Effect				
	25		1	1.0000	Exact	_	ificant Effect				
	50		1	1.0000	Exact	Non-Sign	ificant Effect				
	100		1	1.0000	Exact	Non-Sign	ificant Effect				
Tost Accopta	ibility Criteria										
Attribute	Test Stat	-		Overla	p Decision	1					
Cantrol Resp	0.9	0.8 - 1	NL	Yes	Passes A	Acceptability	Criteria				
		•					-				_
Data Summa	ıry										
	ry Control Type	NR	R	NR + R	Prop NR	Prop R	%Effect				
C-%	•	NR 9	R	NR + R	Prop NR 0.9	Prop R	%Effect				
D ata Sum ma C-% 0 6.25	Control Type										
C-% 0 8.25	Control Type	9	1	10	0.9	0.1	0.0%				
C-% 0 8.25 12.5	Control Type	9 10	1 0	10 10	0.9 1	0.1 0	0.0% -11.11%				
C-% 0 8.25 12.5 25	Control Type	9 10 10	1 0	10 10 10	0.9 1 1	0.1 0 0	0.0% -11.11% -11.11%				
C-% 0 8.25 12.5 25 50	Control Type	9 10 10 10	1 0 0	10 10 10 10	0.9 1 1	0.1 0 0 0	0.0% -11.11% -11.11% -11.11%				
0-% 3.25 \$2.5 25 60	Control Type Negative Contr	9 10 10 10 10	1 0 0 0	10 10 10 10 10	0.9 1 1 1	0.1 0 0 0 0	0.0% -11.11% -11.11% -11.11% -11.11%				
C-% 0 8.25 12.5 26 50 100 7d Survival F	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0	10 10 10 10 10	0.9 1 1 1	0.1 0 0 0 0	0.0% -11.11% -11.11% -11.11% -11.11%	Rep 7	Rep 6	Rep 9	Rep 16
0-% 3.25 \$2.5 50 600 7d Survival §	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0	10 10 10 10 10 10	0.9 1 1 1 1	0.1 0 0 0 0 0	6.0% -11.11% -11.11% -11.11% -11.11% -11.11%	Rep 7	Rep 8	Rep 9	Rep 10
0-% 3.25 \$2.5 50 600 7d Survival \$ 0-% 0	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0 0	10 10 10 10 10 10	0.9 1 1 1 1	0.1 0 0 0 0 0 0	6.0% -11.11% -11.11% -11.11% -11.11% -11.11%	Rep 7	Rep 6	Rep 9	
C-% 3.25 \$2.5 50 \$00 7d Survival F C-% 0 5.25	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0 0 0	10 10 10 10 10 10 10	0.9 1 1 1 1	0.1 0 0 0 0 0 0	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6	Rep 7	Rep 6	Rep 9 1 1 1	
C-% 0 8.25 12.5 25 60 100 7d Survival F C-% 0 5.25 12.5	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0 0 0 0 Rep 2 0	10 10 10 10 10 10 10 Rep 3	0.9 1 1 1 1 1 1 Rep 4	0.1 0 0 0 0 0 0 0 Rep 5	6.0% -11.11% -11.11% -11.11% -11.11% -12.11% Rep 6	1	Rep 8 1 1 1 1	Rep 9 1 1 1 1	1
C-% 0 8.25 12.5 25 60 100 7d Survival F C-% 0 5.25 12.5	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0 0 0 0 1 Rep 2 0	10 10 10 10 10 10 10 Rep 3	0.9 1 1 1 1 1 1 1 Rep 4 1	0.1 0 0 0 0 0 0 0 0 0 0	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1	1 1 1	Rep 8 1 1 1 1 1	Rep 9 1 1 1 1 1	1 1
0-% 3.25 42.5 50 400 7d Survival § 0-% 0-5.25 12.5	Control Type Negative Contr	9 10 10 10 10 10	1 0 0 0 0 0 0 0 1 Rep 2 0 1 1	10 10 10 10 10 10 10 10	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 0 0 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1	1 1 1 1	1 1 1	Rep 9 1 1 1 1 1 1	1 1 1
0-% 3.25 50.5 60.5 60.5 7d Survival F 0-% 0.25 2.5 90.6	Control Type Negative Contr	9 10 10 10 10 10 10 11 1 1 1 1	1 0 0 0 0 0 0 0 1 Rep 2 0 1 1 1	10 10 10 10 10 10 10 10	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 0 0 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
C-% 3.25 \$2.5 50 \$00 7d Survival \$ C-% 0 3.25 12.5 90 100	Control Type Negative Control Rate Detail Control Type Negative Control Rate Binomials Control Type	9 10 10 10 10 10 11 1 1 1 1 1 1	1 0 0 0 0 0 0 1 1 1 1 1	10 10 10 10 10 10 10 10	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 0 0 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1
C-% 3.25 \$2.5 60 600 7d Survival \$ 5.25 12.5 20 100 7d Survival \$ 20 20	Control Type Negative Control Rate Detail Control Type Negative Control	9 10 10 10 10 10 11 1 1 1 1 1 1	1 0 0 0 0 0 0 0 1 1 1 1 1	10 10 10 10 10 10 10 10	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1	1 1 1 1 1	1 1 1 1 1 1 1 Rep 8	1 1 1 1 1 1 1 Rep 9	1 1 1 1 1 1 1 1 1 1
C-% 3.25 \$2.5 60 600 7d Survival \$ 5.25 12.5 20 100 7d Survival \$ 20 20	Control Type Negative Control Rate Detail Control Type Negative Control Rate Binomials Control Type	9 10 10 10 10 10 11 1 1 1 1 1 1	1 0 0 0 0 0 0 1 1 1 1 1	10 10 10 10 10 10 10 1 1 1 1 1	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 Rep 4	0.1 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1 1 Rep 6	1 1 1 1 1 1 1 Rep 7	1 1 1 1 1 1	1 1 1 1 1 1 1 	1 1 1 1 1 1 1
C-% 8.25 12.5 25 50 100 7d Survival F C-% 0 6.25 100 7d Survival F C-% 50 100	Control Type Negative Control Rate Detail Control Type Negative Control Rate Binomials Control Type	9 10 10 10 10 10 10 11 1 1 1 1 1 1 1 1 1	1 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1	10 10 10 10 10 10 10 Rep 3 1 1 1 1 1 1	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 Rep 5 1 1 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1 1 Rep 6	1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 Rep 8	1 1 1 1 1 1 1 Rep 9	1 1 1 1 1 1 1 1 1 1 1 1 1
C-% 8.25 92.5 90 7d Survival F 0 5.25 100 7d Survival F 0 7d Survival F 0 7d Survival F	Control Type Negative Control Rate Detail Control Type Negative Control Rate Binomials Control Type	9 10 10 10 10 10 10 Rep 1 1 1 1 1 1 1 1 1 1 1	1 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1	10 10 10 10 10 10 10 10 Rep 3 1 1 1 1 1 1 1	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 Rep 5 1 1 1 1 1 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1 1 Rep 6	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 Rep 8	1 1 1 1 1 1 1 1 Rep 9	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
C-% 0 8.25 12.5 26 50 100 7d Survival F C-% 0 6.25 12.5 25	Control Type Negative Control Rate Detail Control Type Negative Control Rate Binomials Control Type	9 10 10 10 10 10 Rep 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1	10 10 10 10 10 10 10 10 Rep 3 1 1 1 1 1 1 1 1 1 1 1 1 1	0.9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.1 0 0 0 0 0 0 0 0 Rep 5 1 1 1 1 1 1 1 1 1 1 1 1 1	6.0% -11.11% -11.11% -11.11% -11.11% -11.11% Rep 6 1 1 1 Rep 6 1/1 1/1	1 1 1 1 1 1 1 1 1 1 1 1 1/1 1/1 1/1 1/1	1 1 1 1 1 1 1 1 Rep 8 1/i 1/i	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1/1 1/1 1/1

Report Date:

10 Nov-15 10:04 (p.2 of 3)

Test Code:

VCF0915.126cer; 18-7659-0216

Geriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

15-5451-4228 10 Nov-15 9:56

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CETISV1 8.7 Official Results: Yes

000-055- Wentura Countywide Stormwater Quality Management Program 2015/16 Annual Report

CE'118", DI - 49.11

Attachment D Appendix I

Report Date:

10 Nov-15 10:04 (p.3 of 3)

Tast Code:

VCF0915 126cer | 18-7659-0216

Cerlodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analyzed:

Analysis ID: 15-5451-4228 10 Nov-15 9:56

Endpoint: 7d Servival Rale

Analysis: STP 2x2 Contingency Tables

CETIS Version: CETISv1.87

Official Results: Yes

Report Date:

10 Nov-15 10:04 (p.1 of 2)

Test Code:

VCF0915.125ccr | 18-7659-0216

Ceriodaphnia	7-d Survivat ar	d Repro	duction Te	st				Aquatio	Bioassay &		h Labs, Inc.
Batch ID: Start Date: Ending Date: Duration:	09-0661-2287 16 Sep-15 14 2 23 Sep-15 15.1 7d 1h	28 I 15 :	Test Type: Pratocol: Species: Source:	Reproduction- EPA/821/R-02 Ceriodaphnia (Aquatro Biosys	-013 (2002) dubia				aboratory Wa of Applicable	ler	<u>-</u>
_	02-0823-7794 15 Sep-15 05:3 15 Sep-15 10:3 33h (15.6°C)	30 (15 :	 Code: Material: Source: Station:	VCF0915 1266 Sampte Water Bioassay Repo					CWPD 015/16-1(Wet	}	
	CO3)-mg/l.										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Confr	8	63 88	61 71	66.04	62	67	0.9149	2,588	4 05%	Q.
100		8	45	45	45	45	45	0	0	0.0%	0
Overall		16	54 44			45	67				0 (0%)
 Conductivity- _l	umhos										
G-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
	Negative Contr		336.1	326.9	345.4	326	35B	3.903	11.04	3.28%	0
6.25		8	328.4	326.4	330.4	325	332	0.8438	2.387	0.73%	0
12.5		8	331.1	329.8	332 4	329	334	0.5489	1.553	0.47%	σ
25		5	333.9	332.6	335.2	332	337	0.5489	1.553	0.47%	a
50		8	338	336.3	339.7	335	342	0.7071	2	0.59%	0
100		8	348.6	343.5	353.7	339	357	2.162	6.116	1.75%	0
Overall		48	336			326	358			· -	0 (0%)
Dissolved Oxy	ygon-mg/L										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
D	Negative Contr	8	7 625	7.091	8,159	6.5	87	0.2258	0.6386	8.38%	0
5.25		8	69	6.159	7.641	5.1	7.9	0.3134	0.8864	12.85%	0
12.5		8	6 663	5.891	7.434	4.8	7.6	0.3262	0.9226	13.85%	0
25		8	6 25	5.385	7.115	4.3	7.6	0.366	1.035	16.56%	0
50		9	6.125	5.31	6.94	4.2	7.2	0.3447	0.975	15.92%	0
100		8	5.55	4.901	6.199	4	6.3	0.2745	0.7764	13.99%	0
Overall		48	6.519			4	8.7				0 (0%)
Hardness (Cet											
	Control Type	Count	Mean		95% UCL		Max	Std En	Std Dov	CV%	QA Count
	Negalive Contr		83.13	81,83	84 42	82	85	0 5489	1 553	1,87%	0
100		8	89	89	89	89	69	0	0	0.0%	0
Overall		16	86.05			82	89	·			0 (0%)
pH-Units											
	Control Type	Count	Mean	95% LCL	9 5 % UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
	Negative Contr		8.113	7.968	8 257	7.8	8.3	0.05105	0.1727	2.13%	D
6.25		8	7.5	7.304	7.896	7	8	D.1254	0.3548	4.67%	Ð
125		8	7.575	7.323	7.827	7.1	7.9	0.1065	0.3012	3.98%	Ð
		8	7.5	7.236	7 764	7	7.9	0 111B	0.3162	4.22%	0
25										4 8 5 5 5	_
25 50 100		8 8	7.45 7.35	7.178 7.097	7.722 7.603	6.8	7.8 7.7	0.115 0.1069	0.3251 0.3024	4.36% 4.11%	0 0

Report Date:

10 Nov-15 10:04 (p.2 of 2)

Tost Code: VCF0915 126cer | 18-7659-0216

Tompovetice											
Temperature G-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	¢v%	QA Coun
0	Negative Contr	8	24.68	24 37	24 98	24.3	25.4	0.1278	0.3615	1.47%	0
5.2 5	Hegalive Callii	8	24 7	24.38	25 D2	24.3	25.5	0 1363	0.3855	1.56%	ŏ
12.5		8	24 56	24.41	24.72	24.3	24.9	0.06531	0.1847	0.75%	ő
25		A	24.44	24.26	24.62	24.1	24.7	0.07546	0.2134	0.87%	ŏ
50		8	24.5	24.24	24.76	24	24.9	0.1086	0.3071	1.25%	à
100		θ	24.51	24.21	24.81	24	25	0.126	0.3563	1.45%	Ó
Overall	 -	48	24.56			24	25.5				0 (0%)
Alkalinity (C	aCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
¢ .	Negative Contr	62	62	62	52	62	67	67	67		
100		45	45	45 	. 45	45	45	45	45		
Conductivity	/-µmhos										
C-%	Control Type	1	2	3	4	5	<u> </u>	7	8		
3	Negative Contr	358	326	335	329	335	332	327	347		
8.25		326	327	330	330	330	326	326	332		
12.5		330	331	332	331	332	330	329	334		
25		333	333	335	334	334	332	333	337		
50		338	338	338	337	337	339	335	342		
100		351	350	349	339	340	351	352	357		
Dissolved O	xygon-mg/L										
C-%	Control Type	.1	2	3	4	5	6	7	8		
)	Negative Contr	7.5	7.9	7.1	7.8	7.8	8.7	7.7	6.5		
6 25		7.8	7.9	6.5	6.7	5.9	6.9	7.4	5.1		
12.5		7.6	7.8	6.2	6.5	B B	6.9	6.7	4.8		
25		7.3	7.6	5.6	6.1	G 2	8.8	6.1	4.3		
50		7.2	7.2	5.5	6	6 1	6.6	6.2	4.2		
100		_6.1	В	4.8	5.9	5.8	6.3	5.5	4		
	aCO3)-mg/L										
C-%	Control Type	1	2	3	4	S	6	7	8		
0	Negative Contr	82	82	82	82	82	85	85	85		
100		89	89	89	89	B 9	89	89	. B9		
pH-Units											
C.%	Control Type	1	Z	3	4	5	<u> </u>	. 7	8		
0	Negative Contr	8.2	7.9	8.2	8.3	8.2	82	B.1	7.8		
5 2 5		7.8	7	7.6	8	8	76	7.6	7.2		
125		7.8	7.1	7.6	7.9	7.9	7.5	7.6	7.2		
25		7.7	7	7.5	7.9	7.8	7.5	7.5	7.5		
50		7.7	6.9	7.4	7.8	7.8	7.4	7.5	7.1		
100		7.5	68	7.3	7.7	7.7	73	7.4	7.1		
femperature											
C-%	Control Type	_1	Z	3	4	5	8	7	_8		
ס	Negative Confr	24.6	24.7	24.4	24.5	25.4	25	24.5	24.3		
5.25		24.7	24.6	24.5	24.4	25.5	25	24.5	24.3		
125		24.6	24.6	24.5	24.4	24.9	24.7	24.5	24.3		
25		24.7	24.6	24.3	24.1	24.6	24.6	24.3	24.3		
50		24.9	24.9	24.6	24	24.5	24.5	24.3	24.3		
100		25	25	24.6	24	24.3	24.6	24.3	24.3		



November 12, 2015

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. Results were as follows:

CLIENT: Ventura County Flood Control

SAMPLE LD.: MO-FIL DATE RECEIVED: 9/15/2015 VCF0915.127 ABC LAB, NO.:

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

100.00 % SURVIVAL NOEC -TUe 💠 1.00>100.00 % 1C25 =

1C50 =>100.00 %

REPRODUCTION 100.00 % NOEC =:

> TUe = 1.001C25 =>100.00 %

> IC50 ->100.00 %

Laboratory Director

29 north olive st. ventura, ca 93001 [805] 643 5621 Ventura Countywide Stormwater Quality www.aquabio.org Attachment D Appendix I

Management Program 2015/16 Annual Report

CETIS Summary Report

Report Date:

10 Nov-15 10:04 (p 1 of 2)

Test Code:

VCF0915.127cer | 01-2535-0414

Certodaphnia 7-d Survival and Reproduction Test	Aquatic Bloassay & Consulting Labs, Inc.

Batch ID:	00-8356-1573	Test Type:	Reproduction-Survival (7d)	Analyst:		
Start Date:	16 Sep-15 14:30	Protocol:	EPA/821/R-02-013 (2002)	Diluent:	Laboratory Water	
Ending Date:	23 Sep-15 15:30	Species:	Ceriodaphnia dubia	Brine:	Not Applicable	
Duration:	7d 1h	Source:	Aquatic Biosyslems, CO	Age:		
Sample ID:	17-0139-8605	Code:	VCF0915 127c	Client:	VCWPD	
Sample Date:	15 Sep-15 03:45	Material:	Sample Water	Project:	2015/16-1(Wel)	
Receive Dato:	15 Sep-15 10:15	Source:	Bioassay Report			
Sample Age:	35h (14 °C)	Station:	MQ-FII,			

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
01-1274-4920	7d Survival Rate	100	>100	NA	NA	1	Fisher Exact/Bonferron: Holm Test
06-5567-3242	Reproduction	100	>100	NA	47.8%	1	Dunnett Multiple Comparison Test

Point Estimate Summary

Analysis (D	Endpoint	Level	%	95% LCL	95% UCL	ΤU	Metitod
07-0056-7579	7d Survival Rate	EC5	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)
		EC10	>100	N/A	N/A	<1	
		EC15	>100	N/A	N/A	<1	
		EC20	>100	N/A	N/A	<1	
		EC25	>100	N/A	N/A	<1	
		EÇ40	>100	N/A	N/A	≤1	
		EC\$0	>100	N/A	N/A	<1	
01-6763-2918	Reproduction	IC5	>100	N/A	N/A	<1	Linear Interpolation (ICPIN)
		1010	>100	N/A	N/A	<1	
		IC15	>100	N/A	N/A	<1	
		IC20	>100	N/A	N/A	<1	
		IC25	>100	N/A	N/A	<1	
		IC40	>100	N/A	N/A	<1	
		IC50	>100	N/A	N/A	<1	

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overtap	Doctsion
01-1274-4920	7d Survival Rate	Control Rosp	0.9	0.8 - NL	Yes	Passes Acceptability Criteria
07-0056-7579	7d Survival Rate	Control Resp	0.9	0.8 - NL	Yes	Passes Acceptability Criteria
01-6763-2918	Reproduction	Control Resp	15.8	15 - NL	Yes	Passes Acceptability Criteria
06-5567-3242	Reproduction	Control Resp	15.8	15 - NL	Yes	Passes Acceptability Criteria
06-5567-3242	Reproduction	PMSD	0.4778	0.13 - 0.47	Yes	Abovo Acceptability Criteria

7d Survival Rate Summary

Ç-%	Control Type	Count	Mean	95% LCL	95% UCL		Max	Std Err	Std Dev	CV%	%Effect
0	Negațive Control	10	0.9	0.6738	1	0	í	0.1	0.3162	35,14%	0.0%
6 25		10	0.9	0. 67 38	1	0	1	0.1	0.3162	35.14%	0.0%
12.5		10	1	i	1	1	í	0	Ð	0.0%	-11 11%
25		10	1	í	1	1	1	0	0	0.0%	-11 11%
50		10	1	í	1	1	1	0	0	0.0%	-11 11%
100		10	1	i	1	t	1	0	0	0.0%	-11.11%

Reproduction Summary

C-%	Control Type		Меап	95% ECL	95% UUL	Min	Max	Stor Ett	Sto Dev	しりろ	γ ₂ Επεστ
D	Negative Control	10	15.8	9.584	22.02	o ·	32	2,746	A.69	55.0%	0.0%
6.25		1D	17.1	12.13	22.07	0	26	2,198	6.951	40.65%	-8.23%
12.5		10	26.1	20.72	31.48	9	37	2.378	7.52	28.81%	-65.19%
25		10	25.5	20.73	30.27	15	39	2.11	6.671	26 16%	-61.39%
50		10	25.4	20.85	29.95	15	39	2.012	5.3 63	25.05%	-60 76%
100		10	27.7	22.12	33.28	13	36	2.458	7.804	28 17%	-75 32%

CETIS Summary Report

Report Date:

10 Nov-15 10:04 (p.2 of 2)

Test Code:

VCF0915.127cer | 01-2535-0414

Ceriodaphnia 7-d Sur	vival and Rei	production Test
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Aquatic Bloassay & Consulting Labs, Inc.

7d Survival	Rate Detail										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	1	1	1	ż	1	h .	۵	1	1	1
6.25		1	0	1	1	1	í	1	1	1	1
12.5		1	1	1	1	1	1	1	1	1	1
25		1	1	í	1	1	i i	1	1	1	1
50		1	1	í	1	1	1	1	1	1	1
100		1	1	í	1	1	1	1	1	1	1

Reproduction Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	32	16	13	18	13	10	0	23	11	22
6.25		20	0	13	16	18	20	19	26	28	17
12.5		29	28	30	23	9	31	37	28	21	22
25		32	24	23	20	23	29	39	27	23	15
50		30	25	25	23	15	28	24	23	21	31
100		36	33	32	23	21	31	34	34	20	13

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rop 10
0	Negative Confroi	1/1	1/1	1/3	1/1	1/1	971	0/1	1/1	1/1	1/1
5.25		1/1	0/1	1/1	1/1	1/1	9/1	1/1	1/1	1/1	4/1
12.5		1/1	1/1	1/1	1/1	1/1	9/1	1/1	1/1	1/1	1/1
25		1/1	1/1	1/1	1/1	171	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/4	1/1	171	1/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	171	1/1	1/1	1/1	1/1	1/1

Report Date:

10 Nov-15 10:04 (p 1 of 2)

Test Code:

VCF0915.127cer | 01-2535-0414

Ceriodaphnia	7-d Survival and	d Repro	duction Test	t			Aquatic	: Bioassay &	& Consulting Labs, Inc					
Analysis (D: Analyzed:	06-5567-3242 10 Nov-15 9:56		•	eproduction arametric-Cor	ntrol vs Tres	itnienis		IS Versio dal Rosul		1.8.7				
Batch (D)	00-8356-1573	1	Test Type: R	eproduction-S	Survival (7d)		Anal	lyşt:						
Start Date:	16 Sep-15 14:3			PA/821/R-02-			Dilu		aboratory Wal	ter				
Ending Date:	23 Sep-15 15:3			eriodaphnia d			Brin		ot Applicable					
Duration:	7d 1h		•	quatic Biosyst			Age		.,					
Sample ID:	17-0139-8605	(Cada: V	CF0915.127c	:		Clie	nt: V	CWPD					
Sample Date:	15 Sep-15 03 4	5 f	Material: S	ample Water			Proj	ect: 20	015/16 1(Wet)				
Receive Date:	15 Sep-15 10 1.	5 5	Source: B	ioassay Ropo	ī1									
Sample Age:	35ħ (14 °C)	:		10-11L										
Data Transfor	ш	Zeta	Alt Hyp	Trials	Sead		PMSD	NOEL	LOEL	TOEL	ΤÜ			
Untransformed		NA	C>T	NA	AM		47.8%	100	>100	NΑ	í			
Dunnett Multi,	ple Comparison	Test												
Control	vs C-%		Test Sta	t Critical	MSD DE	P-Value	P-Type	Decisio	n(a:5%)					
Negative Cords	rol 6.25		-0 3942	2 289	7 549 18	0 9246	ÇÐF	Non-Sig	nificant Effec	:L				
	12.5		3 123	2.289	7 549 18	1,0000	CDF	Non-Sig	nificant Effec	:L				
	25		-2 941	2,289	7 549 18	1 0000	COF	Non-Sig	gnificant Effec	d .				
	50		-2 911	2.289	7,549 18	1 0000	CDF	Non-Sig	grafficant Effec	:I				
	100		-3.608	2.289	7.549 18	1.0000	CDF	Non Sig	gnificant Effec	t				
Test Acceptat	ollity Criteria						· ··· ·							
Attribute	Test Stat	TAC L	imils	Overlap	Decision									
Control Resp	15.8	15 - NO	L	Yes	Passes A	cceptability	Criteria							
PMSD	0.4778	0.13 -	0.47	Yes	Above Ac	ceptability (Criteria							
ANOVA Table														
Source	Sum Squa	res	Mean S	quare	DF	F Stat	P-Value	Decisio	on(a:5%)					
Between	1303 333		280.666	7	5	4.794	0.0011	Signific	ant Effect	_				
Error	2936 4		54.3777	8	54									
Total	4239 733				59									
Distributional	Tests													
Attribute	Test			Test Stat	Critical	P-Value	Decision	(α:1%)						
Variances	Bartlett Ed	quality o	f Variance	1.145	16.09	0.9500	Equal Val	riances						
Variances		-	ality of Varian		3.377	0.9145	Equal Val							
Variances	L evane E	quality o	of Variance	0.4647	3.377	8008.0	Equal Val	riances						
Distribution	Shapiro-V	Vilk W N	losmality	0.9736	0.9459	0.2177	Normal D	stribution						
Distribulion	Kolmogar	ov-Smir	nov D	0.07908	0.1331	0.4303	Normal D	:s1ribution						
Distribulion	D'Agostin	p Skewi	ness	1,182	2 576	0.2373	Normal D	istribution						
Distribution	D'Agostin	o Kurtos	315	1.016	2 576	0 3095	Normal D							
Distribution	D'Agostin	o-P e ars	on K2 Omniði		9.21	0.2968	Normal D							
Distribution	Anderson	Oarling	A2 Normality	0.5128	3 878	0.1978	Normal D	istribution						
Reproduction	Summary			·										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect			
0	Negative Control	10	15.8	9,584	2 2.02	14 5	0	32	2.748	55.0%	0.0%			
6.25		10	17.1	12 13	22.07	18.5	0	56	2 198	40 65%	-8.23%			
12.5		10	25.1	20.72	31.48	28	9	37	2 378	28 81%	-65.19%			
20		10	75.5	70.72	20.97	726	16	20	2.14	26 1600	.61 209/			

2 11

2.012

2.468

26 16% -61.39%

25 05% -60.76%

28 17% -75 32%

39

39

36

30.27

29.95

33.28

23.5

24.5

31.5

15

16

13

10

10

10

25.5

25.4

27.7

20.73

20.85

22 12

25

50

100

Report Date:

10 Nov-15 10 04 (p 2 of 2)

Tost Code:

VCF0915 127cer | 01-2535-0414

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

06-5567-3242 10 Nov-15 9:56 Endpoint: Reproduction Analysis:

Parametric-Control vs Treatments

CETIS Version: Official Results:

CETISv1.8.7

Yes

Reproduction Datail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rop 7	Rep 8	Rop 9	Rop 10
0	Negative Control	32	16	13	18	13	10	0	23	11	22
6 25		20	0	13	16	18	20	19	26	22	17
12.5		29	28	30	26	9	31	37	28	21	22
25		32	24	23	20	23	29	39	27	23	15
50		39	25	25	23	15	28	24	23	21	31
100		38	33	32	23	21	31	34	34	20	13

Report Date:

10 Nov-15 10 04 (p 1 of 4)

Test Code:

VCF0915.127cer | 01-2535-0414

										70,0010		
Ceriod	aphnia 7	-d Surviva) and	Reprodu	tion Te	ise				Aquatic E	Bioassay & 9	Consulting	Labs, In
Analys	is (D: (07-0056-7579	End	point:	7d Survival Rai	e		CEY	S Version:	CETISv1	.8.7	
Analyz		10 Nov-15 9:58		lysis:	Linear Interpola		ı		ial Results			
Batch I		00-8356-1573			Reproduction-S			Anal	-			
Start D		16 Sep-15 14:30		(00001)	EPA/821/R-02-			Dilu		oratory Wate	GL	
_		23 Sep-15 15:30	-	cles:	Genodaphoia d			Brin		Applicable		
Duratio		7d 1ክ		rce:	Aquatic Biosyst			Age			_	
Sample Sample		17-0139-8605 15 Sap-15 03:45	Cod Mat	e: arial:	VCF0915.127c Sample Water			Cilo: Proj		WPD 5/16-1(Wel)		
-		15 Sup-15 10:16		rce:	Bioassay Repor	rt		,	v .			
		35h (14 °C)		ion:	MO-FIL							
Linear	Interpola	ation Options										
X Trans		Y Transform	See	d	Resamples	Exp 95%	CL Mei	thod	_			
Linear		1.inear	0		280	Yes	Two	s-Point Interp	olation			
Test A	ceptabil	lity Criteria										
Attribu		Test Stat	TAC Limi	ls	Overlap	Decision						
Centrol	Resp	0.9	0.8 - NL		Yes	Passes A	cceptability	y Criteria				
Point E	stimates											
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL						
ECS	> 100	N/A	N/A N/A	<1	NA NA	NA NA						
EC10 EC15	>100 >100	N/A N/A	N/A N/A	<1 <1	NA NA	NA NA						
EC20	>100	N/A	N/A	۲۱ ۲1	NA NA	NA						
EC25	>100	N/A	N/A	<1	NA	NA.						
EC40	>100	N/A	N/A	<1	NΛ	NA						
EC50	>100	N/A	N/A	≺1	NA	NA						
7d Sur	vival Rat	e Summary				Calcu	lated Vari	iate(A/B)	_			
C-%	Co	ntrol Type	Count	Mean	Min	Max	Std Ear	Std Oev	CV%	%Effect	Α	₽
0	Ne:	gative Control	10	0.9	0	1	0 1	0.3162	35.14%	0.0%	9	10
5 25			10	0.9	0	1	0 1	0.3162	35.14%	0.0%	9	10
12.5			10	1	1	1	0	0	0.0%	-11.11%	10	10
25			10	1	1	1	0	0	0.0%	-11.11%	10	10
50 100			10	1	1	1	0	0	0.0%	-11.11%	10	10
100			10	1	1	1	0	0	0.0%	-11.11% -	10 .	10
	vival Rati _											
G-% 0		ntrol Type	Rop 1	Rép 2		Rop 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 1
u 5.25	IA6	gative Control	1	1 0	1	1	1	1	1	1	1	1
12.5			1	1	1	1	1	1	1	1	1	1
12.5 2 5			1	í	1	1	1	1	1	1	1	1
25 50			1	1	1	1	1	1	1	1	1	1
100			1	÷	1	1	1	1	1	1	1	1
	vival Rat	e Binomla's			-			 -	. —			
		Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 1
C-%		legative Control		1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
	N			0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0	N		1/1	u .								
0-% 0 5.25 12.5	N		1/1 1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
0	N			1/1	1/1 1/1	1/1 1/1	1/1 1/1	1/1 1/5	1/6 1/6	1/1	1/1 1/1	1/1
0 5.25 12.5	И		1/1									

Report Date:

10 Nov-15 10:04 (p 2 of 4)

Test Code:

VCF0915.127cer | B1-2535-0414

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID:

07-0056-7579

Endpoint: 76 Survival Rate

CETIS Version:

CETISv1.8 7

Analyzed:

10 Nov-15 9:56

Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

Report Date:

10 Nov-15 10:04 (p.3 of 4)

Test Codo:

VCF0915 127cer | 01-2535-0414

Ceriod	aphnia	7-d Survival an	d Réproductio	n T o s	i.					Aquatic	Bloassay &	Consulting	Labs, Inc		
Analys Analyz		01-6763-2918 10 Nov-15 9:56	•		Reproduction .inear Interpola	tion (ICPIN	J)			S Version lal Result		.8.7			
Batch I	D:	00-8356-1573	Test Ty	pe: F	Reproduction-S	urvival (7d))		Analy	/st:					
Start D	ato:	16 Sep-15 14.3	0 Protoc	ol: E	EPA/821/R-02-(013 (2002)		Oiluont: Laboratory Water							
Ending	Date:	23 Sep-15 15.3	O Specie		Ceriodaphola di	-			B rino		t Applicable				
Duratk		7d 1h	Source	s /	Aquatic Biosyst	ems, CO			Age:						
ample	e ID:	17-0139-8605	Code:	١	/CF0915.127c	•			Clien	t: VO	CWPD				
Sample	e Date:	15 Sep-15 03:4	5 Majeris	d: S	Sample Water				Proje	et: 20	15/16-1(Wel)				
Receiv	e Date:	15 Sap-15 10:1	5 Source	: E	Bioassay Repor	rt									
Sample	e Age:	35h (14 °C)	Station	: !	MO-FIL										
Inear	Interpo	lation Options													
X Trans	sform	Y Transform			Rosamptos	Ехр 95%	& CL	Method							
Linear		t inear	556318	2	280	Yes		Two-Poin	t Interpo	lation					
Test A	ceptab	llity Criteria													
Attribu	le	Test Stat	TAC Limits		Overlap	Decision	1								
Control	Rosp	15.8	15 - NL		Yas	Passos A	kocepta	bildy Crite	ria						
oint E	stimate	16													
_evel	%	95% LCL	95% UCL T	U	95% LCL	95% UCL	_								
Ç5	>100		N/A	1	NA	NA									
C10	>100	N/A	N/A <	1	NA	NA									
C15	>100	N/A	N/A <	1	NA	NΑ									
CZ0	>100	N/A	N/A <	1	NA	NA									
C25	>109	N/A	N/A <	1	NA	NA									
C40	>100	N/A	N/A <		NA	NA									
IC50	>100	N/A	N/A <	1	NA	NA									
Зергос	fuction	Summary				Ca	loutate	d Variate	ı						
5-%		ontrol Type		é an	Min	Max	Std		d Doy_	CV%	%Effect				
)	N	egative Control		5.8	0	32	2 74			55.0%	0.0%				
5.25				7.1	0	26	2.19		951	40 65%	48 23%				
2.5				8.1	9	37	2.37			28 81%	-65.19%				
25				5.5	15	39	2 11		571	26 16%	-61.39%				
50				5.4	15	39 36	2.01		363 204	25 05%	-80.76% -25.33%				
100		<u>.</u>	10 2	7.7	13	36	2.46			28 17%	-7 5 .32%				
	luction		D4 -	8	D- 4	D 1	_		- 4	D-: -	n- •	n. n	eta a de		
C-% D		antrol Type	<u> </u>	вр 2	Rep 3	Rep 4	Rep		p 6	Rep 7	Rep 8	Rep 9	Rep 10		
_	N	egative Control	32 10		13	18	13	10		0	23	11	22		
5.25			20 0		13	16	18	20		19	26	22	17		
12.5			29 2		30	26	9	31		37	28	21	22		
25			32 2	4	23	20	23	29		39	27	23	15		

Report Date:

10 Nov-15 10:04 (p 4 of 4)

Test Code:

VCII0915.127cer | 01-2535-0414

Corlodaphnia 7-d Survival and Reproduction Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

01-6763-2918 10 Nov-15 9:56

Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Roport Date:

10 Nov-15 10:04 (p 1 of 3)

Tost Code:

VCF0915.127cer | 01-2535-0414

Geriodaphnia	7-d Survival and	Rep	raduction T	est					Aquatic	Bloassay &	Consulting	j Labs, Inc			
Analysis ID: Analyzed:	01-1274-4920 10 Nov-1 5 9 :56		Endpoint: Analysis:		Survival Rai P 2x 2 Contin	te ngency Tabl	as		S Version lai Result		1 8.7				
Batch ID:	00-8356-1573		Test Type:	Rec	oraduction-S	Survival (7d)		Anal	vet:						
Start Date:	16 Sep-15 14:30	נ	Protocol:	-		013 (2002)			Diffuent: Laboratory Water						
Ending Date:	23 Sep-15 15:30		Species:		iodaphnia d				Brine: Not Applicable						
Duration:	7d 1h		Source:		uatro Biosys			Age:							
Sample ID:	17-0139-8605		Code:		F0915 127c			Clier		 :WPD					
•	15 Sep-15 03:49	4	Material:		mpte Water	•		Proje	•	.v., 6 15/16-1(Wei	IS.				
•	15 Sep-15 10:15		Source:		пре ту лет assay Repo	art.		Finis	, LE. 20	128 10-104	.,				
Receive Date. Sample Age:	-	,	Station:		аваау гусµо I-F ,	"1									
Jata Transfor		Zeta	AR H		Tria s	Seed			NOEL	LOEL	TOEL	TU			
Jatransformed	í		C > T	•	NA	NA			100	>100	NA	1			
Fisher Exact/6	Bonferroni-Halm	Test										-			
Control	vs C-%		Test	Stat	P-Value	Р-Туре	Decision	(a:5%)							
Negative Conti	ro! 5.25		0 763	2	1.0000	Exact	Non-Sign	ificant Effect							
	12.5		1		1.0000	Exact	Non-Sign	ificant Effect							
	25		1		1.0000	Exact	Non-Sign	ificant Effect							
	50		1		1.0000	Exact	Non-Sign	ificant Effect							
	100		1		1.0000	Exact	Non-Sign	nficant Effect							
Test Acceptat	oility Griteria														
Attribute	Test Stat	TAC	Limits		Overlap	Decision									
Control Resp	0.9	0.8 -		_	Yes		eceptability	Critena							
Data Summar															
C-%	z Control Type	NR	R		NR + R	Prop NR	Prop R	%Effect							
)	Negative Contr	9	1		10	0.9	0.1	0.0%							
5,25	neganie sont	9	1		10	0.9	0.1	0.0%							
125		10	ó		10	1	0	-11.11%							
25		10	ő		10	1	ō	-11.11%							
50		10	ő		10	1	o o	-11.11%							
100		10	ő		10	i	ő	-11 11%							
7d Survival R	oto Dotali						<u> </u>								
0-% 0-%	Control Type	Rep	1 Rep	,	Rep 3	Rep 4	Rep S	Rap 6	Rep 7	Rep B	Rop 9	Rep 10			
)	Negative Control	<u> </u>	1		1	1	1	1	0	1	1	1			
3 25	<u>.</u>	1	0		1	1	1	1	1	1	1	1			
125		1	1		1	1	1	1	1	1	1	1			
?5		1	1		•	1	1	1	1	1	1	1			
:0 50		1	•		1	1	1	1	1	1	1	1			
20 100		1	1		1	1	1	i	1	1	1	1			
	ate Binomials														
0-%	Control Type	Rep	1 Rep:	2	Rвр 3	Rep 4	Rap 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10			
0	Negative Control		1/1		1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1			
•	Megawas Conttol	17.1	• • • • • • • • • • • • • • • • • • • •			11.1	17.1	***	0/1	471	12.0	•			

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Report Date:

10 Nov-15 10.04 (p 2 of 3)

Test Code:

VCF0915.127cer | 01-2535-0414

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

01-1274-4920 10 Nov-15 9:56

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

Official Rosults: Yes

CETIŞv1.8.7

Report Date:

10 Nov-15 10:04 (p.3 of 3)

Tast Code:

VCF0915.127cer | 01-2535-0414

Ceriodaphnia 7-d Survival and Reproduction Tost

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

01-1274-4920 10 Nov-15 9:56

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CE1(Sv1.8.7) Official Results: Yes

Report Date:

10 Nov-15 10:04 (p 1 of 2)

Yest Code:

VCF0915 127cer i 01-2535-0414

								rst Codo:	ACE (91	5 12/cer (0	11-2535-0414
Cariodaphnia	7-d Survival ar	d Repr	oduction T	est			Aquatic	Bloassay &	Consulting	j Labs, Inc.	
Batch ID: Start Date: Ending Date: Duration:	00-8356-1573 16 Sep-15 14:3 23 Sep-15 15:3 7d 1h		Test Type: Protocol: Species: Source:	Reproduction- EPA/821/R-02 Genodaphnia o Aquatro Biosys	-013 (2002) Jubia	•	D:		iboratory Wa ot Applicable		
Sample ID:	17-0139-8605		Code:	VCF0915.127			 CI	lient: VC	 CWPD		
•	15 Sep-15 03 4	15	Material:	Sampte Water					15/16-1(Wel	b	
•	: 15 Sep-15 10.1		Source:	Bioassay Repo				•		•	
Sample Age:	35h (14°C)		Station:	MO-FIL							
Alkalinity (Car	CO3)-mg/L										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dav	CV%	QA Count
Ó	Negative Contr	8	63.8B	61.71	66.04	62	67	0.9149	2.588	4.05%	D.
100		8	37	37	37	37	37	0	0	0.0%	D.
Ovorall		16	50 44			37	67				O (0%)
Conductivity-	µmhos										-
C-%	Control Type	Count	Moan	95% LCL	95% UCL	Min	Max	Std Em	Std Dev	CV%	QA Count
0	Negative Contr	8	336 1	326.9	345.4	326	358	3 903	11.04	3.28%	O .
6.25		8	321	318.2	323.8	318	328	1 18	3.338	1.04%	Û
12.5		8	314.6	311.6	317.7	310	320	1 295	3.662	1.16%	O .
25		8	297.4	295.8	299	295	300	0.6797	1.923	0.65%	0
50		8	254.1	262.4	265.9	262	268	0.7425	2.1	0.8%	0
100		8	198.3	195	200.5	195	202	0.9402	2.659	1.34%	0
Overall		48	288.6			195	358				0 (0%)
Dissolved Ox	ygon-mg/L										
C-%	Control Type	Count	Меал	95% LCL	95% UCL	Min	Max	Std Err	\$td Dav	CV%	QA Caunt
0	Negative Confr	8	7.625	7.091	8.159	6.5	8.7	0.2258	0.6386	6.38%	G
6.25		8	6 963	6 406	7 519	5.7	7.8	0.2352	0.6653	9.56%	0
12.5		8	6 788	6 073	7 502	5	7.7	0.302	0.8543	12 59%	D C
25		8	6.45	5.615	7 285	4.4	7.5	0.353	0.9986	15.48%	G.
50		8	6.113	5.272	5.953	4	7	0 3553	1.005	16.44%	0
100		8	5.563	4.781	6.344	4	6.9	0 3306	0.9349	16 81%	0
Overall		48	6.583			4	8.7				0 (0%)
Hardness (Ca	CO3)-nig/L										
C-%	Control Type	Count		95% LCL	95% UCL		Max	Std Err	Std Dav	CV%	QA Count
0	Negative Confr		83 13	81.83	B4.42	82	85	0.5489	1.553	1.87%	D .
100		8	65	65	65	65	65	0	0	0.0%	0
Overall		16	74.06			65	85				0 (0%)
pH-Units											
C-%	Control Type	Count		95% LCL			Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	8.113	7.968	8 257	7.8	8.3	0.06105	0.1727	2.13%	0
6.25		8	7.475	7.179	7.771	6.9	8	0 125	0.3536	4,73%	0
12.5		8	7.413	7.132	7.593	5.9	7.9	0 1187	0.3357	4.53%	0
25		0	7.388	7.133	7.642	6.9	7.8	0.1075	0.3044	4.12%	0
50		8	7.338	7.085	7.59	6.8	7.7	0.1058	0.3021	4.12%	0
100		8	7.25	7.001	7.499	6.7	7.6	0.1052	0.2976	4.11%	0

0 (0%)

48

7.496

Overall

6.7

8.3

Ceriodaphnia 7-d Survival and Reproduction Test

Report Date:

10 Nov-15 10:04 (p.2 of .2)

Test Code:

VCF0915.127cer | 01-2535-0414

Aquatic Bioassay & Consulting Labs, Inc.

Temperatu	re-°C										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	\$td Dav	CV%	QA Cour
0	Negative Contr	8	24.89	24.43	25.35	24.3	25.7	0.195	0.5515	2.22%	0
6.25		8	24.66	24.3	25 03	24.3	25.6	0.1546	0.4373	1.77%	0
12.5		8	24.61	24.29	24.93	24 3	25.3	0.1356	0.3834	1.56%	0
25		8	24.48	24.19	24 76	24 1	24.9	0.4192	0.337	1.38%	0
50		8	24.46	24.21	24 71	24	248	0.1051	0.2973	1.22%	0
100 Ovorall		8 48	24 49 24 6	24 14	24 83	- 24 - 24	<u>25 2</u>	0.1469	0.4155	1.7%	<u>0</u> 0 (0%)
		40	24.0			6 4	40 (0 (0%)
	0a0O3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	62	62	62	62	62	67	67	67		
100		37	37	37	37	3/	37	37	37		
Conductivi											
C-%	Cantrol Type	1	2	3	4	6	6	7	8		
0	Negative Confr	358	326	335	329	335	332	327	347		
6 25		319	320	320	322	328	318	318	323		
12.5		312	314	314	315	320	310	312	320		
25		295	297	298	299	300	296	295	299		
50		262	263	263	266	268	264	262	265		
100		202	195	196	199	195	199	199	201		
Dissolved (Oxygen-mg/L										
G-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	7.5	7.9	7.1	7.8	7.8	87	77	6.5		
6.25		7.3	7.8	6.5	6.9	7.3	6.7	7.5	5.7		
12.5		7.6	7.7	6.3	6.8	7.2	68	69	5		
25		7.2	7.5	5.7	6.3	7	6.9	6.6	4.4		
50		6.8	6.7	5.4	6.2	7	6.8	6	4		
100		5.3	5.5	4.6	6.1	6.9	6.3	5.B	4		
Hardness (CaCO3}-mg/L										
C-%	Control Type	1	Z	3	4	5	В	7	8		
0	Negative Contr	82	62	82	82	82	85	85	85		
100	*	65	65	65	65	65	65	65	65		
pH-Units											
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	8.2	7.9	82	8.3	8.2	8.2	81	7.8		
6.25		7.6	6.9	7.4	7.8	8	7.5	7.5	7.1		
12.5		7.6	6.9	7.4	7.7	7.9	7.4	7.4	7		
25		7.6	6.9	7.4	7.6	7.8	7.4	7.4	7		
50		7.6	6.5	7.3	7.5	7.7	7.4	7.4	7		
100		7.5	6.7	7.1	7.4	7.6	7.4	7.3	7		
Temperatu	re-°C										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	25 1	24 7	24.5	24 5	25.7	25.7	24,6	24 3		
6.25		24.9	24.7	24.3	24.4	25.6	247	24.4	24.3		
12.5		24.9	24.9	24.3	24.3	24.6	25.3	24.3	24.3		
25		24.9	24.6	24.1	24.1	24.8	248	24.2	24.3		
50		24.8	24.7	24.3	24	24.7	24.7	24.2	24.3		
100		25.2	25	24.5	24	24.2	24.5	24.2	24.3		



November 12, 2015

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 Effhients and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013. Results were as follows:

CLIENT:

Ventura County Flood Control

SAMPLE LD.:

MO-VEN

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.132

CHRONIC CERIODAPHNIA SURVIVAL & REPRODUCTION BIOASSAY

SURVIVAL

NOEC = 100.00 %TUe = 1.00

IC25 = >100.00 %

IC50 - >100.00 %

REPRODUCTION

NOEC = 100.00 %

TUe - 1.00

IC25: >100.00 %

IC50 = >100.00 %

Yours/ye/y truly.

_{වද} නිcott Johnson

Laboratory Director

CETIS Summary Report

Report Date: 10 Nov-15 10:04 (g 1 of 2)

Test Code: VCF0915 132cer | 05-8792-8790

Aquatic Bloassay & Consulting Labs, Inc.

Ceriodaphnia	7-d Survival and	Reproduction	Test					Agua	atic Bloass	ау & (Consulting	Cabs, Inc.
Batch (D:	08-7640-4467	Test Typ	e: Re	production-S	urvival (7d)		·· · ·	Analyst:				
Start Date:	16 Sep-15 14:32			A/821/R-02-	013 (2002)			Diluent:	Laborator	y Wat	er	
Ending Date:	23 Sep-15 15:40) Species		riodaphnia d				Brine:	Not Applic	ablo		
Duration:	7d 1h	Source:		ualic Biosysl				Age:				
Sample ID:	20-3192-2550	Code:	VO	F 0915.132c				Client:	VCWPD			
•	15 Sep-15 03:10) Material	: Sa	mple Water				Project:	2015/16-1	(Wei)	,	
	15 Sep-15 10:16			ossay Repo	ď							
Sample Age:	•	Station:		D-VEN								
Comparison S	Summary											
Analysis ID	Endpoint	NC	EL	LOEL	TOEL	PMSD	ΤŲ	Meth	had			
08-8888-8769	7d Survival Rale	101	0	>100	NA	NA	1	Fish	вт Ехась/Во	nterro	m-Holm To:	s1
	Reproduction	10		>100	NA	70 8%	1	Stee	1 Many-One	Rank	k Sum Test	
Point Estimat												
Analysis ID	Endpoint	l n	vel	%	95% LCL	95% UCL	ťυ	TU Method				
30-8068-3921	7d Survival Rate			>100	N/A	N/A	<1	·	ar Interpola	tion di	CPIN)	
	. a darrival Male	EC		>100	N/A	N/A	<1	Line	ar areo pere	41	-,,	
		EC		>100	N/A	N/A	<1					
			20	>100	N/A	N/A	<1					
		F,C		>100	N/A	N/A	< i					
			40	>100	N/A	N/A	<1					
			50	>100	N/A	N/A	<1					
44 6000 0642	the against to a						<1	Line	Se lakarsala	line (l	COIN	
1 8-0 695-2 8 47	Reproduction	108		>100	N/A	N/A		t'iué.	ar Interpola	iion (i	CMINI	
		IC*	-	>100	N/A	N/A	<1					
		101		>100	N/A	N/A	<1					
		IC:		>100	N/A	N/A	<1					
		IC		>100	N/A	N/A	<1					
		IC4		>100	N/A	N/A	<1					
		ICS		>100	N/A	N/A	<1					
Test Acceptat	•											
Analysis ID	Endpoint		rlbute			TAC Limi	ts	Ove		ision		
00-8068-3921	76 Survival Rate		ntra¶ R		0.9	0.8 - NL		Yes			cceptability	
08-8888-8269	7d Survival Rate	Ca	ntrai R	.esp	0.9	0.B - NL		Yes			cceptability	
12-4734-4404	Reproduction	Co	ntrai R	esp	15.8	15 - NL		Yes	Pas	ses A	cceptability	Criteria
18-0895-2847	Reproduction	Co	otros R	езр	15.8	15 - NI.		Yes			oceptability	
12-4734-4404	Reproduction	PW	ISD		0.7079	0.13 - 0.47	' 	Yes -	Abo	ve Ac	ceptability C	riteria
7d Survival R	ate Summary											
C-%	Control Type		an	95% LCL			Max			Dev	CV%	%Effect
0	Negative Control		ſ	0 6738	1	0	1	0.1	0.31	102	35.14% 0.0%	0.0%
\$. 2 5		10 1		1	1	1	1	0	0	en	0.0%	-11.11%
12.5		10 0.9	•	0 6738	1	0	1	0.1	0.31	162	35.14%	0.0%
25		10 1		1	1	1	1	0	0		0.0%	-11.11%
50		10 0.9	•	0.6738	1	0	1	0.1	0.31	162	35.14%	0.0%
100		10 1			1	1	_1		0	- —	0.0%	-11.11%
Reproduction	•							_				
	Control Type	Count Me	ап	95% LCL	95% UCL		Max	·		Dev	CV%	%Effec
			D .	9 584	22.02	Ð	32	2.74			55.0%	0.0%
	Negalive Control							4	e 6.6-			1 4 4 4 7
5.25	Negalive Control	10 22.		15.88	28.72	1	31	2.83			40 22%	
0 5.25 12.5	Negalive Control	10 22. 10 25.	.3 .7	15.88 15.62	35.78	1 0	41	4.45	5 14.0	19	54.61%	-62.66%
0 6.25 12.5 25	Negalive Control	10 22. 10 25. 10 26.	3 7 7	15.88 15.62 18.41	35.78 34.99		43 42	4.45 3.66	5 14.0 7 11.0)9 5	54.81% 43.4 3 %	-62,66% -68,99%
C-% 0 6.25 12.5 25	Negalive Control	10 22. 10 25.	3 7 7	15.88 15.62	35.78	0	41	4.45	5 14.0 7 11.0)9 5	54.61%	-41,14% -62,66% -68,99% -70,25%

CETIS Summary Report

Report Date:

10 Nov-15 10:04 (p.2 of 2)

Test Codo: VCF0915 132cer] 05-8792-8790

Aquatic Bloassay & Consulting Labs, Inc.

7d Survival Rate Detail												
Control Type	Rop 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rop 7	Rep 8	Rep 9	Rep 10		
Negative Control	1	1	1	1	1	1	0	1	1	1		
	1	1	1	1	1	1	1	1	1	1		
	1	1	1	1	1	1	1	1	0	1		
	1	1	1	1	1	1	1	1	1	1		
	1	1	1	1	1	0	1	1	1	1		
	1	1	1	1	1	1	1	1	1	1		
	Control Type		Control Type Rop 1 Rep 2	Control Type Rop 1 Rep 2 Rep 3	Control Type Rop 1 Rep 2 Rep 3 Rep 4	Control Type Rop 1 Rep 2 Rep 3 Rep 4 Rep 5	Control Type Rop 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Negative Control 1 1	Control Type Rop 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rop 7 Negative Control 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Control Type Rop 1 Rep 2 Rep 3 Rep 4 Rep 5 Rep 6 Rop 7 Rep 8 Negative Control 1 1 1 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Control Type Rop 1 Rop 2 Rop 3 Rep 4 Rop 5 Rep 6 Rop 7 Rep 8 Rep 9 Negative Control 1 0 1 1 0 1 1 0 1<		

Reproduction (Jotail
----------------	--------

0.%	Control Type	Rep 1	Rep 2	Rep 3	Rap 4	Rep 5	Rop 6	Rep 7	Rep 8	Rep 9	Rep 10
0	Negative Control	32	16	13	18	13	10	0	23	11	2 2
6.25		31	28	28	23	1	25	24	28	13	2 2
12.5		29	23	39	41	2	33	33	26	0	31
25		42	28	38	26	Ð	29	26	29	17	32
50		41	31	37	30	0	9	35	27	27	32
100		43	42	38	26	29	39	40	26	30	20

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep B	Rep 9	Rep 10
0	Negative Control	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1
6 25		1/1	1/1	1/1	1/1	1/1	1/1	371	1/1	1/1	1/1
12.5		1/1	1/1	1/1	1/1	1/\$	1/1	1/1	1/1	0/1	1/1
25		1/1	1/1	1/1	1/1	1/3	1/1	1/1	1/1	1/1	1/1
50		1/1	1/1	1/1	1/1	1/1	0/1	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

Report Date:

Non-Significant Effect

10 Nov-15 10:04 (p.1 of 2)

Test Code:

VCF0915.132cer | 05-8792-8790

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

Analysis ID:	12-4734-4404	Endpoint:	Reproduction	CETIS Version:	CETISVI.87
Analyzed:	10 Nov-15 9:57	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

08-7640-4467 Batch ID: Test Type: Reproduction-Survival (7d) Analyst:

Laboratory Water Start Date: 16 Sep-15 14:32 Protocol: EPA/821/R-02-013 (2002) Oltuent: Ending Date: 23 Sep-15 15:40 Orino: Not Applicable Species: Ceriodaphnia dubia

Duration: Source: Aquatic Biosystems, CO Age:

148

VCWPD Sample ID: 20-3192-2550 Code: VCF0915 132c Client: Sample Date: 15 Sep-15 03.10 Malerial: Sample Water Project: 2015/16-1(Wel)

Receive Date: 15 Sep-15 10.15 Source: Bioassay Report MO-VEN Sample Age: 35h (11.5 °C) Station:

PMSD NOEL LOEL TOEL TU Trials Scod Data Transform Zeta Alt Hyp >100 NΑ 1

70 8% 100 Untransformed NA C > T NA NΑ

75

Steel Many-One Rank Sum Test									
Control v	/5	C-%	Test Stat	Critical	Ties	DF P-Value	е Р-Турс	Docision(o:6%)	
Negative Control		6 25	130	75	3	18 0.9994	Asymp	Non-Significant Effect	
-		12.5	132	75	2	18 0.9997	Asymp	Non-Significant Effect	
		25	136	75	2	18 D.9999	Asymp	Non-Significant Effect	
		50	132	75	2	18 0 9997	Asymn	Non-Significant Effect	

Tost Acceptability Criteria

100

Attribute	Test Stat	TAC Limits	Overlap	Decision
Control Resp	15.8	15 - NL	Yes	Passes Acceptability Criteria
PMSD	0.7079	0.13 - 0.47	Yes	Above Acceptability Criteria

68 1.000D

Asymp

ANOVA Table

Source	Sum Squares	Mean Square	DF	F Stat	2-Value	Decision(a:5%)	
Belween	1677.283	335.4567	5	2.811	0.0251	Significant Effect	
Error	6444 9	119.35	54				
Total	8122 183		59				

Distributional Tests

Attribute	Test	Tost Stat	Critical	P-Value	Declaion(a:1%)
Variances	Bartlett Equality of Variance	4 557	15 09	0.4723	Equal Variances
Variances	Mod Leveno Equality of Variance	0.3148	3.377	0.9020	Equal Variances
Variances	Levene Equality of Variance	0.5356	3.377	0.7484	Equal Variances
Distribution	Shapiro-Wilk W Normality	0.9086	0.9459	0.0003	Non-normal Distribution
Distribution	Kalmagarav-Smirnov D	0.1566	0.1331	0.0009	Non-normal Distribution
Distribution	D'Agostino Skewness	3.104	2.576	0.0019	Non-normal Distribution
Distribution	O'Agostino Kurtosis	1.332	2.576	0.1828	Normal Distribution
Distribution	O'Agostino-Pearson K2 Ontnibus	11.41	9.21	0.0033	Non-normal Distribution
Distribution	Anderson-Darling A2 Normality	1.898	3.878	< 0.0001	Non-normal Distribution

Reproduction Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	MIπ	Max	Std Err	CV%	%Effoct
·o	Negative Control	10	15.8	9.584	22.02	14.5	a	32	2.748	59.0%	0.0%
6 25		10	22.3	15.88	28.72	24.5	1	31	2 836	40.22%	-41.14%
12.5		10	25.7	15.62	35.78	30	0	41	4 455	54 81%	-62 66%
25		10	26.7	18.41	34.99	28.5	0	42	3.667	43.43%	68 99%
50		10	26.9	17.78	36.02	30.5	0	41	4.032	47.4%	-70.25%
100		10	33.3	27.55	39.05	34	20	43	2.543	24,15%	-110.8%

Report Date:

10 Nov-15 10:04 (p 2 of 2)

Test Code:

VCF0915.132cct [05-8792-8790

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

12-4734-4404 Endpoint: Reproduction 10 Nov-15 9:57 Analysis:

Nonparametric-Control vs Treatments

CETIS Version: CETISv1 8 7 Official Resu

ilts:	Yeş

Reproduction Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep B	Rap 9	Rep 10
0	Negative Control	32	16	13	16	13	10	C C	23	11	22
6.2 5		31	28	28	23	1	25	24	28	13	22
12.5		29	23	39	41	2	33	33	26	0	31
25		42	28	38	26	0	29	26	29	17	32
50		41	31	37	30	0	9	35	27	27	32
100		43	42	38	26	29	39	40	26	30	20

Report Date:

10 Nov-15 10:04 (p 1 of 4)

Test Codo:

VCF0915 132cer | 05-8792-8790

ocmoodp	7-d Survival and	i Reproduc	ction Te	25 i					Aqualic	Bloassay & G	Consulting	, Labs, In
Analysis ID:	00-8068 3921	End	point:						i Versio r		.8.7	
Analyzed:	10 Nov-15 9:58	Ana	lysis:	Linear Interpota	tion (ICPIN	}		Offici	al Resulf	s: Y e s		
Batch ID:	08-7640-4467	Teşi	Туре:	Reproduction-S	urvival (7d)			Anaiy	et:			
Start Date:	16 Sep-15 14:33	2 Prof	oçol:	EPA/821/R-02-	013 (2002)			Diluo		boratory Wat	ėt.	
Ending Oate:	-		clas:	Ceriodaphnia di				Brine	: No	it Applicable		
Duration:	7d 1h	Şou	rce:	Aquatic Biosyst	ems, CO			Age:				
Samplo ID:	20-3192-2550	Cod		VCF0915 132c				Cliant		CWPD		
•	15 Sep-15 03:10		orial:	Sample Water				Proje	ct: 20	15/16-1(Wel)		
	15 Sep-15 10:19		rce:	Bigassay Repor	rŧ							
	35h (11,5 °C)	Stat	ion;	MO-VEN								
Linear Interpo	lation Options											
X Transform	Y Transform		d	Resamples	Exp 95%		lothod	1-1	1-11			
Linear	Linear	0		280	Yes	'	we Point		-	- —		
Fost Acceptab	-											
Attribute	Test Stat		5	Overlap	Decision							
Control Resp	09	0.8 - NL		Yes	Passes A	cceptabi	ility Critéri 	a				
Point Estimate	2 5											
Lovel %	95% LCL	95% UCL	TU	95% LCL	95% UCL							
EC5 >100	N/A	N/A	<1	NA	NA		-					
EC10 >100	N/A	N/A	<1	NA.	NA							
EC15 >100	N/A	N/A	<1	NA.	NA NA							
EC20 >100	N/A	N/A	<1	NA.	NA NA							
EC25 >100	N/A	N/A	<1	NA NA	NA.							
EC40 >100 EC50 >100	N/A N/A	N/A N/A	-1 -1	NA NA	AM AM							
		1907		NA.								
7d Survival Ra 	_						ariate(A/E		A1102			_
	ontrol Type egalive Control	Count 10	Mean 0.9	: Min	Max 1	Std Er	rr Sta 0.31	Dov_	CV% 35.14%	%Effect 0.0%	9 9	B 10
5.25	eganve Connot	10	ر.ق 1	1	1	0.1	0.31	02	0.0%	-11,11%	10	10
12 5		10	0.9	á	1	0.1	0.31	62	35.14%	0.0%	9	10
25		10	1	1	1	Q. 1	0.51	ur.	0.0%	-11,11%	10	10
50		10	0.9	á	1	0.1	0.31	82	35.14%	0.0%	9	10
100		10	1	1	1	0	0.51	uz	0.0%	-\$1.11%	10	10
d Survival Ra	tt Dab-II		<u> </u>		- <u>-</u> :	Ť						
	ontrol Type	Dan 4	Rep 2	Rep 3	Rep 4	Rep 5	Rep		Rep 7	Rep 8	Rop 9	Rop 1
	egative Control	Rep 1	1	i Veh 2	1	1	1	•	0	1	1	1
, iv 3.25	Address Admindi	1	ť	:	1	1	1		1	1	1	1
12.5		1	1	i	1	1	1		1	1	0	1
12.3 25		1	1	1	1	1	1		1	1	1	1
50		1	1	1	1	1	o.		1	1	1	1
100		1	1	1	1	1	1		i	1	ſ	1
		<u>.</u>				•	<u>.</u>		-	•	·	
	nto Binomials	D 1	D 1	n = 4	D 1	n			Dan 7	On:: 0	Bar o	D 4
C-% }	Control Type Negative Control	Rep 1	Rep 2		Rep 4	Rep 5	Rop 1/3	0	Rep 7 0/1	Rep 8	Rep 9	Rep 1/1
_	Negative Control		1/1	1/1							1/1	1/1
3 25		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	0/1	1/1
25		1/1	1/1	1/1	1/1	1/1	1/1		1/1	1/1	1/1	1/1
50 100		1/1	1/1	1/1	1/1	1/1	0/1		1/1	1/1	1/1	1/1
		1/1	1/1	1/1	1/1	1/1	1/4		1/1	1/1	1/1	1/1

Report Date:

10 Nov-15 10:04 (p.2 of 4)

Test Code:

VCF0915.132cer | 05-8792-8790

Aquatic Bioassay & Consulting Labs, Inc.

Ceriodaphnia 7-d Survival and Reproduction Test

Analysis ID:

Analyzed:

00 8068 3921 10 Nov-15 9:58

Endpoint: 7d Survival Rate

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Attachment D Appendix I

10 Nov-15 10 04 (p 3 of 4)

Test Code:

VCF0915.132cer | 05-8792-8790

									Test (Code:	VCF0915	5.132cer 09	5-8792-879
Cerlor	aptınl a	7-d Survival and	d Reproduc	ction T	est					Aquatic E	Bioassay &	Consulting	Labs, Inc
Analys Analyz		18-0895-2847 10 Nov-15 9.58		point: lysis:	Reproduction Linear Interpola	ition (ICPIN)			S Version: ial Results		1.8.7	
Batch	ID:	08-7640-4467	Tes	t Type:	Reproduction-9	Survival (7d)	,		Analy	rst:			
Start D		16 Sep-15 14:3		tocat:	EPA/821/R-02-				Dilue		oratory Wat	ter	
	g Date:	23 Sep-15 15:4		cles:	Çeriodaphoia d				Brine		Applicable		
Duratio	-	7d 1h		rce:	Aqualic Biosyst				Age:				
Sample	n ID:	20-3192-2550	Cod	In:	VCF0915,132c			-	Clien	e ve	 WPD		
		15 Sep-15 03:1		orial:	Sample Water				Proje	-	5/16-1(Wet	1	
-		15 Sep-15 10:1		r ć e:	Sicassay Repo	rt			- , -,-		2.10 1(7.2)	′	
	e Age:			lion:	MO-VEN								
		•	Siat				_						
	-	lation Options				E DEN							
X Tran	storni	Y Transform	· · ·		Resamples	Exp 95%	CL	Method		1.5.			
Linear 		l.inear 	301	16/	280	Yes		Two-Point	interpo		_		
Fest A	cceptab	ility Criteria											
Attribu	ile	Tost Stat	TAC Limi	ts	Overlap	Decision							
Control	Resp	158	15 - NL		Yes	Passes A	ccepta	ibility Criler	ia ——				
Point E	Estimat	e s											
Levei	%	95% LCL	95% UCL	TU	95% LCL	95% UCL							
IC5	>100	N/A	N/A	<1	NA	NA							
IC10	>100	N/A	N/A	-1	NA	NA							
C15	>100	N/A	N/A	<1	NA	NA							
C20	>100	N/A	N/A	<1	NA	NA							
C25	>100	N/A	N/A	<1	NA	NA							
C40	>100	N/A	N/A	<1	NA	NΑ							
C50	>100	N/A	N/A	≺1	NA	NΛ							
Reproc	duction	Summary				Ca	lculate	ed Variate					
0-%	¢	ontrol Type	Count	Moar	n Min	Max	Std	Err Sto	Dev	CV%	%Effect		
,	N	egative Control	10	15.8	0	32	2.74	8.6	9	55.0%	0.0%		
5.25			10	22.3	1	31	2.83	9.8	7	40.22%	-41.14%		
12.5			10	25.7	D	41	4,45	i5 14.	09	54.81%	-62.66%		
26			10	26.7	Ò	42	3.66			43.43%	-68.99%		
50			10	26.9	0	41	4.03			47.4%	-70.25%		
iG0			10	33.3	20	43	2.54	3 8.0	42	24.15%	-110.8%		
Зергос	duction	Detail											
0-%		ontrol Type	Rep 1	Rop 2	2 Rep 3	Rep 4	Rep	5 Re	96	Rep 7	Rep 8	Rep 9	Rop 10
)	И	egative Control	32	16	13	18	13	10		G	23	11	22
5.25			31	28	28	23	1	25		24	28	13	22
12.5			29	23	39	41	5	33		33	26	0	31
25			42	28	38	25	0	29		26	29	17	32
50			41	31	37	30	0	9		35	27	27	32
										-0	~~	5.5	an

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Report Date:

10 Nov-15 10:04 (p.4 of 4)

Test Code:

VCF0915.132cer | 05-8792-8790

Ceriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis (D: Analyzed:

18-0895-2847 10 Nov-15 9.58

Endpoint: Reproduction

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1 8.7

Official Results: Yes

Report Date:

10 Nov-15 10:04 (p a of 3)

Test Code:

VCF0915.132cer | 05-8792-8790

Cariodaphnia	7-d Survival and	l Repr	oduction To	osl					Aqu	atic Bi	ioassay & i	Consulting	g Labs, Ini
Analysis ID: Analyzed:	08-8888-8269 10 Nov-15 9:58		Endpoint: Analysis:		Survival Rai P 2x2 Conti	to ngency Tabl	es		ETIS Ver Official Re		CETISv1 Yes	.8.7	
Batch (D: Start Dale: Ending Date: Duration:	08-7640-4467 16 Sep-45 14:33 23 Sep-45 15:40 76 Th		Test Type: Protocol: Species: Source:	EP. Cer	production-5 A/821/R-02- riodaphnia d uatto Biosys	lubia		É	malyst: Hluent: Brine: age:		oratory Wat Applicable	er	
Sample ID:	20-3192-2550 15 Sep-15 03.10		Codo: Material:		F0915 132d mple Water	:			llient: 'raject:	VCV	VPD 5/16-1{VVet)		
	15 Sep-15 03.10		Source:		assay Repo	sel.		,	rujaci.	LUIT	2-10-1 (** 00)		
	35h (11.5 °C)	,	Station:		VEN	,							
Data Transfor	m	Zeta	AIL H	yρ	Trials	Seed			NÓ	ĖL	LOEL	TOEL	TU
Untransformed	ı		C > T	•	NA	NA			100	١ .	>100	NA	1
Fisher Exacti	Bonferroni-Holm	Test		_									
Contral	vs C-%		Test	Stat	P-Value	P-Type	Decision						
Negative Contr			1		1 0000	Exact	Non-Sign						
	12.5		0.763	Z	1 0000	Exact	Non-Sign						
	25		1	_	1.0000	Exact	Non-Sign						
	50		0.763	2	1.0000	Exact	Non-Sign						
	100		1		1.0000	Exact	Non-Sign	nicani E	1eci 				
Test Acceptat	sility Criteria												
Attribute	Test Stat	TAC	Limits		Overlap	Decision							
Coatrol Resp	0.9	0.8 -	NL		Yes	Passes A	cceptability	/ Criteria					
Data Summar	у												
C-%	Control Type	NR	R		NR + R	Prop NR	Prop R	%Effo	cl				
0	Negative Contr	9	1		10	0.9	0.1	0.0%					
6.25		10	O.		10	1	O.	-11.11	%				
12.5		9	1		10	0.9	0.1	0.0%					
2 3		10	0		10	1	0	-11.11	%				
50		9	1		10	0.9	0.1	0.0%					
100		10	0		10	_ 1 .	٥	-11.11	98				
7d Survival R													
C-%	Control Type	Rep		?	Rep 3	Rep 4	Rep. 5	Rop 6		p 7	Rep 6	Rep 9	_ Rep 10 ;
0	Negative Control	. 1	1		1	1	1	1	0		1	1	•
6.25		1	1		1	1	1	1	1		1	1	1
12.5		1	1		1	1	1	1	1		1	0	1
25		1	1		1	1	1	1	. 1		វ	1	1
50		1	1		1	1	1	0	1		1	1	1
100		1	1		1		1	1	1		1		1
7d Survival R	ate Binomiais					-							
C-%	Control Type	Rep	1 Rep	2	Rep 3	Rep 4	Rep 5	Rep 6	Rej	p 7	Rep 8	Rep 9	Rep 19
0	Negative Control	1/1	1/1		1/1	1/1	1/1	1/1	0/1		1/1	1/1	1/1
6 25	-	1/1	1/6		1/1	1/1	1/3	1/1	1/1		1/1	1/1	1/3
12.5		1/1	1/1		1/1	1/1	1/3	1/1	1/1		1/1	0/1	1/3
					121	-14	4.24	411			4.44	171	175

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50

100

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174

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0/1

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Report Date:

10 Nov-15 10:04 (p 2 of 3)

Tost Code:

VCF0915.132cer | 05-8792-8790

Cariodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

08-8888-8269 10 Nov-15 9:58

Endpoint: 7d Survival Rate

Analysis: STP 2x2 Conlingency Tables

CETIS Version: CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:04 (p 3 of 3)

Test Code:

VCF0915.132cer | 05-8792-8790

Coriodaphnia 7-d Survival and Reproduction Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

08-8888-8269 10 Nov-15 9:58

Endpoint: 7d Servival Rate

Analysis: STP 2x2 Contingency Tables

CETIS Version:

CE (18v1.87

Official Results: Yes

10 Nov-15 10:04 (p.1 of 2)

Test Codo:

VCF0915.132cer | 05-8792-8790

QA Count 0 0 0 (0%) QA Count 0
0 0 0 (0%) QA Count
0 (0%) QA Count
0 (0%) QA Count 0
QA Count
0
0
0
0
Ð
0
0
0 (0%)
QA Count
0
0
0
0
0
0
0 (0%)
QA Count
D
Q
0 (0%)
QA Count
0
0
0
D

48

7.471

Overall

6.7

8.3

0 (0%)

10 Nov-15 10:04 (p 2 of 2)

Tast Code:

VCF0915.132cer | 05-8792-8790

Ceriodaph	nnia 7-d Şuryival an	d Roprod	luction Tos	t				Aquatic I	Bioassay &	Consultin	g Labs, Inc.
Temperate	uro-°C										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dav	CV%	QA Cour
0 —	Negalive Contr	8	24.71	24 42	25	24.3	25.2	0.1217	0.3441	1.39%	0
6.25		8	24.73	24.38	25 07	24.3	25.4	0.1461	0.4132	1.67%	0
12.5		8	24.59	24.38	24.8	24.3	25	0.08952	0.2532	1.03%	0
25		8	24.48	24.22	24.73	24	24.9	0.1065	0.3012	1.23%	0
50		8	24.48	24.19	24.75	24.1	25	0.1221	0.3454	1.41%	0
100		8	24.48	24.06	24.69	24	25.4	0.177	0.5007	2.05%	0
Overall	· 	48	24.58			24	25.4				0 (0%)
Afkalinity ((CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	62	62	62	62	62	67	67	67		
100		32	32	32	32	32	32	32	32		
Conductiv	rity-µmhos										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	358	326	335	329	335	332	327	347		
ß.25		314	318	314	320	321	314	313	316		
12.5		305	310	309	310	311	308	307	310		
25		288	288	288	289	293	287	285	290		
50		245	247	246	245	246	247	245	249		
100		160	160	161	170	170	163	163	168		
Dissolved	Oxygen-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Confr	7.5	7.9	7.1	7.8	7.8	8.7	7.7	6.5		
6 25		7.2	8	G.5	6.8	7.1	7.1	7.5	5.2		
12.5		7.5	7.7	5.7	6.7	7	7	7.1	5.2		
25		7.4	74	62	6.2	6.8	7	6.8	43		
50		6.9	69	56	6.2	6.7	68	63	4 1		
100		6.2	64	51	6.1	6.7	6.2	58	4		
Härdness	(CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	82	82	82	82	82	85	85	85		
100		52	52	52	52	52	52	52	52		
pH-Units						-				•	
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	8.2	7.9	8.2	8.3	8.2	8.2	8.1	78		
6 25		7.5	6.8	7.3	7.8	7.9	7.5	7.2	69		
12.5		7.6	6.9	7.3	7.7	7.8	7.5	7.3	69		
25		7.6	6.9	7.3	7.7	77	7.5	73	69		
50		7.G	8.8	7.2	7.7	7.7	7,4	73	69		
100		76	6.7	7.2	7.7	7.7	7.3	7.2	69		
Toanperatu	ıre-°G				-						
C-%	Control Type	1	2	3	4	5	6	7	В		
0	Negative Contr	25.1	24.7	24 5	24.5	25	25.2	24.4	24.3		
6 25		24.9	24.7	24 3	24.6	25.4	25.2	24.4	24.3		
12.5		24.8	24.7	24.3	24.5	24.7	25	24.4	24.3		
25		24.9	24.7	24	24.4	24.3	24.8	24.4	24.3		
		24.9	25	24.1	24.2	24.2	24.7	24,4	24.3		
50					2.0 2	44.4	44 (24.4	F 41.3		



November 12, 2015.

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 LD.: MO-OXN
DATE RECEIVED: 9/15/2015
ABC LAB. NO.: VCF0915.122

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

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

EC50 = >100.00 %

BIOMASS NOEC - 100.00 %

TUe = 1.00 1C25 = >100.00 %

IC50 = >100.00 %

Scott Johnson Laboratory Director

CETIS Summary Report

Report Date: 10 Nov-15 10:04 (p 1 of 2)
Test Code: VCF0915.122fml | 08-6851-0484

Aquatic Bioassay & Consulting Labs,	Inc.
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	mary respond						Test Code:		VCF0915.	122fml 08	-6851-048
Fathead Minn	ow 7-d Larval Survival	and Grow	h Test				Aqual	tic B	іоявая & С	onsulting	Labs, Inc.
Balch ID:	12-7395-2517	Tasi Type:	Growth-Surviva	il (7d)			Analyst:				
Start Date:	16 Sep-15 16.05	Protocol:	EPA/821/R-02-	013 (2002)		1	Diluent:	Labo	cratory Wate	r	
Ending Date:	23 Sep-15 14.10	Species:	Pimephales pro	xnclas		1	Brine:	Not.	Applicable		
Duration:	6d 22h	Source:	Aquatic Biosys	lems, CO			Age:				
Sample ID:	12-0628-3036	Code:	VCF0915 122f			-	Client:	VCV	VPD		
Sample Date:	15 Sep-15 03:00	Material:	Sample Water			1	Project:	2015	5/16-1(We1)		
Receive Date:	: 15 Se p-15 10 15	Source:	Bioassay Repo	r1							
iample Age:	37h (17.6 °C)	Station:	MO-OXN								
Comparison 9	Summary										
Analysis ID	Endpoint	NOEL		TOEL	PMSD	TU	Meth				
02-3774-4966	7d Survival Rate	100	>100	NA	7.06%	1			y-One Rank		
)6-1624-0754	Mean Dry Biomass-mo	g 100	>100	NA	10.3%	1	Stoel	Man	y-One Rank	Surn Test	
Point Estimate	•										
Analysis ID	Endpoint	Level		95% LCL	95% UCL		Meth			DAM:	
04-2593-3915	7d Survival Rate	EC5	>100	N/A	N/A	<1	l inea	r Inte	rpolation (K	314M)	
		E'C10		N/A	N/A	<1					
		EC15		N/A	N/A	<1 					
		EC20		N/A N/A	N/A	<1 -1					
		EC25 EC40		N/A N/A	N/A	<1 1					
		EC50		N/A	N/A N/A	<1 <1					
20.7940.7274	Mean Dry Biomass-mg		>100	N/A	N/A	-}! ₹1	Linea	r Into	ripolation (IC	TOTAL	
- 12-1-242-1214	ineau criy ciumass-mi	IC10	>100	N/A	N/A	₹1	Linea	c IIILE	ripolation (it	2E114)	
		IC15	÷100	N/A	N/A	<1					
		1010	÷100	N/A	N/A	<1					
		IC25	>100	N/A	N/A	<1					
		IC40	>100	N/A	N/A	<1					
		IC50	>100	N/A	N/A	<1					
Test Acceptab	pillty										
Analysis ID	Endpoint	Attrib	ulo	Tost Stat	TAC Limi	its	Over	lap	Decision		
02-37/4-4966	7d Survival Rate	Contr	ol Resp	0.9833	JM - 8 0		Yes		Passes Ac	ceptability	Criteria
04-2593-3915	7d Survival Rate	_	ol Resp	0.9833	JM - 8 0		Yes		Passes Ac	ceptability	Criteria
5-1624-0754	Mean Dry Bromass-mg	g Cantr	ol Resp	0.2738	0.25 - NL		Yes		Passes Ac	ceptability	Criteria:
20-7949-7374	Mean Ory Biomass-my	Gentr	ol Resp	0.2738	0.25 - NL		Yas		Passes Ac	ceptability	Criteria
26-1624-0754	Mean Dry Biomass-mg	9 PMSI)	0.1027	0 12 - 0.3		Yes		Below Acc	eptabil.ly C	inloria
d Survival Ra	ste Summary										
C-%	Control Type Coun	t Mean	95% LCL	95% UCL	Min	Max	Std E	rr	Std Dev	CV%	%Effect
)	Negative Control 4	0.983	3 0.9303	1	0.9333	1	0.016	67	0.03333	3.39%	0.0%
5.2 5	4	1	1	1	1	1	0		0	0.0%	-17%
12.5	4	0 983	3 0.9303	1	0.9333	1	0.018	67	0.03333	3.39%	0.0%
25	4	0.933	3 0.7833	1	0.8	1	0.047	14	0.09428	10.1%	5.09%
50	4	í	1	1	1	1	0		0	0.0%	-1.7%
100	4	0 983	3 0.9303	1	0 9333	1	0.016	67	0.03333	3.39%	0.0%
Maso Boy Bion	mass-mg Summary										
_	Control Torres - Comme	it Meari	·· · ·· · · · · · · · · · · · · · · · ·	95% UCL	Min	Max	Std E	rr	Std Dev	CV%	%Effect
_	Control Type Coun			0.2786	0.2713	0.277	73 0.001	5	0 003	1,1%	0.0%
)-%)	Negative Control 4	0.273	6 0.2691				37 0.013	aa.	0.02777	10.32%	1.77%
0-%)) 25		0.273 0.269		0.3132	0.228	0.286), O.012	12.0	4 22.11		
0-% 0 6 25 12.5	Negative Control 4		0.2248	0.3132 0.2952	0.228 0.26 8 7	0.296 0.296			0 01028	3.69%	-1 83%
C-% 0 6 25 12.5 25	Negative Control 4 4	0 269 0 278 0.273	0.2248 8 0.2625 5 0.237				0.005 27 0.011	138 47		3.69% 8.39%	-1 83% 0.1 2 %
C-%	Negative Control 4 4 4	0 269 0 278	0.2248 8 0.2625 5 0.237 2 0.2577	0.2952	0.2687	0.290	0.005 27 0.011	138 47	0.01028	3.69%	-1 83%

10 Nov-15 10:04 (p. 2 of 2)

Test Code: V

VCF0915 122fm1 | 08-6851-0484

						Test Co.	đe:	VCF0915 122mil 08-6851-0484
Fathead I	Minnow 7-d Larval St	ırvival an	d Growth T	est		Ad	quatic 8	oassay & Consulting Labs, Inc.
7d Surviv	/al Rate Detail							
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4			
0	Negative Control	1	1	0.9333	1			
6.25		1	1	1	1			
12.5		1	1	1	0.9333			
25		8.0	0.9333	1	1			
50		1	1	1	1			
100		0.9333	1	1	1			
Mean Dry	/ Biomass-mg Defail							
C-%	Control Type	Rep 1	Rop 2	Rep 3	Rep 4			
0	Negative Control	0.2773	0.2713	0.2713	0.2753			
6 25		0.228	0.2827	0.2887	0.2767			
12.5		0.284	0.2907	0.2687	0.272			
25		0.2433	0.268	0.29	0.2927			
50		0.2987	0.2747	0.2867	0.2547			
100		0.2673	0.2733	0.268	0.2687			
7d Surviv	al Rate Binomials							
C-%	Control Type	Rep 1	Rep 2	Rop 3	Rep 4			
0	Negative Control	15/15	15/15	14/15	15/15			
6 25		15/15	15/15	15/15	15/15			
12.5		15/15	15/15	15/15	14/15			
25		12/15	14/15	15/15	15/15			
50		15/15	15/15	15/15	15/15			
100		14/15	15/15	15/15	15/15			

Report Date:

10 Nov-15 10 04 (p 1 of 4)

Yest Code:

VCF0915.122(m) | 08-6851-0484

	-								rest	Code:	VG1 0515.	1224111 00	8-6851-046
Fathead Mino	ow 7-d Larval Se	urvival	and Growt	h Test	ł					Aguatic B	ioassay & C	onsulling	Labs, Inc
Analysis ID:	02-3774-4966		Endpoint:	7d \$1	urvival Rate	2			CET	S Version:	CETISv1.	8.7	
Analyzed:	10 Nov-15 9 58	1	Analysis:	Nonp	szametric-	Cantral v	ıs Tı	realments	Offic	ial Results:	Yes		
Batch ID:	12-7395-2517		Test Type:	Grow	 th-Survival	l (7d)			Anal	yst:			
Start Date:	16 Sep-15 16:0:		Protocol:		821/R-02-0		2)		Difu		ratory Wate	<u>:</u> r	
Ending Date:	23 Sep-15 14:1		Species:		phales pro	•	•		Brine	e: Not	Applicable		
Duration:	6d 22h		Source:	Aqua	tic Biosysle	ems, CC)		Age:				
 Sample ID:	12-0628-3036		Cade:	VCFC	0915.122f				teil)	t: VGV	YPD		
	15 Sep-15 03:0	٥	Material:		ple Water				Proje		5/16-1(W el)		
	: 15 Sep-15 10:1		Source:		ssay Repor	п			•				
	37h (17.6 °C)		Station:	MO-C									
Data Transfor	 rm	Zeta	Alt H	ур	Trials	Seed			PMSD	NOEL	LOEL	TOEL	TU
Angular (Corre	cled)	NA	C>T		NA .	NA.			7.06%	100	>100	ΝA	1
Steel Many-Or	ne Rank Sum Te	st										·	
Control	vs C-%		Test:	Stat -	Critical	Ties	DF	P-Value	Р-Туре	Decision(o: 5 %}		_
Negative Conti	rol 6.25		20		10	1	б	0.9516	Asymp	Non-Signif	icant Effect		
	12.6		18		10	2	В	0.8333	Asymp	Nors-Signif	ficant Effect		
	25		15.5		10	2	6	0.5438	Asymp		icant Effect		
	50		20		10	1	8	0.9516	Asymp	_	icant Effect		
	100		18		10	2	6	0.8333	Asymp	Non-Signi	icant Effect		
Test Acceptat	bility Criteria												
Attribute	Test Stat	TAC	Limits		Overlap	Decisio	OΠ		. —				
Control Resp	0.9833	0.8 - 1	NL		Yes	Passes	s Ac	ceptability	Criteria				
ANOVA Table			. —										
Source	Sum Squa	are6	Mean	Squa	re	DF		F Stat	P-Value	Decision(a:5%)		
Belween	0.0363833	9	0 007	27667	8	5		1.151	0.3704	Non-Signi	ficant Effect		
Error	0.113787		Ð 008	3215		18							
Toţa1	0 1501704	Ĺ				23							
	0.1301704	•											
Distr?butlonal													
	l Tests Test				Tost Stat		ı	9-Value	Dacision	<u> </u>	_		
Attribute	l Tests Test Mod Leve	ene Equ	uality of Van	ance	1.877	4.248	I	0.1486	Equal Va	riances	_		
Attribute Variances Variances	l Tests Test Mod Leve	ene Equ	uality of Van of Variance	ance	1.877 4.384	4.248 4.248	l	0.1486 0.0087	Equal Var Unequal V	riances Vanancus			
Attribute Variances Variances Distribution	Tests Test Mod Leve Levend E Shapiro-V	ene Equ quality Vilk VV	of Variance Normality	ance	1.877 4.384 0.8183	4.248 4.248 0.884		0.1486 0.0087 0.0006	Equal Var Unequal V Non-noim	riances Vanances nal Distributio			
Attribute Variances Variances Distribution	Tests Test Mod Leve Levend E Shapiro-V Kolmagar	ene Equ quality Wilk VV rov-Smi	of Variance Normality irnov D	ance	1.877 4.384 0.8183 0.2917	4.248 4.248 0.884 0.2056		0.1486 0.0087 0.0006 <0.0001	Equal Var Unequal V Non-norm Non-norm	riances Vanancus nal Distributional Distribution)it		
Attribute Variances Variances Distribution Distribution Distribution	Tests Test Mod Leve Levond E Shapiro-V Kolmagar D'Agostin	ene Equ quality Vilk VV rov-Smi io Skev	of Variance Northality irnov D vness	arce	1.877 4.384 0.8183 0.2917 2.614	4.248 4.248 0.884 0.2056 2.576		0.1486 0.0087 0.0006 <0.0001 0.0089	Equal Var Unequal V Non-norm Non-norm	riances Vanancus nal Distributio nal Distributio)it		
Attribute Variances Variances Distribution Distribution Distribution	Tests Test Mod Leve Levend E Shapiro-V Kolmagar D'Agostin	ene Equ quality Vilk W rov-Smi io Skevi io Kurk	of Variance Normality irnov D vness osis	ance	1.877 4.384 0.8183 0.2917 2.614 2.383	4.248 4.248 0.884 0.2056 2.576 2.576		0.1486 0.0087 0.0006 <0.0001 0.0089 0.0172	Equal Val Unequal V Non-norm Non-norm Non-norm Normal D	riances Vanancos nal Distributio nal Distributio istribution)ii)in		
Attribute Variances Variances Distribution Distribution Distribution Distribution	Tests Test Mod Leve Levene E Shapiro-V Kolmagar D'Agostin D'Agostin	ene Equ quality Vilk W rov-Smi ro Skev ro Skev ro-Pear	of Variance Normality irnov D vness osis son K2 Omi	ance ninus	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51	4.248 4.248 0.884 0.2056 2.576 2.576 9.21		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019	Equal Val Unequal V Non-norm Non-norm Normal D Non-norm	riances Vanancus nal Distributio nal Distributio nal Distributio istribution nal Distributio)n)n		
Attribute Variances Variances Distribution Distribution Distribution Distribution	Tests Test Mod Leve Levene E Shapiro-V Kolmagar D'Agostin D'Agostin	ene Equ quality Vilk W rov-Smi ro Skev ro Skev ro-Pear	of Variance Normality irnov D vness osis	ance ninus	1.877 4.384 0.8183 0.2917 2.614 2.383	4.248 4.248 0.884 0.2056 2.576 2.576		0.1486 0.0087 0.0006 <0.0001 0.0089 0.0172	Equal Val Unequal V Non-norm Non-norm Normal D Non-norm	riances Vanancos nal Distributio nal Distributio istribution)n)n		
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Tests Test Mod Leve Levenc E Shapiro-V Kolmagor D'Agostin D'Agostin D'Agostin Anderson	ene Equ quality Vilk W rov-Smi io Skev io Kurk io-Pear i-Darlin	of Variance Normality irnov D vness osis son K2 Omi g A2 Norma	acce nibus lity	1.877 4.384 0.8163 0.2917 2.614 2.383 12.51 2.155	4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878		0.1486 0.0087 0.0006 <0.0004 0.0089 0.0172 0.0019 <0.0001	Equal Val Unequal Val Non-norm Non-norm Normal D Non-norm Non-norm	riances Vanaricus nal Distributio nal Distributio nal Distributio istribution nal Distribution nal Distributio	en en en		
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution Td Survival Re	Tests Test Mod Leve Levend E Shapiro-V Kolmagan D'Agostin D'Agostin Anderson Sate Summary Control Type	ene Equ quality Vilk W rov-Smi to Skev to Skev to Pear t-Darbn Coun	of Variance Normality irnov D wness osis son K2 Omi g A2 Norma	acce nibus lity	1.877 4.384 0.8163 0.2917 2.614 2.383 12.51 2.155	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878		0.1486 0.0087 0.0006 <0.0004 0.0089 0.0172 0.0019 <0.0001	Equal Val Unequal V Non-norm Non-norm Non-norm Non-norm Non-norm	riances Vanaricus nal Distributio nal Distributio nal Distributio istribution nal Distributio nal Distributio Max	en en en en en	cv%	
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Tot Survival Ro	Tests Test Mod Leve Levenc E Shapiro-V Kolmagor D'Agostin D'Agostin D'Agostin Anderson	ene Equality Vilk W rov-Smi to Skevi to Kurio to-Pear to-Darbny Courn	of Variance Normality irnov D vness osis son K2 Omi g A2 Norma nt Mean	nace nibus ility	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51 2.155 95% LCL 0.9303	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019 <0.0001	Equal Value unequal Value normal Discontinuo Non-normi Non-normi Non-normi Non-normi Mini 0.9333	riances Vanaricus nal Distributio nal Distributio nal Distributio istribution nal Distributio nal Distributio Max	Std Err 0.01667	3.39%	0.0%
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution 7d Survival R: C-% 0	Tests Test Mod Leve Levend E Shapiro-V Kolmagan D'Agostin D'Agostin Anderson Sate Summary Control Type	ene Equality Vilk W rov-Smi to Skevi to Kurio to-Pear ti-Darbn Coun	of Variance Normality irnov D vness osis son K2 Omi g A2 Norma nt Mean 0.983	nibus ility	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51 2.155 95% LCL 0.9303 1	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019 <0.0001 Median	Equal Value unequal Value normal Discontinuo Non-normi Non-normi Non-normi Non-normi Min 0.9333	riances Vanaricus nal Distributio nal Distributio nal Distributio istribution nal Distributio mal Distributio Max 1 1	Std Err 0 01667	3.39% 0.0%	0.0% -1.7%
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Of Survival R: C-% 0 6 25	Tests Test Mod Leve Levend E Shapiro-V Kolmagan D'Agostin D'Agostin Anderson Sate Summary Control Type	ene Equality Vilk W rov-Smi to Skew to Kurlo to-Pear t-Darkn Coun d 4 4 4	of Variance Normality irnov D vness osis ison K2 Omi g A2 Norma 0.983 1 0.983	nibus ility	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51 2.155 95% LCL 0.9303 1	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878 95% U		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019 <0.0001 Median 1 1	Equal Value unequal Value Valu	riances Vanancus nal Distributio nal Distributio nal Distribution nal Distribution nal Distributio Max 1 1 1	Std Err 0 01667 0 01667	3.39% 0.0% 3.39%	0.0% -1.7% 0.0%
C-% 0 6 25 12.5 25	Tests Test Mod Leve Levend E Shapiro-V Kolmagan D'Agostin D'Agostin Anderson Sate Summary Control Type	ene Equality Vilk W rov-Smi to Skew to Kurk to Pear t-Darkn Coun 4 4 4 4	of Variance Normality irnov D vness osis son K2 Omi g A2 Norma 1 0.983 0.933	nibus ility	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51 2.155 95% LCL 0.9303 1 0.9303 0.7833	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878 95% U		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019 <0.0001 Median 1 1 1 0.9667	Equal Value unequal Value Valu	riances Vanancus nal Distributio nal Distributio nal Distributio istribution nal Distributio Max 1 1 1	Std Err 0 01667 0 04714	3.39% 0.0% 3.39% 10.1%	-1.7% 0.0% 5.09%
Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Control	Tests Test Mod Leve Levend E Shapiro-V Kolmagan D'Agostin D'Agostin Anderson Sate Summary Control Type	ene Equality Vilk W rov-Smi to Skew to Kurlo to-Pear t-Darkn Coun d 4 4 4	of Variance Normality irnov D vness osis ison K2 Omi g A2 Norma 0.983 1 0.983	ninus ility	1.877 4.384 0.8183 0.2917 2.614 2.383 12.51 2.155 95% LCL 0.9303 1	4.248 4 248 0 884 0.2056 2.576 2.576 9.21 3.878 95% U		0.1486 0.0087 0.0006 <0.0006 0.0089 0.0172 0.0019 <0.0001 Median 1 1	Equal Value unequal Value Valu	riances Vanancus nal Distributio nal Distributio nal Distribution nal Distribution nal Distributio Max 1 1 1	Std Err 0 01667 0 01667	3.39% 0.0% 3.39%	0.0% -1.7% 0.0%

Roport Date:

10 Nov-15 10:04 (p.2 of 4)

Tost Code:

VCF0915.122fml | 08-6851-0484

	now 7-d Larval Su	ırvivəl an	d Growth T	est				Aquatic Bl	oassay &	Consulting	Labs, In
Analysis ID:	02-3774-496G	Еп	dpoint: 7d	Survival Rat	e		CE.	IIS Version:	CETISv1	.a.7	
Analyzed:	10 Nov-15 9:58	An	al ysi s: No	onparametr i c	Control vs T	realments	Offi	icial Results:	Yes		
Angular (Cor	rected) Transforn	ned Sumr	nary								
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effec
D	Negalive Contr	4	1.408	1 304	1.513	1.441	1.31	1.441	0.03292	4.58%	0.0%
6.25		4	1 441	1 441	1.442	1.441	1.441	1.441	0	0.0%	-2.34%
12.5		4	1 408	1 304	1.513	1.441	1.31	1.441	0 03292	4.68%	0.0%
25		4	1 325	1 074	1 576	1 375	1 107	1.441	0.07893	11.92%	5.93%
50		4	1 441	1 441	1.442	1.441	1.441	1.441	0	0.0%	-2.34%
100		4	1 408	1 304	1 513	1.441	1 31	1,441	0 03292	4.6B%	0.0%
7d Şurvival F	tate Detail										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	Negative Control	1	í	0.9333	1					•	
Ĝ. 2 5		1	í	1	1						
12.5		1	í	1	0.9333						
25		8.0	0.9333	1	1						
50		1	í	1	1						
100		0.9333	í	1	1						
—— Angular (Cor	rected) Transform	ned Detail									
	•	Rep 1	Rep 2	Rep 3	Rep 4						
C-%	Control Type	Liabi		Trop o	1100						
	Control Type Negative Control		1.441	1.31	1.441						
0		1.441	1,441	1.31	1.441						
0 6.25		1.441 1.441	1,441 1,441	1.31 1.441	1.441 1.441						
0 6,25 12,5		1.441 1.441 1.441	1,441 1,441 1,441	1.31 1.441 1.441	1.441 1.441 1.31	 ·					
0 6.25 12.5 25		1.441 1.441 1.441 1.107	1,441 1,441 1,441 1,31	1.31 1.441 1.441 1.441	1.441 1.441 1.31 1.441	·- ·					
0 6.25 12.5 25 50		1.441 1.441 1.441	1,441 1,441 1,441	1.31 1.441 1.441	1.441 1.441 1.31						
0 6.25 12.5 25 50 100		1.441 1.441 1.441 1.107 1.441	1,441 1,441 1,441 1,31 1,441	1.31 1.441 1.441 1.441 1.441	1.441 1.441 1.31 1.441 1.441						
0 5.25 12.5 25 50 100 7d Survival F	Negative Control	1.441 1.441 1.441 1.107 1.441	1,441 1,441 1,441 1,31 1,441	1.31 1.441 1.441 1.441 1.441	1.441 1.441 1.31 1.441 1.441	- - ·					
0 5.25 12.5 25 60 100 7d Survival F	Negative Control	1.441 1.441 1.441 1.107 1.441 1.31	1,441 1,441 1,441 1,31 1,441 1,441	1.31 1.441 1.441 1.441 1.441 1.441	1.441 1.441 1.31 1.441 1.441 1.441						
0 5.25 12.5 25 60 100 7d Survival F C-%	Negative Control Rato Birromials Control Type	1.441 1.441 1.441 1.107 1.441 1.31	1.441 1.441 1.441 1.31 1.441 1.441	1.31 1.441 1.441 1.441 1.441 1.441	1.441 1.441 1.31 1.441 1.441 1.441	·					
0 6.25 12.5 25 50 100 7d Survival F C-% 0 6.25	Negative Control Rato Birromials Control Type	1.441 1.441 1.441 1.107 1.441 1.31 Rep 1 15/15	1,441 1,441 1,31 1,441 1,441 1,441 Rep 2 15/15	1.31 1.441 1.441 1.441 1.441 1.441 Rep 3 14/15	1.441 1.441 1.31 1.441 1.441 1.441 Rep 4	·					
C-% 0 6 25 12,5	Negative Control Rato Birromials Control Type	1.441 1.441 1.441 1.107 1.441 1.31 Rep 1	7.441 1.441 1.441 1.31 1.441 1.441 Rep 2 15/15 15/15	1.31 1.441 1.441 1.441 1.441 Rep 3 14/15 15/15	1.441 1.441 1.31 1.441 1.441 1.441 Rep 4 15/15						
0 6.25 12.5 25 50 100 7d Survival F C-% 0 6.25	Negative Control Rato Birromials Control Type	1.441 1.441 1.441 1.107 1.441 1.31 Rep 1 15/15 15/15	1,441 1,441 1,31 1,441 1,441 1,441 Rep 2 15/15	1.31 1.441 1.441 1.441 1.441 1.441 Rep 3 14/15	1.441 1.441 1.31 1.441 1.441 1.441 Rep 4 15/15 15/15						

Report Date:

10 Nov-15 10 04 (p 3 of 4)

Test Code:

VCF0915 122fml | 08-6851-0484

				- 4						Amuatic	Bloassay & C	Aneulilea	tabe le
Fauroad Minno	w 7-d Larvál St	urvival ai	nd Growth	1 1850	I .					ridenie.	Civasauj o 4	onstantal 3	1405, 111
Analysis ID:	06-1624-0754	Er	ndpoint:	Mean	Dry Biom	ass-mg			CET	S Version	c CETISv1.	8.7	
Analyzed:	10 Nov-15 9:58	Aı	nalysis:	Nonp:	arametric-	Control	vs T	realments	Offic	ial Result	s: Yes		
Batch ID:	12-7395-2517	Te	est Type:	Growt	lh-Surviva	1 (7d)			Anal	yst:			
Start Date:	16 Sep-15 16:0	5 Pr	rotocol:	EPA/8	821/R-02-0	013 (20)	D2)		Dilus	nt: Lai	boratory Wate	:Г	
Ending Date:	23 Sep-15 14:1	0 S	pacies:	Pimer	phales pro	metas			Brin	e: No	l Applicable		
Dur al ion:	6d 22h	Se	ource:	Aquat	tic Biosysl	ems, C	0		Ago:				
Sample ID:	12-0528-3036	C	ode:	VOF	915 1221				Cller	nt: VC	:WPD		
Sample Date:	15 Sep-15 03:0	O M	laterial:	Samp	i e W ater				Proje	ect: 20	15/16-L(Wet)		
Receive Date:	15 Sep-15 10:1:	5 S (ource:	Bioas	say Repo	r1							
Sample Age:	37h (17.6 °C)	St	tation:	MO-C	DXN								
Data Transform	n	Zola	Alt Hy	vp 1	Trials	Socd			PMSD	NOEL	LOEL	TOEL	T⊔
Untransformed	•	NA	C>T		NA	NA			10.3%	100	>100	NA	1
Steel Many-On	e Rank Sum Te	st											
Control	vs C-%		Test S	itat (Critical	Ties	DF	P-Value	P-Typa	Decision	r(a:5%)		
Negative Confro			21		10	0	6	0.9778	Asymp		nficant Effect		
	12.5		20		10	0	6	0.9516	Аѕутр	_	rificant Effect		
	25		18	1	10	0	6	0.8333	Азутр	Non-Sign	vificant Effect		
	50		20	1	10	0	6	0.9516	Asymp	_	rificant Effect		
	100		12	1	10	0	6	0.1424	Asymp	Non-Sign	nificant Effect		
——· Test Acceptabi	ility Criteria												
Attribute	Test Stat	TAC Lin	mits	(Overlap	Decis	ion						
Control Resp	0.0229												
	0.2738	0.25 - N	IL	٦	Yus	Passo	s Ac	coptability (Critoria				
•	0.2736	0.25 - N 0.12 - 0.			Yos Yes			ceptability (aptability C					
PMSD													
PMSD ANOVA Table	0.1027	0.12 - 0.	.3	1	Yes					Decision	n(q:5%)		
PMSD ANOVA Table Source		0.12 - 0 irės		Squar	Yes re	Below		eptability C	uteria 		n(a:5%) nificant Effect		
PMSD ANOVA Table Source Between	0.1027 Sum Squa	0.12 - 0 ires 593	.3 Mean	Squar 1856-0	Yes re 05	Below DF		eptability C	P-Value		<u> </u>		
PMSD ANOVA Table Source Between Error	0.1027 Sum Squa 0.0004852	0.12 - 0. ires 593 19	.3 Mean 9.7051	Squar 1856-0	Yes re 05	DF 5		eptability C	P-Value		<u> </u>		
PMSD ANOVA Table Source Between Error Total	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954	0.12 - 0. ires 593 19	.3 Mean 9.7051	Squar 1856-0	Yes re 05	DF 5 18		eptability C	P-Value		<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954	0.12 - 0. ires 593 19	.3 Mean 9.7051	\$quar 1656-0 27279	Yes re 05	DF 5 18 23	Acc	eptability C	P-Value	Non-Sign	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests	0.12 - 0. ires 593 19 79	.3 Mean 9.7051 0.0002	\$quar 1866-0 27279	Yes re 05	DF 5 18 23	Acc	F Stat 0.3558	P-Value 0.8716	Non-Sign α:1%)	<u> </u>		
PMSD ANOVA Table Source Between Error Total Distributional 1 Attribute Variances	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test	0.12 - 0 ires 593 19 79	.3 Mean 9.7051 0.0002	\$quar 1856-0 27279	Yes 76 70st \$tat 17.26	DF 5 18 23 Critica	Acc	F Stat 0.3558 P-Value	P-Value 0.8716 Decision	Non-Sigr α:1%) /ariances	<u> </u>		
PMSD ANOVA Table Source Between Evior Total Distributional 1 Attribute Variances	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test	0.12 - 0. 1785 593 19 79 quality of the Equal	Mean 9,7051 0,0902 Variance lity of Varia	\$quar 1856-0 27279	Yes 76 70st \$tat 17.26	DF 5 18 23 Critica 15 09	Acc	F Stat 0.3558 P-Value 0.0040	P-Value 0.8718 Decision	Non-Sign α:1%) /ariances lances	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed	0.12 - 0. 179 Tuality of the Equal quality of	Mean 9,7051 0,0902 Variance lity of Varia Variance	\$quar 1856-0 27279 1 1 1000 1	Yes re 05 Tost Stat 17 26 1,503	DF 5 18 23 Critica 15 09 4.248	Acc	F Stat 0.3558 P-Value 0.0040 0.2380	P-Value 0.8716 Decision Unequal Value	Non-Sign (x:1%) /ariances iances iances	<u> </u>	-	
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Variances Distribution	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett For Mod Leve Levene &	o.12 - 0. res 593 19 79 quality of ne Equal quality of wilk W No	Mean 9.7051 0.0902 Variance lity of Varia Varianco	\$quar 1856-0 27279 1 1 1 1 1 1 1 1 1 1 1	Yes 06 Tost Stat 17 26 1.503 3.869	DF 5 18 23 Critics 15 09 4.248 4.248	Acc	F Stat 0.3558 P-Value 0.0040 0.2380 0.0148	P-Value 0.8716 Decision Unequal Variety Varie	Non-Sigr (x:1%) /ariances iances iances stebutica	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Variances Distribution Distribution	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levone Ed Shapiro-W Kolmogon D'Agostine	o.12 - 0. ires 593 19 79 quality of the Equal quality of the Wilk W No ov-Smirns of Skewner of the work of the w	Mean 9.7051 0.0002 Variance lity of Varia Varianco ormality ov D	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 0	Yes 06 Tost Stat 17.26 1.503 3.869 0.9135	DF 5 18 23 Critics 15 09 4.248 4.248 0.884	Acc	P-Value 0.0040 0.2380 0.0148 0.0421	P-Value 0.8718 Decision Unequal V Equal Var Equal Var Normal D	Non-Sigr (a:1%) /ariances iances iances stebution stebution	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Variances Distribution Distribution Distribution	0.1027 Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levone & Shapiro-V Kolmogor	o.12 - 0. ires 593 19 79 quality of the Equal quality of the Wilk W No ov-Smirns of Skewner of the work of the w	Mean 9.7051 0.0002 Variance lity of Varia Varianco ormality ov D	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 0 0	Yes 06 Tost Stat 17.26 1.503 3.869 0.9135 0.1533	DF 5 18 23 Critica 15 09 4.248 4.248 0.884 0.2056	Acc	P-Value 0.0040 0.2380 0.0421 0.1508	P-Value 0.8716 Decision Unequal Var Equal Var Normal Dr Normal Dr	Non-Sign (x:1%) /ariances iances iances stabution stabution	<u> </u>		
PMSD ANOVA Table Source Between Error Total Distributional 1 Attribute Variances Variances Variances Ustribution Distribution Distribution Distribution	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levene Ed Shapiro-V Kolmogon D'Agostin	o.12 - 0. res 593 19 79 quality of quality of yolk W No ov-Smirns of Kurtosis	Mean 9.7051 0.0002 Variance lity of Varia Varianco ormality ov D	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes 06 17.26 1.503 3.869 0.9135 0.4633 2.264	DF 5 18 23 Critica 15 09 4.248 4.248 0.884 0.2056 2.576	Acc	P-Value 0.0040 0.0380 0.0421 0.1508 0.0236	P-Value 0.8716 Decision Unequal Var Equal Var Normal Dr Normal Dr Normal Dr	Non-Sign (a:1%) /ariances iances iances stabulion stabulion istabulion	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levene Ed Shapiro-W Kolmogon D'Agostin D'Agostin	o.12 - 0. res 593 19 79 quality of the Equal duality of the Wilk Wilk Wilk Wilk Wilk Wilk Wilk Wilk	Mean 9.7051 0.0002 Variance lity of Varia Variance ormality ov D ess	\$quar 1856-0 27279	Tost Stat 17 26 1.503 3.869 0.9135 0.1633 2.264 1.717	DF 5 18 23 Critica 15 09 4.248 4.248 0.2056 2.576 2.576	Acc	P-Value 0.0040 0.0380 0.0421 0.1508 0.0236 0.0859	P-Value 0.8716 Decision Unequal Var Equal Var Rormal Dr Normal Dr Normal Dr Normal Dr	Non-Sign (a:1%) /ariances iances iances stabulion stabulion istabulion istabulion	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levene Ed Shapiro-W Kolmogon D'Agostin D'Agostin	o.12 - 0. res 593 19 79 quality of the Equal the Equal the the Equal the the Equal t	Mean 9.7051 0.0002 Variance lity of Varia variance ormality ov D ess s	\$quar 1856-0 27279	Tost Stat 17.26 1.503 3.869 0.9135 0.1533 2.264 1.717 3.076	DF 5 18 23	Acc	P-Value 0.0040 0.2380 0.0421 0.1508 0.0236 0.0859 0.0176	P-Value 0.8716 Decision Unequal Var Equal Var Rormal Dr Normal Dr Normal Dr Normal Dr Normal Dr Normal Dr	Non-Sign (a:1%) /ariances iances iances stabulion stabulion istabulion istabulion	<u> </u>		
PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Mean Dry Biom C-%	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levenc Ed Shapiro-M Kolmogori D'Agostini D'Agostini Addersoni	o.12 - 0. res 593 19 79 quality of the Equal of the Equa	Mean 9.7051 0.0002 Variance lity of Varia variance ormality ov D ess s	\$quar 1856-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Tost Stat 17.26 1.503 3.869 0.9135 0.1533 2.264 1.717 3.076	DF 5 18 23 Critics 15 09 4.248 4.248 0.2056 2.576 9.21 3.878	Acco	P-Value 0.0040 0.2390 0.0148 0.0421 0.1508 0.0236 0.0859 0.0176 0.0784	P-Value 0.8718 Decision Unequal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di	Non-Sign (a:1%) /ariances iances iances stabution stabution istabution stabution	Std Err		
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PMSD ANOVA Table Source Between Error Fotal Distributional 1 Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Mean Dry Biom C-% C S.25	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levenc Ed Shapiro-M Kolmogori D'Agostini D'Agostini Addersoni	o.12 - 0. res 593 19 79 quality of the Equal of the Equa	Mean 9.7051 0.0002 Variance lity of Varia Variance ormality ov D ess s in K2 Omni A2 Normali Mean 0.2738 0.269	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes 76 70 70 70 70 70 70 70 70 70 70	DF 5 18 23 Critics 15 09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878 95% L 0.2786 0.3132	Acco	P-Value 0.0040 0.2380 0.0148 0.0236 0.0236 0.0236 0.0236 0.0236 0.02784	P-Value 0.8718 Decision Unequal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di	Non-Sign (a:1%) /ariances iances iances stabution stabution istabution stabution	Std Err	1.1% 10.32%	0.0% 1.77%
PMSD ANOVA Table Source Between Error Total Distributional 1 Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Mean Dry Biom C-% 0 6.25 12.5	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levenc Ed Shapiro-M Kolmogori D'Agostini D'Agostini Addersoni	o.12 - 0 res 593 19 79 quality of the Equality of the Equalit	Mean 9.7051 0.0002 Variance lity of Varia Variance ormality ov D ess s on K2 Omini A2 Normali Mean 0.2738 0.269 0.2788	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes 76 70 70 70 70 70 70 70 70 70 70	DF 5 18 23 Critica 15 09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878 95% L 0.2786 0.3132 0.2952	Acco	P-Value 0.0040 0.2380 0.0148 0.0236 0.0236 0.0236 0.0236 0.0236 0.02784	Decision Unequal Vergual Varial Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di 0.2713 0.228 0.2687	Non-Sign (a:1%) /ariances iances iances stabution stabution stabution stabution Max 0.2773 0.2887 0.2907	Std Err 0.0015 0.001388 0.005138	1.1% 10.32% 3.69%	0.0% 1.77% -1.83%
PMSD ANOVA Table Source Between Error Total Distributional 1 Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Cistribution Mean Dry Biom 6.25 12.5	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levenc Ed Shapiro-M Kolmogori D'Agostini D'Agostini Addersoni	0.12 - 0. Ires 593 19 79 Quality of the Equal of the Equ	Mean 9.7051 0.0002 Variance lity of Varia Variance ormality ov D ess s in K2 Omini A2 Normali Mean 0.2738 0.269 0.2738 0.2738	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes 76 70 70 70 70 70 70 70 70 70 70	DF 5 18 23 Critica 15 09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878 95% L 0.2786 0.3132 0.2952 0.31	Acco	P-Value 0.0040 0.2380 0.0421 0.1508 0.0236 0.0476 0.0784 Median 0.2733 0.2797 0.278 0.279	P-Value 0.8716 Decision Unequal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di 2713 0.228 0.2687 0.2433	Non-Sign (a:1%) /ariances iances iances stabution stabution stabution stabution Max 0:2773 0:2887 0:2927	Std Err 0.0015 0.01388 0.00147	1.1% 10.32%	0.0% 1.77% -1.83% 0.12%
PMSD ANOVA Table Source Between Error Total Distributional 1 Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Oistribution Mean Dry Biom C-%	Sum Squa 0.0004852 0.0049102 0.0053954 Tests Test Bartlett Ed Mod Leve Levenc Ed Shapiro-M Kolmogori D'Agostini D'Agostini Addersoni	o.12 - 0. res 593 19 79 quality of the Equal of the Equ	Mean 9.7051 0.0002 Variance lity of Varia Variance ormality ov D ess s on K2 Omini A2 Normali Mean 0.2738 0.269 0.2788	\$quar 1866-0 27279 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes 76 70 70 70 70 70 70 70 70 70 70	DF 5 18 23 Critica 15 09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878 95% L 0.2786 0.3132 0.2952	Acco	P-Value 0.0040 0.2380 0.0148 0.0236 0.0236 0.0236 0.0236 0.0236 0.02784	Decision Unequal Vergual Varial Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di 0.2713 0.228 0.2687	Non-Sign (a:1%) /ariances iances iances stabution stabution stabution stabution Max 0.2773 0.2887 0.2907	Std Err 0.0015 0.001388 0.005138	1.1% 10.32% 3.69%	1.77% -1.83%

Report Date:

10 Nov-15 10:04 (p.4 of 4)

Test Code:

VCF0915.122fml | 08-6851-0484

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

06-1624-0754 10 Nov-15 9:58

Analysis:

Endpoint: Mean Dry Biomass-mg

Nonparametric-Control vs Treatments

CETIS Version: Official Results: Yes

CETISV1.8.7

Méan Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rop 2	Rep 3	Rep 4
0	Negative Control	0.2773	0.2713	0.2713	0.2753
6 25		0.228	0.2827	0.2887	0.2767
12.5		0.284	0.2907	0.2687	0.272
25		0.2433	0.268	0.29	0.2927
50		0.2987	0.2747	0.2867	0.2847
100		0.2673	0 2733	0.268	0.2887

10 Nov-15 10:04 (p 1 of 4)

Test Codo:

VCF0915.122fm1 | 08-6651-0484

								Te	et Codo:	VGF0915	.182mi j	08-8621-
Fathead	Minnow 7	d Larval Su	irvival and	Growl	h Test				Aquatic	Bloassay &	Consulti	ng Laba,
Analysi	s ID: 04-2	2593 3915	End	Jpoint:	7d Survival Rat	e		CE	TIS Version	: CETISv1	.8.7	
Analyze		Nov-15 9:58	Ana	ilysis:	Linear Interpola	tion (tCPIN)	,	Qf.	ficial Result	s: Yes		
Baich (I	D: 12-7	7395-2517	Teş	L Туре:	Growth-Surviva	I (7d)		An	alyst:			
Start Da	ale: 16.5	Sep-15 16:05		tacol:	EPA/821/R-02-			Dk	luent: La	boratory Wat	ė.	
Ending	Date: 23.8	Sep-15 14:10	Spe	cies:	Pimophalos pro	melas		Br	ine: No	t Applicable		
Duratio	n: 6d :	2 2 h	Sou	ırce:	Aquatic Biosyst	tems, CO		Ag	·			
Sample	ID: 12-0	0628-3036	Cod	lo:	VCF0915 122f			CII	ient: VC	WPD		
-		Sep.15 03 0 0		erial:	Sampte Water			Pr	ojact: 20	15/15-1(Wet))	
		Sep.15 0 15		rce:	Bioassay Repo	rt						
sampio	Ago: 37h	(176.0)	Sta	tion:	MO-OXN							
	nterpolațio											
X Trans		Transform		d	Resamples	Ехр 95%	_					
Linoar		inear	0		280	Yes ——–		Point Inte	rpolation			
	coptability											
Attribut		Test Stat		ls	Overlap	Decision					. ——	
Control	Resp	0.9833	08-NL		Yes	Passes Ad	coeplability	Criteria ——				
Point E	stimates											
.eval	%	95% LCL	95% UCL	TU	95% LCL	95% UCL						
EC5	>100	N/A	N/A	<1	NA	NΛ						
EC10	>100	N/A	N/A	<1	NA NA	NA						
EC15 EC20	>100 >100	N/A N/A	N/A N/A	<1 <1	NA NA	NA NA						
EC25	>100	N/A	N/A	<1	NA NA	NA NA						
EC40	>100	N/A	N/A	e1	NA NA	NA						
C50	>100	N/A	N/A	جا	NA NA	NA						
	uval Rate S					Calcu	lated Varia	ate(A/B)				
C-%		ol Type	Count	Mean	Min	Max	Std Err	Std Do	v CV%	%Effect	Α	В
)	Negati	ve Control	4	0.983	3 0.9333	1	0.01667	0.03333	3.39%	0.0%	59	60
5.25			4	í	1	1	0	0	0.0%	-1 7%	60	60
2.5			4	0.983	3 0.9333	1	0.01667	0.03333	3.39%	0.0%	59	60
}5			4	0.933	3 08	1	0.04714	0.09428		5.09%	56	60
50			4	í	1	1	0	0	0.0%	-1.7%	60	60
100			4	0.983	3 0 9333	1	0.01667	0.03333	3.39%	0.0%	59	50
/d Surv	rival Rate D	élali										
2.%		ol Type	Rep 1	Rep :		Rep 4						
)	Negati	ve Control	1	í	0.9333	1						
3.25			1	1	h .	1						
2.5			1	1	. 1	0.9333						
25			8.0	0.933	3 1	1						
×0			1	1	1	1						
ĐO .			0.9333	1								
	ival Rato B											
	_	Irol Type	Rep 1	Rep 2		Rep 4						
:-%				46/46	14/15	15/15						
> %		ative Control		15/15								
0-% 0 3.25		ative Control	15/15	15/15	15/15	15/15						
0-% 0 3.25 12.5		ative Control	15/15 15/15	15/15 15/15	15/15 15/15	14/15						
7d Surv C-% 0 3.25 12.5 25 50		ative Control	15/15	15/15	15/15 15/15 15/15							

Report Date:

10 Nov-15 10:04 (p 2 of 4)

Test Code:

VCF0915.122fml | 08-6851-0484

Fathead Mirmow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

04-2593-3915 10 Nov-15 9.58

Endpoint: 7d Survival Rate

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Page DI - 89 CETIS™ v1.6.7 11

Attachment D Appendix I

Report Date:

10 Nov-15 10:04 (p 3 of 4)

Test Code:

VCF0915 122fml | 08-6851-0484

rathea	a Minni	ow 7-d Larval \$6 								c Bloassay & Consulting Labs,
Analys Analyz		20-7949-7374 10 Nov-15 9:58		point: lysis:	Mean Dry Biom Linear Interpola				S Version ial Resu	on: CEYISv1.87 ults: Yes
Batch I	ID:	12-7395-2517	Tes	Турв:	Growth-Surviva	il (7d)		Analy	yst:	
Start D	ale:	16 Sep-15 16:0	5 Prof	tocal:	EPA/821/R-02-	013 (2002)		Diluo	mnt: L	Laħoratory Waler
Ending	Date:	23 Sap-15 14:1	0 Spe	cies:	Pimephales pro	omolas		Bring): t	Not Applicable
Duratio	on:	6d 22h	Sou	гса:	Aquatic Biosyst	tems, CO		Ago:		
Sample	e 10:	12-0628-3036	Cod	e:	VQF0915.£22f			Clien	it: \	VCWPD
Sample	e Date:	15 Sep-15 03:0	0 Mat	erlal:	Sample Water			Proje	ict: 2	2015/16-1(W e1)
		15 Sep-15 10:1	5 So u	rce:	Bioassay Repo	rt				
Sample	e Age:	37h (17.6 °C)	Stat	lon:	WO-OXN					
Linear	Interpo	lation Options								
K Trans	sform	Y Transform	Sea	d	Resamples	Ехр 95% С				
Lincar		Lincar	4649	98	280	Yes	Two-	Point Interpa	olation	
Test Ad	ceptab	ility Criteria								
Attribu		Test Stat	TAC Limi	ts	Overlap	Decision				
Cantrol	Resp	0.2738	0 25 - NL	_	Yes	Passes Acc	eptability (Critoria		
	stimate	ıs					<u> </u>			
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL				
C5	>100	N/A	N/A	<1	NΛ	NA .				
IC10	>100	N/A	N/A	<1	NA	NA				
IC15	>100	N/A	N/A	<1	NA	NA				
IÇ20	>100	N/A	N/A	<1	NA	NA				
C25	>100	N/A	N/A	<1	NA	NA				
IC40	>100	NIA	N/A	<1	NA	NA				
IC50	>100	A\M	N/A	<1	NA	NA .				
Меал [ry Bloi	nass-mg Summ	ary			Calcu	ilated Var	riate		
C-%	С	ontrol Type	Count	Mean	Min	Max	Std Err	Std Dev_	CV%	%Effect
0	N	agative Control	4	0.273	8 0.2713	0.2773	0.0015	0.003	1,1%	0 .0%
6 25			4	0.269	0.228	0.2887	3.01388	0.02777	10.329	% 1.77%
12.5			4	0.278	8 0.2687	0.2907	3.005138	0.01028	3.69%	-1.83%
25			4	0.273	5 0.2433	0 2927	3.01147	0.02295	8.39%	0.12%
50			4	0.281	2 0,2647	0.2987	3.007365	0.01473	5.24%	-z. 68 %
100			4	0.269	3 0,2673	0.2733	0.001361	0.002722	1.01%	1.54%
Mean [ry Blor	nass-mg Dotail								
C-%		ontrof Type	Rep 1	Rep 2		Rep 4				
Q.	N	egative Control	0 2773	0.271	3 0.2713	0.2753				
6 25			0 228	0.282	7 0.2887	0.2767				
12.5			0 284	0.290	7 0.2587	0.272				
25			0.2433	0.268	0.29	0.2927				
50			0 2987	0.274		0 2647				
100			0 2673	0.273		0.2687				

Report Date:

10 Nov-15 10:04 (p 4 of 4)

Test Code:

VCF0915.122fml | 08-6851-0484

Fathcad Minnow 7-d Larval Survival and Growth Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

20-7949-7374 10 Nov-15 9.58

Analysis:

Endpoint: Moan Dry Biomass-rng

Linear Interpolation (ICPIN)

GETIS Version: CETISv1 8.7

Official Results: Yes

10 Nov-15 10 04 (p.1 of 2)

Test Codo:

VCF0915 122fml | 08-6851-0484

Fathead Minn	athead Minnow 7-d Larval Survival and Growth Test							Aquat	ic Bloassay &	Consulting	g Labs, Inc.
Batch ID: Start Date: Ending Date: Duration:	12-7395-2517 16 Sup-15 16:0 23 Sup-15 14:0 6d 22h		Test Type: Protocol: Species: Source:	Growth-Survivi EPA/821/R-02 Pimephales pr Aquat/c Biosys	-013 (2002) ome ¹ as				Laboratory Wa Not Applicable	ler	
Sample ID:	12-0628-3036		Code:	VCF0915 122f				Client:	VCWPD		
Sample Date:	15 Sep-15 03:0	30	Material:	Sample Water				Project:	2015/16-1(Wef	}	
Receive Date:	15 Sep-15 101	15	Source:	Bioassay Repo	pr(
Sample Age:	37h (17.6 °C)		Station:	MO-OXN							
Alkalinity (Cat	CO3)-mg/L										
C-%	Control Type	Count	. Mean	95% LCL	95% UCL	Min	Max	Şid Eri	r Std Dev	CV%	QA Count
0	Negative Contr	8	63. 8 6	61,71	66,04	62	67	0 9149	2 588	4.05%	0
100		8	31	31	31	31	31_	<u>n</u>	0	0.0%	0
Overall		16	47.44			31	67				0 (0%)
Conductivity-	µmhos										
C-%	Control Type	Count	Moan	95% LCL	95% UCL	Min	Max	Std En	r Std Dev	CV%	QA Count
0	Negative Contr	8	336.1	326 9	345 4	326	358	3 903	11.04	3 28%	0
6.25		8	313.8	310 6	315.9	309	321	1 319	3 732	1 19%	0
12.5		8	302.4	299 6	305.1	298	309	1.164	3 292	1.09%	0
25		8	276.8	271.5	282	270	288	2 2 1 6	6 274	2.27%	0
50		8	214.1	211.3	217	211	220	1.202	3 399	1.59%	0
100		8	88.75	B3.25	94.25	81	99	2,328	5 585	7.42%	0
Overall		48	255.3			81	358				0 (0%)
Dissolved Oxy	ygen-mg/L										
C-%	Control Type	Count	. Mean	95% LCL	95% UCL	Min	Max	Std En	std Dev	CV%	QA Count
0	Negative Contr	8	7,625	7 091	8 159	6.5	8.7	0 2258	0.6386	8.38%	0
6 25		8	7,125	6 543	7 707	5.6	7.8	0 2462	0.6964	9.77%	0
12.5		8	6.913	6.207	7.618	5.1	7.7	0 2985		12 21%	Ð
25		8	6.75	5.988	7.512	4.6	7.5	0 3224		13.51%	0
50		8	6.475	5.619	7.331	4	7.1	0.3619		15.81%	0
100		8	5.863	5.119	6.606	4	6.8	0.3145		15 17%	0
Overall		48	6.792			4	8.7				0 (0%)
Hardness (Ca	CO3)-mg/L										
C-%	Control Type	Count	l Mean	95% LCL	95% UCL	Min	Max	Ştd Er	r Std Dov	CV%	QA Count
0	Negalive Contr		83 13	81.83	84,42	82	85	0 5489		1.87%	D
10Q	.,	8	72	72	72	72	72	0	0	0.0%	D
Overall		16	77.56			72	85				0 (0%)
pH-Units											
C-%	Control Type	Count	l Mean	95% LCL			Max	Std Er		CV%	QA Count
0	Negative Confr		8.113	7.968	8.257	7.8	8.3	0.0610		2.13%	0
6.25		Ð	7.375	7.063	7.687	6.8	7.8	0.1319		5.06%	0
125		8	7.338	7.077	7.598	6.9	7.7	0.1101		4.24%	Ò
25		8	7.313	7.078	7.547	6.9	7.6	0.0989		3.83%	0
50		8	7.3	7.077	7.523	6.9	7.5	0.0944		3.66%	Ò
100		8	7.213	6.978	7.447	6.7	7.5	0.0989	9 D.28	3.88%	0

0 (0%)

48

7.442

Overall

6.7

8.3

Report Date: 10 Nov-15 10:04 (p 2 of .2)

Test Gode: VCF0915.122[ml | 08-6851-0484

Aquatic Bioassay & Consulting Labs, Inc.

Temperate	ure-°C										
00											
<u>C-%</u>	Control Type	Count	Mean	85% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Cour
0	Negațive Contr	8	24.25	23.75	24.75	24	25 7	0 2104	0 5952	2.46%	0
6.25		8	24.16	23.9	24,43	24	24 9	0 1117	0.316	1.31%	0
12.5		8	24.13	23.94	24.31	24	24.6	0.07735	0.2188	0.91%	0
25		8	24.18	23.97	24,38	24	24.7	0.08814	0.2493	1.03%	0
50		8	24 13	23.98	24.27	24	24.4	0.06197	0.1753	0.73%	0
100		8	24 18	23,96	24.39	24	24.6	0.09014	0.255	1.06%	0
Overall		48	24 17			24	25.7				0 (0%)
Alkalinity	(CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	6		
0	Negativo Contr	62	62	63	52	62	67	67	67		
100		31	31	31	31	31	31	31	31		
Conductiv	rity-portos										
C-%	Control Type	1	2	3	4	_ 5	6	7	8		
O.	Megative Contr	358	326	335	329	335	332	327	347		
5.25		315	309	311	315	321	314	311	313		
12.5		301	300	301	303	304	309	298	303		
25		271	273	270	278	283	288	273	278		
50		212	211	211	217	212	213	217	530		
100		81	85	68	84	85	90	98	99		
Dissolved	Oxygen-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	7.5	7.9	7.1	78	7.8	8.7	7.7	6.5		
6.25		7.6	7.6	69	7.3	7.3	6.9	7.6	56		
12.5		7.5	7.7	63	7.2	7.1	7	7.4	51		
25		7.3	7.5	6.6	7.1	6.8	7	7.1	4.6		
50		7	7.1	6.4	7	6.7	6.8	68	4		
100		6.1	5.9	5.3	6.8	6.7	6.2	5.9	4		
Hardness	(CaCO3)-mg/L										-
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	82	82	82	82	62	85	85	85		
100	_	72	72	72	72	72	72	72	72		
pH-Units											
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	8.2	7.9	8.2	8.3	8.2	8.2	8.1	7.8		
6.25		7.7	6.8	7.3	77	7.8	7.5	7.3	69		
12.5		7.6	6.9	7.4	7.6	7.7	7.4	7.2	69		
25		7.5	6.9	7.5	7.5	7.6	7.4	7.2	69		
50		7.5	6.9	7.5	7.5	7.5	7.4	7.2	69		
100		7.3	6.7	7.3	7.5	7.5	7.3	/2	6.9		
Temporatu	re-°C	_									
C-%	Control Type	1	2	3	4	5	6	7	8		
D	Negative Contr	24	24	25 7	24	24	24	24	24.3		
6.25		24	24,1	24 9	24	24	24	24	24.3		
12.5		24	24 1	24.6	24	24	24	24	243		
25		24	24,3	24 7	24.1	24	24	24	24 3		
20							- 1		v		
50		24	24.4	24	24.3	24	24	24	24.3		



November 12, 2015

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 LD.: MO-SPA DATE RECEIVED: 9/15/2015 ABC LAB. NO.: VCF0915.128

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH DJOASSAY

SURVIVAL NOEC -100.00 % TUe = 1.00 >100.00 % EC25 =EC50 = >100,00 % BIOMASS NOEC :: 100.00 % TUc = 1.00IC25 ->100,00 % IC50 ->100.00 %

Yours/very truly,

/. Scott Johnson Laboratory Director

10 Nov-15 10.05 (p.1 of 2)

Test Code:

VCF0915.128(m1 | 18-6765-9361

Fathead Minn	ow 7-d Larval Surviva		Aquatic Bioassay & Consulting Labs, Inc.							
Batch (D: Start Date: Ending Date: Duration:	09-6150-6759 16 Sep-15 (6:15 23 Sep-15 14:15 6d 22h	Test Type: Protocol: Species: Source:	Growth-Surviva EPA/821/R-02- Pimephales pro Aqualic Biosys	013 (2002) omelas				Laboralory Wat Not Applicable	er	
-	07-0311-3820 15 Sep-15 03.10 15 Sep-15 10 15 37h (14.4 °C)	Code: Material: Source: Station:	VCF0915.128f Sample Water Bioassay Repo MO-SPA					VCWPD 2015/16-1(Wet))	
Comparison 5	Summary									
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Metho	od		
14-6750-9683		100	>100	NA	3.46%	1		Many One Ran		
	Mean Dry Biomass-m	g 100	>100	NA	13.1%	1	Dunne	tt Multiple Com	iparison Te	!5t
Point Estimate	a Şummary									
Analysis (D	Endpoint	Level		95% LCL			Metho			
06-6640-1944	7d Survival Rate	EC5	>100	N/A	N/A	<1	Linear	Interpolation (I	CPIN)	
		FC10		N/A	N/A	<1				
		EC15		N/A	N/A	<1				
		EC20		N/A	N/A	<1				
		EC25		N/A	N/A	•1				
		EC40		N/A	N/A	<1				
30 A003 0023 Nava (5 0		EC50		N/A	N/A	<1	1 14 0 0 0	estava alatina d	CONNI	
06-0903-0073	Mean Dry Biomass-m	_	>100	N/A	N/A	<1	Linear	Interpolation (I	CPIN)	
		IC10	>100	N/A	N/A	<1				
		IC15	>100	N/A	N/A	<1				
		IC20	>100	N/A	N/A	<1				
		IC25	>100	N/A	N/A	<1				
		IC40 IC50	>100 >100	N/A N/A	N/A N/A	<1 <1				
Test Acceptab	·· ——									
Analysis ID	Endpoint	Attrib	ule	Test Stat	TAC Limi	ils	Overla	ap Dacision	ı	
06-6640-1944	7d Survival Rale		ol Resp	0.9833	0.8 - NL	-	Yes	<u> </u>	cceptability	y Criteria
14-6750-9683	7d Survival Rale		ol Resp	0 9833	08-NL		Yes		cceptability	-
02-6255-2773	Mean Dry Biomassini		ol Resp	0.2738	0.25 - NI.		Yes		cceptability	•
08-6903-6073		-	ol Resp	0.2738	0.25 - Nt.		Yes		cceptability	•
	Moan Dry Biomass-in	-		0.1314	0.12 - 0.3		Yes		cceptability	•
7d Survival Ra	ate Summary									
	Control Type Cour	nt Mean	95% LCL	95% UCL	Min	Max			C V %	%Effec
	Negative Control 4	0.983	3 0.9303	1	0 9333	1	0.0166	67 0.03333	3 39%	0.0%
5.25	4	1	1	1	1	1	0	O.	0.0%	-1.7%
12.5	4	0.983	3 0.9303	1	0.9333	1	0.0166	57 0.03333	3 39%	0.0%
25	4	1	1	1	1	1	Q	0	0.0%	-1.7%
50	4	1	1	1	1	1	0	0	0.0%	-1.7%
100	4	1	1	1	1	1	0	U	0.0%	-1.7%
Mean Dry Bior	noss-ing Summary									
e M	Control Tune Com	. Mass	0.00/ 1.01	0507 1104	Allin	Mar.	CIAC.	e Glad Descri	C1/9/	4/ C#

CV%

1.1%

7.08%

2.99%

9.89%

12.73%

4.13%

%Effect

0.6%

-2.37%

1.1%

0.97%

-5.9%

-0.73%

95% LCL 95% UCL Min

0.2786

0.3118

0.2837

0.3139

0.3488

0.2939

0.2691

0.2488

0.2579

0.2285

0.2312

0.2577

Max

0.31

0.282

0.308

0.338

0.2927

0 2713

0.2893

0.2627

0.2493

0.256

0.268

0.2773

Std Err

0.0015

0.009898

0.004049

0.01341

0.01847

0.005692

Std Day

0.003

0.0198

0.008099

0.02683

0.03693

0.01138

Control Type

Negative Control 4

Count

4

4

4

Mean

0 273B

0.2803

0.2708

0.2712

0.2758

0.29

C-%

6.25

12.5

25

50

100

0

CETIS Summary Report

Roport Date:

10 Nov-15 10:05 (p 2 of 2)

Tost Codo:

VCF0915.128(ml | 18-6765-9351

						Tost Codo:	VCF0915.128(ml 18-6765-9351
Fathead	Minnow 7-d Larval S	urvival an	d Growth T	est		Aquatic	Bloassay & Consulting Labs, Inc.
7d Şurviy	val Rate Dolaii						
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4		
0	Negative Contro	1 1	1	0.9333	1		
6.25		1	1	1	1		
12.5		0.9333	1	1	1		
25		1	1	1	1		
5D		1	1	1	1		
100		1	1	1	1		
Mean Dry	y Biomass-mg Qetall						
Ç-%	Control Type	Rep 1	Rap 2	Rep 3	Rep 4		
D .	Negative Contro	0.2773	0.2713	0.2713	0.2753		
6 25		0.2713	0.2707	0 2693	0.31		
12.5		0.2687	0.2627	0.282	0.27		
25		0.2493	0.308	0.274	0.2533		
50		0.2667	0.338	0.2993	0.256		
100		0.2927	0.27	0.268	0.2727		
7d Sarviv	/al Rate Binomlats						
Ç-%	Control Type	Rep 1	Rep 2	Rвр 3	Rep 4		
0	Negative Contro	15/15	15/15	14/15	15/15		
6.25		15/15	15/15	15/15	15/15		
12.5		14/15	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		

Report Date:

10 Nov-15 10:05 (p 1 of 4)

Test Gode:

VCI'0915 128[ml | 18-6765-9351

											م مراخل م	
Falhead Minns	ow 7-d Larva	al Survival a	and Growli	h Test					Aquati	c Bloassay & (Consumn	j Labs, inc
Analysis 10:	14-6750-96	83 6	Endpoint:	7d Surviv	al Rate			CET	IS Versio	on: CETISv1	.8.7	
Analyzed:	10 Nov-15 9	9:58	Analysis:	Nonparar	netrio-Co	ontral v	s Trealments	Ottio	ılal Reşu	ilts: Yes		
Batch ID:	09-9150-67	59 7	Test Type:	Growth-S	urvival (7d)		Ana:	lyst:			
Start Date:	16 Sep-15 1	6:15 F	Protocol:	E₽A/821	R-02-01	3 (200)	2)	Đilu	ent: L	aboratory Wal	er	
Ending Date:	23 Sep-15 1	4:15 \$	Specles:	Pimephal	es prom	ielas		Brin	e: N	Not Applicable		
Duration:	6d 22h		Source:	Aqualic E	iosysten	ns, CO		Aga	:			
Sample ID:	07-0311-38	20 (Code:	VCF0915	.1281			Cite	nt: V	/CWPD		
Sample Date:	15 Sep-15 (3:10 1	Material:	Sample V	Valer			Proj	ect: 2	(015/16-1(Wei)		
Receive Date:	-		Source:	Bioassay	Report							
Sample Age:	37h (14.4 °C	(2)	Station:	MO-SPA								
Data Transford		Zeta	Alt H			Sead		PMSD	NOEL	LOEL	TOEL	TU
Angufar (Correc	cted)	NA	C>T	NA	ľ	AV		3.46%	100	>100	NA	
Steel Many-On	ne Rank Sun) Tost										
Control	vs C-%		Test \$	stat Criti	cal 1	Tles	DF P-Value	Р-Туре	Decksi	an(a:5%)		
Negative Contro	ol 6.25		20	10	1	1	6 0.9516	Asymp	Non-Si	gnificant Effoc	· · ·	
	12.5		18	10	2	2	6 0 8333	Asymp	Non-Si	ignificant Effect	l	
	25		20	10	1	1	6 0.9516	Asymp		ignificant Effect		
	50		20	10	1		6 0,9516	Asymp		gnificant Effec		
	100		20	10	1	1	6 0 9516	Asymp	Non-Si	gnificant Effec		
Test Acceptab	ility Criteria											
Attribute												
		tat TAC L	imits	Ove		Decisio						
	0.9833			Yes			n Acceptability	Crileria				
Control Resp								Crileria				·
Control Resp ANOVA Table	0.9833		IL					Crilena P-Value	Decisi	on(a:5%)		·
Control Resp ANOVA Table Source	0.9833	0.8 - N	IL Mean	Yes ·		Passes	Acceptability			on(a:5%) ignificant Effect		·
Control Resp ANOVA Table Source Between Error	0.9833 Sum S 0.0057 0.0260	0.8 - N quaros 81335 4501	<u>Mean</u> <u>0.001</u> :	Yes Square		Passes DF 5	Acceptability F Stat	P-Value				
Control Resp ANOVA Table Source Between Error	0.9833 Sum S 0.0057	0.8 - N quaros 81335 4501	<u>Mean</u> <u>0.001</u> :	Yes Square 156267		Passes DF	Acceptability F Stat	P-Value			1	
Control Resp ANOVA Table Source Between Error Total	0.9833 Sum S 0.0057 0.0260 0.0317	0.8 - N quaros 81335 4501	<u>Mean</u> <u>0.001</u> :	Yes Square 156267		Passes DF 5	Acceptability F Stat	P-Value			1	
Control Resp ANOVA Table Source Between Error Total Distributional	0.9833 Sum S 0.0057 0.0260 0.0317 Tests	0.8 - N quaros 81335 1601 9734	Mean 0.001 0.001	Yes Square 196267 145334 Yest		Passes DF 5 18 23 Critical	F Stat 0 8	P-Value 0.5640 Docision	No.n·Si (o:1%)			·
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances	0.9833 Sum 8 0.0057 0.0260 0.0317 Tests Test Mod L	0.8 - N quaros 81335 1501 9734 evene Equa	Mean 0.001 0.001 ality of Varia	Yes Square 156257 445334 Test ance 0.8		Passes DF 5 68 Critical 4 248	F Stat 0 8 P-Value 0 5640	P-Value 0.5640 Docision Equal Val	Non-Si (o:1%) riances	gnificant Effec		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances	0.9833 Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven	0.8 - N quaros 81335 1501 9734 evene Equa	Mean 0.001 0.001 ality of Variance	Yes Square 156267 445334 Test ance 0.8 7.2		Passes DF 5 18 23 Critical 4 248 4 248	F Stat 0 8 P-Value 0 5640 0 0007	P-Value 0.5640 Docision Equal Var Unequal Y	Non-Si (o:1%) riances Variances	ignificant Effect		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution	0.9833 Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapir	0.8 - N quaros 81335 1501 9734 evene Equa e Equality o ro-Wilk W N	Moan 0.001 0.001 dailty of Variance Normality	Yes Square 156267 445334 Test ance 0.8 7.2 0.61		Passes DF	P-Value 0 5640 0 0007 <0.0003	P-Value 0.5640 Docision Equal Var Unequal V	Non-Si (o:1%) riances Variances nat Distrib	gnificant Effect s s pution		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution	0.9833 Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapir Kolmo	0.8 - N quaros 81335 1501 9734 evene Equality o ro-Wilk W N gorov-Smir	Moan 0.001 0.0014 ality of Variance formality nov D	Yes Square 156267 445334 Test ance 0.8 7.2 0.61 0.41	Stat C 4 4 664 C 67 C	Passes DF 5 18 23 Critical 4 248 4 248 0.884 0.2056	P-Value 0 5640 0 0007 <0.0001	P-Value 0.5640 Decision Equal Var Unequal Non-norm Non-norm	Non-Si (o:1%) riances Variances nat Distrib nat Distrib	gnificant Effect s surion		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Oistribution Distribution Distribution	0.9833 Sum 8 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapii Kolmo	0.8 - N equaros 81335 1501 9734 evene Equa e Equality of ro-Wilk W N gorov-Smir slino Skewr	Moan 0.001 0.001 0.001 ality of Variance formality nov D ness	Yes Square 156267 145334 Test ance 0.8 7.2 0.61 0.41 3.70	Stat C 4 4 64 67 67 67	Passes DF 5 18 23 Critical 4 248 4 248 0.884 0.2056 2.576	P-Value 0 5640 0 0007 <0.0001 0 0002	P-Value 0.5640 Decision Equal Var Unequal V Non-norm Non-norm	Non-Si (o:1%) riances Variances variances nat Distrib nat Distrib	gnificant Effect soution oution		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Oistribution Distribution Distribution Distribution	0.9833 Sum 8 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapii Kolmo D'Ago	0.8 - N equaros 81335 1501 9734 evene Equality of ro-Wilk W N gorov-Smir stino Skewr stino Kurtos	Moan 0,001 0,001 0,001 dility of Variance Normality nov D ness	Yes Square 156267 145334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00	Stat C Stat C 4 64 64 67 67 62 5 67 67 68 67 68 68 68 68 68 68	Passes DF	P-Value 0 5640 0 0007 <0.0001 0 0002 0.0027	P-Value 0.5640 Decision Equal Va Unequal V Non-norm Non-norm Non-norm Non-norm	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib	gnificant Effect s pution pution pution pution		
Control Resp ANOVA Table Source Between Error Total Olstributional Attribute Variances Variances Oistribution Oistribution Oistribution Oistribution Oistribution	0.9833 Sum 8 0.0057 0.0260 0.0317 Tests Yest Mod L Leven Shapii Kolmo D'Ago D'Ago	evene Equality or o-Wilk W Nigorov-Smrinslino Kurtos slino-Pears	Moan 0.001 0.001 0.001 stity of Variance formality nov D ness sts on K2 Omn	Yes Square 156267 445334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00 ibus 22.7	Stat C Stat C 4 64 64 62 5 5 67 68 67 68 68 68 68 68 68 68	Passes DF 5 18 23 Critical 4 248 4 248 4 248 0.884 0.2056 2.576 9.21	P-Value 0 5640 0 0007 <0.0001 0 0002 0.0001	P-Value 0.5640 Docision Equal Value Valu	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib nat Distrib	gnificant Effect soution oution oution oution		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapir Kolmo D'Ago D'Ago D'Ago Acder	evene Equa evene Equa e Equality of ro-Wilk W N gorov-Smir slino Skewr slino Kurtos slino-Pears son-Darling	Moan 0.001 0.001 0.001 stity of Variance formality nov D ness sts on K2 Omn	Yes Square 156267 445334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00 ibus 22.7	Stat C Stat C 4 64 64 62 5 5 67 68 67 68 68 68 68 68 68 68	Passes DF	P-Value 0 5640 0 0007 <0.0001 0 0002 0.0027	P-Value 0.5640 Decision Equal Va Unequal V Non-norm Non-norm Non-norm Non-norm	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib nat Distrib	gnificant Effect soution oution oution oution		
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Sum S 0.9833 Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapii Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of ro-Wilk W N sporov-Smin Skewrshino Kurtos shino-Darling	Moan 0.001 0.001 0.001 variance lormality nov D ness on K2 Omn A2 Normal	Yes Square 156257 445334 445334 7 2 0 51 0 41 3 70 3 00 ibus 22.7 dy 4.32	Stat C Stat C 64 64 64 65 7 7 8 8 8 8 8 8 8 8 8 8 8	Passes DF 5 18 23 Critical 4 248 4 248 0.2056 2.576 9.21 3.878	P-Value 0 8 P-Value 0 5640 0 0007 <0.0001 0 00027 <0.0001 <0.0001	P-Value 0.5640 Docision Equal Valuequal Van-norm Non-norm Non-norm Non-norm Non-norm Non-norm Non-norm	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib nat Distrib nat Distrib	gnificant Effect surtion surtion surtion surtion surtion surtion		V.Fffnet
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Oistribution Distribution Distribution Distribution Distribution Distribution Costribution Costribution Costribution Costribution Costribution Costribution Costribution	Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapin Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of ro-Wilk W Nigorov-Smin Slino Skewrson-Darling	Moan 0.001	Yes \$quare 156267 445334 445334 7 2 0 61 0 41 3 70 3 00 ibus 22.7 dy 4.32	Stat C Stat C 4 64 64 65 67 65 63 LCL 9	Passes DF 5 18 23 Critical 4 248 4 248 0.884 0.2056 2.576 0.21 3.878	P-Value 0 5640 0 0007 <0.0001 0 0002 0.0001 <0.0001	P-Value 0.5640 Docision Equal Value unequal Value unequal Value norm Non-norm Non-norm Non-norm Non-norm Non-norm Non-norm Non-norm	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib nat Distrib Max	gnificant Effect surion surion surion surion surion surion surion Std Err	cv%	
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Oistribution Distribution Distribution Distribution Distribution Distribution Costribution	Sum S 0.9833 Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapii Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of co-Wilk W Nigorov-Smiro Skewrston-Darling	Mean 0.001 0.0014 ality of Variance formality nov D ness sis on K2 Omn A2 Normal 0.983:	Yes \$quare 156267 445334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00 3.00 3.00 3.00 3.00 4.32 4.32 95% 3.0 93	Stat C Stat C 4 4 64 67 67 2 5 1 LCL 9	Passes DF 5 18 23 Critical 4 248 4 248 0.2056 2.576 9.21 3.878	P-Value 0 5640 0 0007 <0.0003 <0.0001 0 0002 0.0001 <0.0001	P-Value 0.5640 Docision Equal Value qual va	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib Max 1	gnificant Effect surfice pution pution pution pution pution pution Std Err 0.01567	CV% 3.39%	0.0%
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Costribution	Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapin Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of ro-Wilk W Nigorov-Smin Slino Skewrson-Darling	Mean 0.001 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014 0.0014	Yes \$quare 156267 445334 445334 7 2 0 61 0 41 3 70 3 00 ibus 22.7 iy 4.32 95% 3 0 93 1	Stat C Stat C Stat C LCL S Stat C Stat C	Passes DF 5 18 23 Critical 4 248 4 248 0.2056 2.576 9.21 3.878	P-Value 0 8 P-Value 0 5640 0 0007 <0.0001 0 0002 0.0027 <0.0001 <0.0001	P-Value 0.5640 Docision Equal Value qual Va	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib Max 1 1	gnificant Effect surfice surfice surfice surfice surfice surfice surfice Std Err 0.01567	CV% 3.39% 0.0%	0.0% -1.7%
Control Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Oistribution Distribution Distribution Distribution Distribution Costribution	Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapin Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of ro-Wilk W Nogorov-Smiro Skewr son-Darling	Mean 0.001 0.0014 ality of Variance formality nov D ness sis on K2 Omn A2 Normal 0.983:	Yes \$quare 156267 445334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00 ibus 22.7 iy 4.32 95% 3.0 93 1	Stat C Stat C Stat C LCL S Stat C Stat C	Passes DF 5 18 23 Critical 4 248 4 248 0.2056 2.576 9.21 3.878	P-Value 0 5640 0 0007 <0.0003 <0.0001 0 0002 0.0001 <0.0001	P-Value 0.5640 Docision Equal Value qual va	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib Max 1	gnificant Effect surfice pution pution pution pution pution pution Std Err 0.01567	CV% 3.39% 0.0% 3.39%	0.0% -1.7% 0.0%
Control Resp ANOVA Table Source Between Error Total Olstributional Attribute Variances Variances Oistribution Oistribution Distribution Distribution Distribution Costribution	Sum S 0.0057 0.0260 0.0317 Tests Test Mod L Leven Shapin Kolmo D'Ago D'Ago D'Ago Acder	evene Equality of ro-Wilk W Nogorov-Smire Skewr slino Furtos sino Darling re Count ntrol 4 4 4	Mean 0.001* 0.001* 0.001* of Variance formality nov D ness on K2 Omn A2 Normal 0.983: 1 0.983:	Yes Square 156257 145334 Test ance 0.8 7.2 0.61 0.41 3.70 3.00 ibus 22.7 dy 4.32 95% 3.093 1.3	Stat C Stat C Stat C LCL S Stat C Stat C	Passes DF 5 18 23 Critical 4 248 4 248 0.2056 2.576 9.21 3.878	P-Value 0 5640 0 0007 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.5640 Docision Equal Value unequal Value unequal Value v	Non-Si (o:1%) riances Variances nat Distrib nat Distrib nat Distrib Max 1 1 1	gnificant Effect soution oution oution oution oution oution 0.01567 0 0.01667	CV% 3.39% 0.0%	-1.7%

Report Date:

10 Nov-15 10:05 (p.2 of 4)

Test Code:

VCF0915.128fml | 18-6765-9351

Analysis ID;				Aquatic Bioassay & Consulting Labs, Inc.							
	14-6750-9683	E	idpoint:	7d Survivat Rat	e		CE	T S Version:	CETISv1	.8.7	
Analyzed:	10 Nov-15 9 58	A ₁	alysis:	Nonparametric-	Control vs T	realments	Off	icial Results:	Yes		
Angular (Corr	ected) Transforn	od Sum	mary								
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Negative Contr	4	1,408	1.304	1,513	1.441	1.31	1.441	0.03292	4.68%	0.0%
6.25		4	1,441	1.441	1,442	1.441	1 441	1.441	D	0.0%	-2.34%
12 5		4	1.408	1.304	1.513	1,441	1.31	1.441	0.03292	4.68%	0.0%
25		4	1.441	1.441	1.442	1.441	1.441	1.441	۵	0.0%	-2.34%
50		4	1.441	1.441	1.442	1.441	1 441	1.441	0	0.0%	-2.34%
100		4	1.441	1.441	1.442	1.441	1,441	1.441	0	0.0%	-2.34%
7d Survival R	ale Dotail										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
G.	Negative Confrol	1	1	0.9333	1						
6.2 5		1	1	1	1						
12.5		0 9333	1	1	1						
25		1	1	1	1						
50		1	1	1	1						
100		1	1	1	1						
Angular (Corr	ected) Transform	red Deta	II								
C-%	Control Type	Rep 1	Rвр 2	Rep 3	Rep 4						
0	Negative Control	1.441	1.441	1.31	1.441						
5.25		1.441	1.441	1.441	1.441						
12.5		1.31	1.441	1.441	1.441						
25		1.441	1.441	1.441	1.441						
50		1.441	1.441	1.441	1.441						
100		1.441	1.441	1.441	1.441						
7d Survival R	 ate Binomials										
C-%	Control Type	Rep 1	Rap 2	Rep 3	Rep 4						
0	Negative Control		15/15	14/15	15/15						
- 5.25		15/15	15/15	15/15	15/15						
12.5		14/15	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						

 Roport Date:
 10 Nov-15 10.05 (p 3 of 4)

 Test Code:
 VCI/0915.126/ml | 18-6765-9351

 Actuatic Bloassay & Consulting Labs, Inc.

Fathead Minnow 7-d Larval Survival and Growth Test							Aquatic Bloassay & Consulting Labs, Inc					
Analysis ID:	02-6255	-2773		Endpoint:	Mean Dry Bior	nass-mg		CE	TIS Versi	on: CETISv1	.8.7	
Analyzed:	_10 Nov-	15 9:58	ı	Analysis:	Parametric-Co	ontrol vs Trea	rimeals	Of	ficial Resi	ulis: Yes		
Batch ID:	09-6150	-6759		Test Type:	Growth-Surviv	al (/d)		An	alyst:			
Start Date:	16 Sep-	15 10:15		Protocol:	EPA/821/R-02	-				Laboratory Wat	er	
Ending Date:	23 Sép-	16 14:15	5	Species:	Pimephales pi	romelas		Вг	іле: І	Not Applicable		
Ouration:	6d 22b			Source:	Aquatic Biosys	stems, CO		Ag				
Sample ID:	07-0311	-3820		Code:	VCF0915.128	r .		CI	ent:	VCWPD		
Sample Date:	15 Sep-	15 03:10	0	Material:	Sample Water	r		Pro	oject: :	2015/16-1 (Wei)	ı	
Receive Date:	15 Sep-	15 10:18	5	Source:	Bioassay Rep	or 1						
Sample Age:	37h (14,	4 °C)		Station:	MO-SPA							
Data Transforr			Zola	Alt H	p Trials	Seed		PMSD	NOEL	LOEL	TOEL	τυ
Untransformed			NΑ	C>T	NA	NA		13.1%	100	>100	NA	1
Dunnett Multip	ale Comp	parison	Tost									
Control	vs C-	%		Test S	tat Critical	MSD OF	P-Value	Р-Тура	Decisi	ian(a:5%)		
Negative Contro	ol 6.:	25		-0.435	2.407	0.035 6	0.9301	CDF	Non-S	ignit/cant Effect	l	
		2.5		0 2006		0.036 6	0.7675	CDF	Non-S	ignificant Effect	l	
	25			0.1784	2.407	0.035 6	0.7754	CDF	Non-S	ignificant Effect	l	
	50			-1.082		0.036 6	0.9862	CDF	Non-S	ignificant Effect	l	
	10	<u> </u>		-0.133	8 2.407	0.036 6	0.8697	CDF	Non-S	ignificant Effect	l	
Test Acceptab	ility Crite	ırla										
Attributo	Tes	st Stat	TAC L	.iml(s	Overlap	Decision						
Control Resp	0.2	738	0.25 -	NL	Yes	Passes A	oceptability	Criteria	·			
PMSD	0.1	314	0.12 -	0.3	Yes	Passes A	cceptability	Criteria				
ANOVA Table		_										
Source	Sui	ın Squa	ires	Mean	Square	DF	F Stat	P-Value	Decisi	on(a:5%)		
Between	0.0	0105423	21	0.0002	109441	5	0.4721	0.7922	Non-S	ignificant Effect	!	
F,rror	0.0	505564			100441		Q-4161	A . AFF				
		0803911	1	0.0004	466172	18	U,4161	V - 322				
Total		080933:		0.0004			V,4761	V. 322				
	0.0			0.0004		18						
Distributional 1	0.0 Tests Te	090933:	31		466172	18	P-Value		n(a:1%)			
 Distributional ' Attribute	0.0 Tests Te Ba	090933: st orlett Eq	31 quality c	of Variance	Test Stat 14.86	18 23		Decisio	n(o:1%) ariances			
Distributional Attribute Variances Variances	0.0 Tests Te Ba	090933: st orlett Eq	31 quality c		Test Stat 14.86	18 23 Critical	P-Value	Decisio Equal V				
Distributional ' Attribute Variances Variances Variances	O.0 Tests Te Ba Mo	090933: i st orlett Eg od Lever ovene Eg	31 quality o ne Equa quality o	of Variance ality of Varia of Variance	Test Stat 14.86 nce 2.209 3.715	18 23 Critical 15.09 4.248 4.248	P-Value 0.0110 0.0984 0.0174	Decisio Equal V Equal V Equal V	ariances ariances ariances			
Distributional ' Attribute Variances Variances Variances Distribution	O.0 Tests Te Ba Mo 1.e Sh	090933: st_ ortlett Eq od Leven eveno Eq rapiso-W	31 quality c ne Equi quality c Vilk W N	of Variance ality of Varia of Variance Normality	Test Stat 14.86 nce 2.209 3.715 0.9336	18 23 Critical 15.09 4.248 4.248 0.884	P-Value 0.0110 0.0984 0.0174 0.1176	Decisio Equal V Equal V Equal V Normal	ariances ariances asiances Distribution			
Distributional ' Attribute Variances Variances Variances Distribution Distribution	Tests Tests Ba Mo Le Sh	osos33: st orlett Eg od Lever vona Eg ræpiro-W	31 quality o ne Equa quality o Vilk W N ov-Smir	of Variance ality of Varia of Variance Normality	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757	18 23 Critical 15.09 4.248 4.248 0.884 0.2056	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534	Decisio Equal V Equal V Equal V Normal Normal	ariances ariances ariances Distribution Distribution	3		
Distributional Attribute Variances Variances Variances Distribution Distribution	Tests Tests Ba Mo Le Sh Ko	st_ sriett Eg od Leven vono Eg rapiro-W Agoslino	guality one Equa quality o yilk W N ov-Smir o Skewi	of Variance ality of Varia of Variance dormality may D	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639	Decisio Equal V Equal V Equal V Normal Normal Normal	ariances ariances ariances Distribution Distribution	3		
Distributional * Attribute Variances Variances Distribution Distribution Distribution	Tests Tests Ba Mc Le Sh Kc D)	st st stlett Egod Lever wone Egospiro-W olmagare Agospiro	quality one Equality of Vilk W Nov-Smiro O Skewio Kurtos	of Variance ality of Varia of Variance Normality mov D ness	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873	Decisio Equal V Equal V Equal V Normal Normal Normal	ariances ariances ariances Distribution Distribution	3		
Distributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution	7ests Tests Ba Mc 1.e Sh Kc D' D' D'	st_ inflett Eq od Lever wone Eq rapiro-W limagare Agosline Agosline	quality one Equi quality of quality of Vilk W N ov-Smir o Skewi o Kurtos o Pears	of Variance ality of Varia of Variance Normality mov D ness ass	Test Stat 14.86 noe 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21	P-Value 0.0110 0.0984 0.0174 0.1175 0.0534 0.0639 0.1873 0.0753	Decisio Equal V Equal V Equal V Normal Normal Normal Normal	ariances ariances ariances Distribution Distribution Distribution Distribution	5 n n		
Olstributional * Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	O.0 Tests Tests According to the control of the con	osposa: st irlett Eq od Leven vono Eq apiro-W limagare Agosline Agosline Agosline derson-	quality one Equi quality of flik W Nov-Smir o Skewi o Kurtos o Pears	of Variance ality of Varia of Variance Normality mov D ness	Test Stat 14.86 noe 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873	Decisio Equal V Equal V Equal V Normal Normal Normal Normal	ariances ariances ariances Distribution Distribution	5 n n		
Olstributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Tests Tests Add Less Shows Divided Address Add Divided Address Add Divided Add	st st writett Eq od Lever wone Eq rapiso-W olmagers Agostino Agostino derson- Summa	quality one Equi quality of full W N ov-Smire o Skewi o Kurtos o Pears Dacting	of Variance ality of Varia of Variance Jornality may D ness sis on K2 Omin (A2 Normal)	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 ly 0.7928	18 23 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398	Decisio Equal V Equal V Regual V Normal Normal Normal Normal	ariances ariances ariances Distribution Distribution Distribution Distribution	3 n n n		
Olstributional Attribute Variances Variances Distribution	Tests Tests According to the control of the control	osposa: st writett Equation	quality one Equi quality of full W N ov-Smire o Skewn o Kurtos o Pears Dacting ary	of Variance ality of Variance formality may D ness sis on K2 Omno A2 Normali	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 ly 0.7928	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398	Decisio Equal V Equal V Regual V Normal Normal Normal Normal	ariances ariances ariances Distribution Distribution Distribution Distribution	Std Err	CV%	
Olstributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Color (Color (Co	Tests Tests Add Less Shows Divided Address Add Divided Address Add Divided Add	osposa: st writett Equation	quality one Equity of Vilk W Nov-Smire of Kurtos of Pears Dacting ary	of Variance ality of Variance Normality may D ness sis on K2 Omno A2 Normali	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 ly 0.7928	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398 Median 0.2733	Decisio Equal V Equal V Equal V Normal Normal Normal Normal	ariances ariances ariances Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Std Err	1.1%	0.0%
Olstributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Color (Color (C	Tests Tests According to the control of the control	osposa: st writett Equation	quality one Equity of Vilk W Nov-Smirro Skewing Kurtos o Pears Darling ary	of Variance ality of Variance Normality mov D ness sis on K2 Omno A2 Normali Maan 0.2738 0.2803	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 ly 0.7928 95% LCL 0.2488	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878 95% UCL 0.2786 0.3118	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398 Median 0.2733 0.271	Decisio Equal V Equal V Equal V Normal Normal Normal Normal Normal	ariances ariances ariances Obstribution Distribution	\$td Err 0.0015 0.009898	1.1% 7.06%	0.0% -2.37%
Olstributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Olstribution Olstribution Color 6.25	Tests Tests According to the control of the control	osposa: st writett Equation	quality one Equality of Vilk W Nov-Smirro Skewing Kurtos Darling ary Count 4 4 4	of Variance ality of Variance Normality mov D ness sis on K2 Omin A2 Normali Maan 0.2738 0.2803 0.2708	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 ly 0.7928 95% LCL 0.2488 0.2579	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878 95% UCL 0.2786 0.3118 0.2837	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398 Median 0.2733 0.271 0.2693	Decision Equal V Equal V Equal V Normal Normal Normal Normal Normal 0.2713 0.2693 0.2627	ariances ariances ariances obstruction Distruction Dis	\$td Err 0.0015 0.00405	1.1% 7.06% 2.99%	0.0% -2.37% 1.1%
	Tests Tests According to the control of the control	osposa: st writett Equation	quality one Equity of Vilk W Nov-Smirro Skewing Kurtos o Pears Darling ary	of Variance ality of Variance Normality mov D ness sis on K2 Omno A2 Normali Maan 0.2738 0.2803	Test Stat 14.86 nce 2.209 3.715 0.9336 0.1757 1.853 1.319 bus 5.173 by 0.7928 95% LCL 0.2691 0.2488 0.2579	18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 9.21 3.878 95% UCL 0.2786 0.3118	P-Value 0.0110 0.0984 0.0174 0.1176 0.0534 0.0639 0.1873 0.0753 0.0398 Median 0.2733 0.271	Decisio Equal V Equal V Equal V Normal Normal Normal Normal Normal	ariances ariances ariances Obstribution Distribution	\$td Err 0.0015 0.009898	1.1% 7.06%	-2.37%

Report Date:

10 Nov-15 10:05 (p 4 of 4)

Test Code:

VCF0915.128fml | 18-6765-9351

Aquatic Bioassay & Consulting Labs, Inc.

Analysis (0: Analyzed:

02-6255-2773 10 Nov-15 9:58

Endpoint: Mean Dry Biomass-mg

Parametric-Control vs Treatments

CETIS Version: CETISv1.8.7 Official Results: Yes

Mean Dry Biomass-mg Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rop 4
0	Negative Contro	H 0.2773	0.2713	0.2713	0.2753
6.25		0.2713	0.2707	0.2693	0.31
12.5		0.2687	0.2627	0.282	0.27
25		0.2493	0.308	0.274	0.2533
50		0 2667	0.336	0.2993	0.255
100		0.2927	0.27	0.268	0.2727

Report Date:

10 Nov-15 10:05 (p 1 of 4)

Test Code:

VCF0915.128fml | 18-6765-9351

Fathead Minnov	r 7.d Lanual Si	urvival and	Grawl	In Test				Anne		oassay & (
				7d Survival Rat	-		C			CETISv1		·9
,	06-6640-1944 Endpoint: 10 Nov-15 9:59 Analysis:			Linear Interpolation (ICPIN)				CETIS Version: CETISv1 8.7 Official Results: Yes				
Batch (D: 0	9-6150-6759	Test	t Type:	Growth-Surviva			A	nalyst:				
Start Date: 1	6 Sep-15 16:1:	5 Prof	tocol:	EPA/821/R-02-	013 (2002)		D	lluent:	Labo	rajory Wat	EL	
Ending Date: 2			cias:	Pimophales pro				rine:	Not A	Applicable		
Dur atio n: ნ -	d 22h	Sou	rce:	Aquatic Biosyst	tems, CO		As	ge: _				
	7-0311-3820	Cod		VCF0915.128f				lient:	VCW			
Sample Date: 1			erial:	Sample Water			Pi	roject:	2015.	/16-1(Wel)	I	
Receive Date: 1 Sample Age: 3	•		rce: lon:	Bioassay Repo MO-SPA	ri .							
Linear Interpola		413 1		1117 1117				<u> </u>				
Linear interpola X Transform	Y Transform	Sec	ч	Resamples	Exp 95%	CI Mod	thod					
Linear	Linear	0	ч	280	Yes		o-Paint Inte	erpolalion	ı			
Test Acceptabili	w Criteria											
Attribute	•	TAC Limit	ts	Overlap	Dacision							
Control Resp	0.9833	08-NL		Yes		cooptability	/ Criteria					
Point Estimates	•					. =====						
	95% LCL	95% UCL	TU	95% LCL	95% UCL							
<u>Level %.</u> EC5 >100	95% LCL	N/A	<1	NA NA	NA NA							
EC10 >100	N/A	N/A	<1	NA.	NA							
EC15 >100	N/A	N/A	<1	NA.	NA							
EC20 >100	N/A	N/A	≺1	N/A	NA							
EC25 >100	N/A	N/A	≺1	NA.	NA							
EC40 >100	N/A	N/A	<1	NA.	NA							
EC50 >100	N/A	N/A	<1	NA	NA							
7d Survival Rate	Summery				Calcu	lated Varl	ate(AVB)					
C-% Cor	itroi Typa	Count	Moan	: Min	xeM	Std Err	Std De	y CV3	á	%Effect	A	В
_	alive Control	4	0.983	3 0.9333	1	0.01667	0.0333			0.0%	59	60
б. 2 5		4	1	1	1	0	0	0.0%		-1.7%	60	60
12.5		4	0.983	3 0.9333	1	0.01567	0.0333			0.0%	59	60
25		đ	1	1	1	0	0	0.0%		-1.7%	60	60
50		4	1	1	1	0	0	0.0%		-1,7%	60	60
100		4	1	<u>1</u>	1	٥	0	0.0%	5	-1.7%	60	60
7d Survival Rate												
	trof Type	Rep 1	Rep 2		Rep 4		_	_				
_	jalive Control	1	1	0.9333	1							
3 25		1	1	1	1							
12.5		0 9333	1	1	1							
25		1	1	1	1							
50		1	1	í	1							
100		1		1	1							
'd Survival Rate	Binomials											
	ontrol Type	Rep 1	Rep		Rep 4							
	egative Control		15/15		15/15							
5.25		15/15	15/15		15/15							
12.5		14/15	15/15		15/15							
25		15/15	15/15	15/15	15/15							
				15166	46166							
50		15/15	15/15	15/15	15/15							

Report Date:

10 Nov-15 10.05 (p 2 of 4)

Test Code:

VCF0915.128(ml | 18-6765-9351 Aquatic Bloassay & Consulting Labs, Inc.

Fathead Minnow 7-6 Larval Survival and Growth Test

CETIS Version: CETISv1 B.7

Analyzed:

Analysis ID: 06-6640-1944 10 Nov-15 9:59 Endpoint: 7d Survival Rale

Analysis: Linear Interpolation (ICPIN)

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p 3 of 4)

Test Code:

VCF0915.128fml | 18-5765-9351

Fathead Minnow 7-d Larval Survival and Growth Test								Aquatic Bioassay & Consulting Labs, Inc					
Analysi Analyze		08-5903-8073 10 Nov-15 9.59		dpoint: alysis:	Mean Ury Biomass-mg Linear Interpolation (ICPIN)			CEYIS Version: CETISv1.8.7 Official Results: Yes					
				; Growth-Survival (7d)			Anal	-	-h				
Sjarj D. C''		16 Sep-15 16:1		tocol:	EPA/821/R-02-			Dilue		aboratory Water			
_	Date:	•		ecles:	Pimephales pro			Brini		of Applicable			
Duraţio	n:	6d 22h	\$0	urce:	Aquatic Biosyst	ems, CO		Age:					
Sample		07-0311-3820		de:	VCF0915.128(Cller		CWPD			
-		15 Sep-15 03.1		terial:	Sample Water			Proje	oct: 20)15/16-1(Wet)			
		15 Sep-15 10.1		nteg:	Bioassay Repo	rL							
Sample ——-	Age:	37th (14.4 °C)	Sta	tion:	MO-SPA								
Lineari	Interpo	lation Options											
X Trans	sform	Y Transform			Resamples	Exp 95%							
Linear		Linear	138	36555	280	Yes	Two-	Poixt Interp	olation				
Tost Ac	ceptab	illty Griteria											
Attribul	te	Tost Stat	TAC LIM	Its	Overlap	Decision							
Control	Resp	0.2738	0.25 - NE		Yes	Passes Ac	ceptability (Criteria					
 Point £	stimate	es				-							
Level	%	95% LCL	95% UCL	. 70	95% LCL	95% UCL							
IC5	>100	N/A	N/A	<1	NA	NA							
IC10	> 100	N/A	N/A	< h	NA	NA							
IC15	>100	N/A	N/A	< 6	NA	NA							
IC20	>100	N/A	N/A	44	NA	NA							
IC25	>100	N/A	N/A	< 1	NA	NA							
IC40	>100	N/A	N/A	41	NA	NA							
IC60	>100	N/A	N/A	<1	NA	NA							
Mean D)ry Bior	nass-mg Summ	ary			Cal	culated Var	riate					
C-%	¢	ontrol Type	Count	Mean		Max	Std Err	Std Dev	CV%	%Effect			
0	N	egative Control	4	0 273	8 0.2713	0 2773	0.0015	0.003	1.1%	0.0%			
6.25			4	0.280		0.31	0.003898	0.019B	7.06%	-2.37%			
12.5			4	0.270		0 282	0.00405	0.008099	2.99%	1.1%			
25			4	0.271		0.308	0.01341	0.02683	9, 69 %	0.97%			
50			4	0.29	0.256	0.338	0.01847	0.03693	12 73%				
100			4	0.275	9 0.258	0 2927	0.005692	0.01138	4.13%	-0.73%			
	-	nass-mg Datail											
C-%_		ontrol Type	Rap 1	Rep 2		Rep 4							
0	N	egative Control	0.2773	0.271		0.2753							
6.25			0.2713	0.270		0.31							
12.5			0.2587	0.262		0.27							
25			0.2493	0.308	0.274	0.2533							
50			0.2667	0.338	0.2993	0.256							
			0.2927	0.27	0.268	0.2727							

Report Date:

10 Nov-15 10:05 (p.4 of 4)

Test Code:

VCFQ915 128[ml] 18-6765-9351

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

08-6903-8073 10 Nov-15 9:59

Endpoint: Mean Dry Biomass-mg

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

UOU-055-1 Ventura Countywide Stormwater Quality Management Program 2015/16 Annual Report

Page DI - 104 CETIS W v1.8.7.11

Attachment D Appendix I

10 Nov-15 10 05 (p 1 of 2)

Tost Code:

VCF0915.128fm1 | 18-6765-9351

Fathead Minn	ow 7-d Larval S	surviva	and Growt	th Test				Aqua	tic Bloassay &	Consultin	g Labs, Inc.	
Batch ID: Start Date: Ending Date: Duration:	09-6150 6759 16 Sep-15 16: 23 Sep-15 14: 6d 22h		Test Type: Protocol: Species: Source:	Growth-Survav EPA/821/R-02 Pimephales pr Aquatic Biosys	-013 (2002) omelas	13 (2002) nelas			Laboratory Water Not Applicable			
Sample ID:	07-0311-3820		Cods:	VCF0915.1286				Client:	VCWPD			
•	15 Sep-15 03.1		Material:	Sample Water				Project:	2015/16-1(Wet)		
	15 Sep-15 10.1	15	Source:	Bioassay Repo	ort							
Sample Age:	376 (14.4 °C)		Station:	MO-SPA								
Alkalinity (Cal	CQ3}-mg/L											
C-%	Control Type	Coun	t Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	QA Count	
0	Negative Contr	8	63.88	61.71	66.04	62	67	0.914	9 2.588	4.05%	0	
100		8	23	23	23	23	23	0	0	0.0%	O.	
Overall		16	43 44			23	67				0 (0%)	
Conductivity-	µmhos											
C-%	Control Type	Coun	t Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dov	CV%	QA Count	
D	Negative Confr	8	336.1	326.9	345.4	326	358	3,903	11.04	3 28%	0	
6.25		8	309.9	308	311.7	307	313	0.789	2.232	0.72%	0	
12.5		8	298.5	297.5	299.5	296	300	0.4229	5 1.195	0.4%	0	
25		8	266.9	264.5	269.3	264	273	1.025	2.9	1.09%	0	
50		8	201.8	195.8	207.7	194	215	2.512	7.106	3.52%	0	
100		8	65.75	60.45	73.05	57	78	2.664	7.536	11.29%	0	
Overall		48	246.6			57	358				0 (0%)	
Dissolved Ox	ygen-mg/L											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	cv%	QA Count	
0	Negative Contr	8	7.625	7.091	6 159	6.5	8.7	0.225	8 0.6386	6 38%	0	
6.25		8	7.2	6.683	7 717	59	7.8	0.218	8 0,6188	8 59%	0	
12.5		ß	7.075	6.464	7.686	5.5	7.8	0.2583	3 0.7305	10.32%	0	
25		8	6.788	5.984	7.691	4.6	7.7	0.3399	9 0.9513	14.16%	0	
50		8	5.5	5.606	7.394	4	7.5	0.378	1.089	16.45%	0	
100		8	5.875	5.141	6.609	4	6.8	0.310	9 0.8779	14.94%	0	
Overall	-	48	5.844			4	8.7				0 (0%)	
Hardness (Ca	CQ3}-mg/L											
C-%	Control Type	Count	Mean	96% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	QA Count	
0	Negative Contr	8	83.13	81 83	84.42	82	85	0.5489	9 1.553	1.87%	0	
100		8	35	35	35	35	35	0	0	0.0%	Û	
Overali		16	59.06			35	85				0 (0%)	
pH-Units												
	Control Type	Count		95% LGL			Max	Std E		CV%	QA Count	
0	Negative Contr		8.113	7.968	8.257	7.8	8.3	0.0510		2.13%	0	
6.25		8	7.45	7.073	7.827	6.7	8	0.1592		6.05%	0	
		8	7.338	7.041	7.634	G. B	7.8	0.125	3 0.3543	4.83%	0	
12.5											_	
12.5 25		8	7.275	7.035	7.515	6.8	7.6	0.1013		3.94%	0	
12.5					7.515 7.443 7.295	6.8 6.8 6.7	7.6 7. 5 7.4	0.1013 0.092 0.0823	0.2605	3.94% 3. 6 1% 3.28%	0 0 0	

10 Nov-15 10:05 (p.2 of 2)

Test Code: VCF0915.128fml | 18-6765-9351

Fathead Minnow 7-d Larval Survival and Growth Test								Aquatic Bloassay & Consulting Labs, 1					
Temperatui	re-°C												
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Ştd Err	\$td Dev	CV%	QA Coun		
)	Negative Contr	8	24,24	23.77	24.71	24	25.6	0.1982	0.5005	2.31%	O		
8.2 5		8	24,21	23.8	24 62	24	25.4	0.1737	0.4912	2.03%	0		
125		8	24.2	23.85	24 55	24	25.2	0.1476	0.4175	1.73%	0		
25		8	24.16	23.9	24 43	24	24.9	0.1117	0.316	1.31%	0		
50		8	24.19	23.95	24 42	24	248	0.09899	0 28	1.16%	0		
100		8	24.1	23.97	24.23	24	24.4	0.0567	0.1604	0 67 %	0		
Overall		48	24.18			24	25.6				0 (0%)		
	CaCO3)-mg/L		•										
C-%)	Control Type	1 50	2	3	4	5	6		67				
•	Negative Confr	52	62	52	62	62	67	57					
100		23	23	23	23	23	23	23	23				
Conductivit				_		_	_	_					
0-%	Control Typo	200	2 220	3	4 220	5	5 222	7	8 247				
3	Negative Contr	358	326	335	329	335	332	327	347				
5.25		309	313	308	310	312	312	307	305				
12.5		300	296	299	298	299	299	298	299				
25		265	257	265	265	264	273	266	269				
50		199	199	199	195	194	215	205	208				
100	_	57	60	63	65	65	6 9	77	78				
	Dxygen-mg/L												
2-%	Control Type	1	2	3	4	5	6	7	6				
)	Negative Confr	7.5	7.9	7.1	7.8	7.8	87	7.7	6.5				
6 2 5		7.3	7.8	6.9	7.1	7.2	8.7	7.6	5.9				
12.5		7.5	7.7	6.8	6.9	7.1	8.7	7.3	5.5				
25		72	7.6	6.7	6.8	6.8	7.7	5.9	4.5				
50		7	7.1	6.4	6.7	6.5	7.5	8.8	4				
100		6.4	5.8	5.3	6.1	6.3	6.8	6.3	. 4				
-	CaCQ3)-mg/L												
G-%	Control Type	1	2	3	4	5	6	7	В				
0	Negative Confr	82	82	8 2	82	82	85	85	85				
100		35	35	35	35	35	35	35	35				
pH-Units													
C-%	Control Type	1	2	3	_ <u>4</u>	5	6	7	6				
)	Negative Confr	8.2	7.9	8.2	8.3	8.2	8.2	8.1	7.8				
5 25		7.5	6.7	7.4	7.B	7.9	8	7.3	7				
12.5		7.4	6.8	7.4	7.7	7.8	7.5	7.2	6.9				
25		7.4	6.9	7.4	7.5	7.B	7.4	7.2	6 .8				
50		7.4	6.9	7.4	7.4	7.5	7.3	7.1	6.8				
100		7.3	6.7	7	7.3	7.4	7.1	7.1	6.9				
Temperatur	re-°C												
0-%	Control Type	1	2	3	4	.5	6	7	θ				
0	Negative Contr	24	24	25.5	24	24	24	24	24.3				
6 2 5		24	24	25.4	24	24	24	24	24.3				
12.5		24	24.1	25.2	24	24	24	24	24.3				
25		24	24.1	24.9	24	24	24	24	24.3				
50		24	24.3	24.8	24	24	24	24.1	24.3				
100		24	24.4	24	24	24	24	24.1	24.3				



November 12, 2015

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-CAM

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.131

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

[C25 = >100.00 %

IC50 = >100.00 %

Yo**yl**s kery truly,

Scott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

10 Nov-15 10:05 (p.1 of 2)

Test Code:

VCI-0915.131(ml | 15-4236-4795

Fathead Minn	iow 7-d Larval Survival	and Growt	n rest				Aquatic E	noassay o	onsulting	Labs, Inc
Batch ID:	01-2356-7711	Test Type:	Growth-Surviva	l (7d)		Ana	alyst:			
Start Dato:	16 Sep-15 16:42	Protocol:	EPA/821/R-02-	013 (2002)		Dile	uent: Lab	oratory Wati	er	
Ending Date:	23 Sep-15 14:45	Species:	Pimophales pro	omefas		Brit	ne: Not	Applicable		
Duration:	6d 22h	Saurce:	Aquatic Biosys	tems, CO		Age	20			
Sample ID:	19-3797-2229	Code:	VCF0915,131f			Clic	ent: VC	MPD		
Sample Date:	15 Sep-15 03:45	Material:	Sample Water			Pro	ject: 201	5/16-1 (Wet)		
Receive Date:	: 15 Sep-15 10:15	Source:	Вювья Верс	rt						
Sample Age:	37h (11.5 °C)	Station:	MO-CAM							
Comparison S	Summary									
Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	T⊔	Method			
13-75 3-3519	7d Survival Rate	100	>100	NA	6.51%	í	Ounnett N	Aultople Com	parison Te	st
)5-6561-4657	Mean Dry Biomass-mg	100	>100	NA	6.14%	Ŀ	Ounnett N	fultiple Com	parison Te	5t
Point Estimat	e Summary									
Analysis ID	Endpoint	Lovel	%	95% LCL	95% UCL	TU	Method			
09-0101-9144	7d Survival Rate	EC5	>100	N/A	N/A	≺1	Linear Int	erpolation (K	CPIN)	
		EC10		N/A	N/A	≺1				
		EC15		N/A	N/A	<1				
		EC20		N/A	N/A	<1				
		EC25		N/A	N/A	<1				
		EC40		N/A	N/A	<1				
		EC50		N/A	N/A	<1				
25-1665-9054	Mean Dry Biomass-mo		>100	N/A	N/A	<1	Linear Int	erpolation (I	CPIN)	
		IC10	>100	N/A	N/A	<1				
		IC15	>100	N/A	N/A	<1				
		IC20	>100	N/A	N/A	<1				
		IC25	>100	N/A	N/A	<1				
		IC40	>100	N/A	N/A	<1				
		IC50	>100	N/A	N/A	≺1				
Test Acceptat	ollity									
Analysis ID	Endpoint	Attrib			TAC Limi	ts	Överlap	Decision		
03-7513-3519	7d Survival Rate		ol Resp	0.9833	0.8 - NL		Yes		occptability	
09-0101-9144	7d Survival Rate		ol Resp	0.9833	0.8 - NL		Yes		cceptability	
05-6561-4657	Mean Dry Biomass-rng	-	ol Resp	0.2738	0.25 - NL		Yes		cceptab:lity	
)6-1665- 905 4	Mean Dry Biomass-mg		ol Resp	0.2738	0.25 - NL		Yes		ceptab.lily	
	Mean Dry Biomass-roo	PMSC		0.06139	0 12 - 0.3		Yes	Relow Acc	eptab:lity (Criteria
fol Conscious 1 De	- • -									
	ale Summary			A 400 11-1				D4 : 5		
5-%	Control Type Coun			95% UCL		Max	Std Err	Std Dev	CV%	%Effect
5-%)	Control Type Coun Negative Control 4	0.983	0.9303	1	0 9333	1	0.01667	0 03333	3.39%	0.0%
5-%) 3.25	Control Type Coun Negative Control 4 4	0.983 0.983	3 0.9303 3 0.9303	1	0 9333 0 9333	1	0.01667 0.01 6 67	0 03333 0 03333	3.39% 3.39%	0.0% 0.0%
0-%) 3.25 2.5	Control Type Coun Negative Control 4 4 4	0.983 0.983 0.983	3 0.9303 3 0.9303 3 0.9303	1 1 1	0 9333 0 9333 0 9333	1 1 1	0.01667 0.01667 0.01667	0 03333 0 03333 0 03333	3.39% 3.39% 3.39%	0.0% 0.0% 0.0%
0-% 0 6.25 2.5 25	Control Type Coun Negative Control 4 4	0.983 0.983 0.983 0.966	3 0.9303 3 0.9303 3 0.9303 7 0.9054	1 1 1	0 9333 0 9333 0 9333 0 9333	1 1 1	0.01667 0.01667 0.01667 0.01925	0 03333 0 03333 0 03333 0 03849	3.39% 3.39% 3.39% 3.96%	0.0% 0.0% 0.0% 1.7%
0-%) 3.25 2.5 56	Control Type Coun Negative Control 4 4 4	0.983 0.983 0.983	3 0.9303 3 0.9303 3 0.9303	1 1 1	0 9333 0 9333 0 9333	1 1 1	0.01667 0.01667 0.01667	0 03333 0 03333 0 03333	3.39% 3.39% 3.39%	0.0% 0.0% 0.0%
0-% 0 3.25 2.5 5 5 0 00	Control Type Coun Negative Control 4 4 4 4 4	0.983 0.983 0.983 0.966 0.95	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484	1 1 1 1	0 9333 0 9333 0 9333 0 9333 0 9667	1 1 1 1	0.01667 0.01667 0.01667 0.01925 0.03191	0 03333 0 03333 0 03333 0 03849 0 06383	3.39% 3.39% 3.39% 3.96% 6.72%	0.0% 0.0% 0.0% 1.7% 3.39%
0-% 0.25 12.5 50 00 Mean Dry Bior	Control Type Coun Negative Control 4 4 4 4 4 4 mass-mg Summary	0.983 0.983 0.965 0.96 1	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1	1 1 1 1 1 1 1	0 9333 0 9333 0 9333 0 9333 0 9667	1 1 1 1 1	0.01667 0.01667 0.01667 0.01925 0.03191	0 03333 0 03333 0 03333 0 03849 0 06383	3.39% 3.39% 3.39% 3.96% 6.72%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7%
0-% 0.25 2.5 00 00 Mean Ory Bior	Control Type Coun Negative Control 4 4 4 4 4 mass-mg Summary Control Type Coun	0.983 0.983 0.965 0.95 1	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1	1 1 1 1 1 1 1 	0 9333 0 9333 0 9333 0 9333 0 8667 1	1 1 1 1 1 1	0.01667 0.01667 0.01667 0.01925 0.03191 0	0 03333 0 03333 0 03333 0 03849 0 06363 0	3.39% 3.39% 3.39% 3.96% 6.72% 0.0%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7%
0-% 0.25 12.5 30 00 00 Mean Dry Bior	Control Type Coun Negative Confrol 4 4 4 4 4 4 4 mass-mg Summary Control Type Coun Negative Control 4	0.983 0.983 0.983 0.966 0.95 1 1 Mean	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1	1 1 1 1 1 1 1 	0 9333 0 9333 0 9333 0 9333 0 9667 1 Min 0.2713	1 1 1 1 1 1 1 1 1 1 0.2773	0.01667 0.01667 0.01667 0.03191 0 Sid Err 0.0015	0 03333 0 03333 0 03333 0 03849 0 06363 0 Std Dav 0.003	3.39% 3.39% 3.39% 3.96% 6.72% 0.0%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7% %Effect
0-% 0.25 12.5 30 00 Mean Dry Bior 0-% 1.25	Control Type Coun Negative Control 4 4 4 4 4 mass-mg Summary Control Type Coun	0.983 0.983 0.983 0.966 0.95 1 1 Mean 0.273	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1 1 95% LCL 8 0.2691 7 0.2566	1 1 1 1 1 1 1 	0 9333 0 9333 0 9333 0 9333 0 8667 1 Min 0.2713 0.268	1 1 1 1 1 1 1 1 Max 0.2773 0.2967	0.01667 0.01667 0.01667 0.01925 0.03191 0 Sid Err 0.0015 0.006814	0 03333 0 03333 0 03333 0 03849 0 06363 0 Std Dav 0.003 0.01323	3.39% 3.39% 3.39% 3.96% 6.72% 0.0% CV% 1.1% 4.76%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7% %Effec 0.0% -1.4%
0-% 0.25 12.5 30 00 Mean Dry Bior 0-% 1.25	Control Type Coun Negative Control 4 4 4 4 4 4 4 mass-mg Summary Control Type Coun Negative Control 4 4	0.983 0.983 0.983 0.966 0.95 1 1 Mean 0.273 0.277	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1 1 95% LCL 8 0.2691 7 0.2566 5 0.256	1 1 1 1 1 1 1 1 	0 9333 0 9333 0 9333 0 9333 0 8667 1 Min 0.2713 0.268 0.2647	1 1 1 1 1 1 1 1 1 Max 0.2773 0.2967 0.3013	0.01667 0.01667 0.01667 0.01925 0.03191 0 Sid Err 0.0015 0.005614 0.008011	0 03333 0 03333 0 03333 0 03849 0 06363 0 Std Dav 0.003 0.01323 0.01602	3.39% 3.39% 3.39% 3.96% 6.72% 0.0% CV% 1.1% 4.76% 5.69%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7% %Effec 0.0% -1.4% -2.8%
0-% 0 3.25 12.5 25 80	Control Type Coun Negative Control 4 4 4 4 4 4 mass-mg Summary Control Type Coun Negative Control 4 4 4	0.983 0.983 0.983 0.966 0.95 1 1 Mean 0.273	3 0.9303 3 0.9303 3 0.9303 7 0.9054 0.8484 1 1	1 1 1 1 1 1 1 	0 9333 0 9333 0 9333 0 9333 0 8667 1 Min 0.2713 0.268	1 1 1 1 1 1 1 1 Max 0.2773 0.2967	0.01667 0.01667 0.01667 0.01925 0.03191 0 Sid Err 0.0015 0.006814	0 03333 0 03333 0 03849 0 06363 0 Std Dav 0.003 0.01323 0.01602 0.006098	3.39% 3.39% 3.39% 3.96% 6.72% 0.0% CV% 1.1% 4.76%	0.0% 0.0% 0.0% 1.7% 3.39% -1.7% %Effect 0.0% -1.4%

CETIS Summary Report

Report Date:

10 Nov-15 10:05 (p 2 of 2)

Test Code: VCF0915.131fml | 16-4236-4795

Fathead	Minnow 7-d Larvai Su	ırvival an	d Growth T	est		Aquatic Bioassay & Consulting Labs, Inc.
7d Surviv	val Rate Detail					
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negative Control	1	1	0.9333	1	•
6 25		1	0 9333	1	1	
12.5		1	1	0.9333	1	
25		0.9333	0.9333	1	1	
50		1	1	0.8667	0.9333	
100		1	1	1	1	
Mean On	Glomass-mg Detail					
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negalive Control	0.2773	0.2713	0.2713	0.2753	
6.25		0.2767	0.2967	0.2693	0.268	
12.5		0.2647	0.3013	0.2733	0.2867	
25		0.2727	0.2847	0.274	0.2713	
50		0.2813	0.2733	0.2647	0 272	
100		0.2673	0.2707	0.27	0.2847	
7d Surviv	val Rate Binomials					
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negative Control	15/15	15/15	14/15	15/15	
6.25		15/15	14/15	15/15	15/15	
12.5		15/15	15/15	14/15	15/15	
25		14/15	14/15	15/15	15/15	
50		15/15	15/15	13/15	14/15	
100		15/15	15/15	15/15	15/15	

Roport Date:

10 Nov-15 10:05 (p 1 of 4)

Test Code:

VCF0915.131fml | 16-4236-4795

Fathead Minne	ow 7-d Larval	Survivat	and Growt	h Test					Aqua	tic Bloassay	& Const	ulting	Labs, Inc
Analysis IO:	03-7513-351	9	Endpoint:	7d Sur	rvival Rate	9		CETIS Version: CETISv1 8.7					
Analyzod:	10 Nov-15 9:	:59	Analysis:	Param	etric-Can	trol vs Treat	ments	Offic	ial Res	ults: Yes			
Batch ID:	01-2366-771	1	Test Type:	Growth	h-Servival	(7d)		Anal	yst:				
Start Date:	16 Sep-15 16		Protocol:			13 (2002)		Dilus	ent:	Laboratory V	Vater		
Ending Date:	23 Sep-15 14	4:45	Species:	Pimep	hales pro	melas		8rin	e:	Not Applicab	ile		
Ouration:	6d 22h		Source:	Aquati	io Alosyst	ems, CO		Age	:				
Sample ID:	19-3797-222	9	Code:	VCF09	915.131f		Cile	nt:	VCWPD				
Sample Date:	15 Sep-15 03	3:45	Material:	Sampl	lo Water			Proje	ect:	2015/16-1(W	/el)		
Receive Date:	15 Sep-15 10	0:15	Source:	Bioass	say Repor	1							
Sample Aga:	37h (11.5 °C)	Station:	MO-C/	AM								
Data Transford	m	Zeta	Alt H	ур Т	rials	Sead		PMSD	NOE	L LOEL	TO	EL	TU
Angular (Corre	cled)	NA	C > T	N	ĮΑ	NA		6 51%	100	>100	NA		1
Dunnett Multip	ple Comparis	on Tést						_					-
Control	vs C-%		Test 9	Stat C	ritical	MSD DF	P-Value	Р-Туре	Decis	stan(a:5%)			
Negative Contr	rot 6.25		0	2	407	0.126 6	0.8333	CDF	Non-	Significant Ef	fect		
	12.6		0	2	407	0.126 6	0.8333	CDF	Non-	Significant Ef	fect		
	25		0.630	6 2	407	Q.126 6	0.5894	CDF	Non-	Significan i Ef	fect		
	50		11/	2	.407	0 126 6	0.3492	CDF		Significant Ef			
	100		-0.630	08 2	.407	0.126 6	0.9556	ÇDF	Non-	Signilicant Ef	fect		
Test Acceptab	illty Criteria												
Attribute	Test St.	o TACI	lante		3	Decision							
					Overlap	Decision							
	0.9833				/es	Passes Ac	ceptability	Cnteria	-				
Control Resp	0.9833				<u> </u>		ceptability	Cnteria	· -				
Control Resp ANOVA Table	0.9833 Sum Sc	- 8.0 	NL Mean	y Squar	es .	Passes Ac	# Stat	P-Value		 sion(a:5%)			
Controt Resp ANOVA Table Source Between	0.9833 Sum Sc 0.02110	0.8 - 1 quaras 0905	Mean 0.004	 Squar 22181	es .	Passes Ac				 sion(a:5%) Significant Et	feet		
Controt Resp ANOVA Table Source Between Ersor	0.9833 Sum Sc 0.02110 0.09808	0.8 - 1 quaras 905 9059	Mean 0.004	y Squar	es .	DF	# Stat	P-Value			fect		
Controt Resp ANOVA Table Source Between Ersor	0.9833 Sum Sc 0.02110	0.8 - 1 quaras 905 9059	Mean 0.004	 Squar 22181	es .	DF	# Stat	P-Value			fect		
Controt Resp ANOVA Table Source Between Ersor Total	0.9833 Sum Sc 0.02110 0.09808 0.11916	0.8 - 1 quaras 905 9059	Mean 0.004	 Squar 22181	es .	DF	# Stat	P-Value			fect		
Controt Resp ANOVA Table Source Between Ersor Total Distributional	0.9833 Sum Sc 0.02110 0.09808 0.11916 Tests	0.8 - 1 quaras 1905 196	Mean 0.004 0.005	Y Squart 22181 44781 T	e est Stat	DF 5 18 23	# Stat 0 775	P-Value 0.5803	Non-: (α:1%)	Significant Ef	fect		
Controt Resp ANOVA Table Source Between Ersor Total Distributional Attribute	0.9833 Sum Sc 0.02110 0.09800 0.11916 Tests Test	0.8 - 1 quares 1905 196 196	Mean 0.004 0.005	Squart 22181 44781 T ance 1	est Stat	DF 5 18 23 Critical 4 248	# Stat 0 775 P-Value 0 2200	P-Value 0.5803 Decision Equal Val	Non-((α:1%) riances	Significant Ef	feet		
Controt Resp ANOVA Table Source Between Error Total Distributional Autribute Variances Variances	0.9833 Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Sc Levend	0.8 - 1 quares 1905 6059 696 evene Equ	Mean 0.004 0.005 abily of Vari	Squar 22181 44781 T ance 1	est Stat .566	DF 5 18 23 Critical 4 248 4.248	F Stat 0 775 P-Value 0 2200 0 0107	P-Value 0.5803 Decision Equal Val Equal Val	Non-((α:1%) riances riances	Significant Ef	feet		
Controt Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variancos Distribution	0.9833 Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Sc Levend Shapin	0.8 - f quares 1905 6059 696 evene Equ evene Equ 5 Equality 0 -Wilk W	Mean 0,004 0,005 ality of Variance Normality	Squar 22181 44781 T ance 1 4	est Stat .566 .184	DF	P-Value 0 2200 0 0107 0 0219	P-Value 0.5803 Decision Equal Val Equal Val Normal D	Non-(α:1%) riances riances istribuli	Significant Ef	feet		
Controt Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variancos Distribution Distribution	0.9833 Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Co Levend Shapin Kolmod	0.8 - f quares 1905 696 evene Equ evene Equ b Equality a-Wilk W . gorav-Smi	Mean 0.004 0.005 ality of Vari of Variance Normality	Squar 22181 44781 T ance 1 4	est Stat .566 .184 .9004	DF 5 18 23 Critical 4 248 4.248 0.884 0.2056	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014	P-Value 0.5803 Decision Equal Val Regual Val Normal D Non-norm	Non-((a:1%) riances riances istribuli rial Distr	Significant Ef	feet		
Controt Resp ANOVA Table Source Between Ersor Total Oistributional Attribute Variances Variances Distribution Distribution Distribution	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Sc Levend Shapin Kolmod D'Agos	0.8 - f quares 1905 1905 196 Equality o-Wilk Wilgoray-Smi	Mean 0.005 0.005 ality of Vari of Variance Normality thoy D	Squar 22181 44781 T ance 1 4 0 0	est Stat .566 .184 .9004 .2346	Passes Ac 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014 0.1118	P-Value 0.5803 Decision Equal Val Rormal D Non-norm	Non- (α:1%) riances riances istribuli ral Distr istributi	Significant Ef	fect		
Controt Resp ANOVA Table Source Between Ersor Total Oistributional Attribute Variances Variances Variancis Distribution Distribution Distribution Distribution	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Sc Levend Shapin Kolmod D'Agos O'Agos	0.8 - f quares 1905 1905 196 Equality a-Wilk William gorav-Smi stino Skew stino Kurto	Mean 0.004 0.005 iality of Variance Normality inov D iness isis	Squar 22181 44781 T ance 1 4 0 0	est Stat .566 .184 .9004 .2346 .59	Passes Ac 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 2.576	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal D	Non-: (a:1%) riances riances istribuli ral Distr istributi istributi	on ibulion on	foct	-	
Controt Resp ANOVA Table Source Between Ersor Total Oistributional Attribute Variances Variances Ustribution Distribution Distribution Distribution Distribution Distribution	Sum Sc 0.02110 0.09808 0.11916 Tests Test Mod Sc Levend Shapin Kolmod D'Agos D'Agos D'Agos	0.8 - f quares 1905 1905 196 Equality a-Wilk Will gorav-Smi stino Skew stino Pears	Mean 0.004 0.005 ality of Variance Normality fnov D ness son K2 Omr	Squar 22181 44781 T ance 1 4 0 0 1 0 0 nibys 2	est Stat .566 .184 .9004 .2346 .59 .02235	Passes Ac DF	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal D Normal D	Non-: (a:1%) riances riances istribuli ral Distr istributi istributi istributi	on ibulion on on	feet	-	
Controt Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Ce Levend Shapin Kolmo, D'Agos D'Agos Anders	0.8 - f quares 1905 1905 196 Equality a-Wilk Will gorav-Smi stino Skew stino Pears	Mean 0.004 0.005 iality of Variance Normality inov D iness isis	Squar 22181 44781 T ance 1 4 0 0 1 0 0 nibys 2	est Stat .566 .184 .9004 .2346 .59	Passes Ac 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 2.576	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal D	Non-: (a:1%) riances riances istribuli ral Distr istributi istributi istributi	on ibulion on on	feet		
Controt Resp ANOVA Table Source Between Error Total Distributional Attribute Variances Variances Distribution	Sum Sc 0.02110 0.09808 0.11916 Tests Test Mod Sc Levend Shapin Kolmod D'Agos D'Agos Anders	0.8 - f quares 1905 1905 196 196 197 198 199 199 199 199 199 199 199 199 199	Mean 0.004 0.005 ality of Variance Normality frow D ress son K2 Ornr g A2 Norma	Squar 22181 44781 T ance 1 4 0 0 1 0 0 nibvs 2	est Stat .566 .184 .9004 .2346 .59 .002235 .529 .261	Passes Ac 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal D Normal D Normal D	Non- (a:1%) riances riances istribuli istributi istributi istributi val Oistr	on ibulion on on soution			%##ore
Controt Resp ANOVA Table Source Between Ersor Total Distributional Autribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution Total Total	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Ce Levend Shapin Kolmor D'Agos D'Agos D'Agos Anders ate Summary	0.8 - f quares 1905 196 196 196 196 197 197 197 197 197 197 197 197 197 197	Mean 0.004 0.005 ality of Variance Normality frov D mess son K2 Omr g A2 Norma	Y Square 22181 44781 T ance 1 4 0 0 1 0 nibys 2 lity 1	est Stat .566 .184 .9004 .2346 .59 .002235 .529 .261	Passes Ac 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal O Normal O Normal O Normal O	Non- (a:1%) riances riances istributi istributi istributi val Orstr	on ibulion on on wbutien	r CV		
Controt Resp ANOVA Table Source Between Ersor Total Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Total Attribution	Sum Sc 0.02110 0.09808 0.11916 Tests Test Mod Sc Levend Shapin Kolmod D'Agos D'Agos Anders	0.8 - f	Mean 0.004 0.005 ality of Variance Normality frov D mess sion K2 Orma t Mean 0.983	Square 22181 44781 T ance 1 4 0 0 1 0 0 1 0 1 1 0 9 3 0	est \$tat .566 .184 .9004 .2346 .59 .002235 .529 .261	Passes Ac DF 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878 95% UCL	P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal D Normal O Nor	Non-: (a:1%) riances riances istributi istributi istributi val Oistri Max 1	on ibulion on on obution Std Er	rr CV	9%	0.0%
Controt Resp ANOVA Table Source Between Ersor Total Oistributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Total 7d Survivat Res C-% 0 6.25	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Ce Levend Shapin Kolmor D'Agos D'Agos D'Agos Anders ate Summary	0.8 - f	Mean 0.004 0.005 ality of Variance Normality mov D mess sis son K2 Omr g A2 Norma t Mean 0.983 0.983	Square 22181 44781 T ance 1 4 0 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1	est \$tat .566 .184 .9004 .2346 .59 .002235 .529 .261	Passes Ac DF 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 9.21 3.878 95% UCL 1	P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025	P-Value 0.5803 Decision Equal Value Equal Value Normal D Normal D Normal O	Non-s (a:1%) riances riances istributi istributi istributi rial Oistri Max 1 1	on ibution on on obution Std Er 0.0166 0.0166	rr CV 67 3.3	9% 9%	0.0% 0.0%
Controt Resp ANOVA Table Source Between Error Total Oistributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Oistribution	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Ce Levend Shapin Kolmor D'Agos D'Agos D'Agos Anders ate Summary	0.8 - f	Mean 0.004 0.005 ality of Variance Normality frov D mess sis son K2 Omr g A2 Norma t Mean 0.983 0.983	Square 22181 44781 T ance 1 40 0 0 1 0 0 nibvs 2 lity 1 3 0 3 0 3 0	est Stat .566 .184 .9904 .2346 .59 .02235 .529 .261	Passes Acceptable Passes Accep	F Stat 0 775 P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025 Modian 1 1	P-Value 0.5803 Decision Equal Val Equal Val Normal D Normal O Normal O Normal O Normal O Normal O 0.9333 0.9333 0.9333	Non-s (a:1%) riances riances istributi istributi istributi al Oistr Max 1 1	on ibution on on obution Std Er 0.0166 0.0166	rr CV 37 3.3 37 3.3 37 3.3	9% 9% 9%	0.0% 0.0% 0.0%
Controt Resp ANOVA Table Source Between Ersor Total Distributional Auribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Total Auribute Auribute Auribute Auribute Auribute Auribute Auribution A	Sum Sc 0.02110 0.09800 0.11916 Tests Test Mod Ce Levend Shapin Kolmor D'Agos D'Agos D'Agos Anders ate Summary	0.8 - f	Mean 0.004 0.005 ality of Variance Normality mov D mess sis son K2 Omr g A2 Norma t Mean 0.983 0.983	Square 22181 44781 T ance 1 40 0 0 1 0 0 1ibys 2 lity 1 3 0 3 0 3 0 7 0	est \$tat .566 .184 .9004 .2346 .59 .002235 .529 .261	Passes Ac DF 5 18 23 Critical 4 248 4.248 0.884 0.2056 2.576 9.21 3.878 95% UCL 1	P-Value 0 2200 0 0107 0 0219 0 0014 0.1118 0.9822 0.2824 0.0025	P-Value 0.5803 Decision Equal Value Equal Value Normal D Normal D Normal O	Non-s (a:1%) riances riances istributi istributi istributi rial Oistri Max 1 1	on ibution on on obution Std Er 0.0166 0.0166	" CV 67 3.3 67 3.3 67 3.3 24 3.9	9% 9% 9% 8%	0.0%

Report Date:

10 Nov-15 10:05 (p.2 of 4)

Test Code:

VCF0915 131fml | 16-4236-4795

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:	03-7513-3519 10 Nov-15 9:59		ndpoint: nalysia:	7d Survival Rati Parametrit-Con		tmersis		TIS Versior icial Resulf		.8.7	
Angular (Cor	rected) Transfor	med Sun	ımary								
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
0	Negative Contr	4	1,408	1.304	1.513	1.441	1.31	1.441	0.03292	4.68%	0.0%
6.25		4	1,408	1.304	1.513	1.441	1.31	1.441	0.03292	4.68%	0.0%
12.5		4	1.408	1.304	1.513	1.441	i.31	1.441	0.03292	4.68%	0.0%
25		4	1.375	1.254	1.496	1.375	131	1.441	0.03802	5.53%	2.34%
50		4	1.347	1.16	1.535	1.375	1 197	1.441	0.05894	8.75%	4.34%
100		4	1.441	1.441	1.442	1.441	i 441	1.441	0	0.0%	-2.34%

7d Survival Rate Detail

C-%	Control Type	Rop 1	Rep 2	Rop 3	Rop 4
0	Negative Control	1	1	0.9333	1
6 25		1	0.9333	1	1
12.5		1	1	0.9333	1
25		0 9333	0.9333	1	1
50		1	1	0.8667	0.9333
100		1	1	1	1

Angular (Corrected) Transformed Detail

C-%	Control Type Rop 1	Rep 2	Rop 3	Rop 4
0	Negative Control 1 441	1.441	1.31	1,441
6 25	1.441	1.31	1.441	1,441
12.5	1.441	1.441	1.31	1.441
25	1.31	1.31	1.441	1,441
50	1.441	1.441	1.197	1.31
100	1.441	1.441	1.441	1.441

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Confrot	15/15	15/15	14/15	15/15
6.25		15/15	14/15	15/15	15/15
12.5		15/15	15/15	14/15	15/15
25		14/15	14/15	15/15	15/15
50		15/15	15/15	13/15	14/15
100		15/15	15/15	15/15	15/15

Report Date:

10 Nav-15 10.05 (p 3 of 4)

Test Code:

VCF0915.131fml | 16-4236-4795

								*Ct 0510.		4-12-00-11
Fathead Minn	now 7-d Larval Sur	vival and Growth	r Test				Aquatic l	Bioassay & C	Consulting	g Labs, Inc
Analysis ID:	05-8561-4657	Endpoint:	Moan Ory Biom	nass-mg		CET	18 Version	: CETISV1	67	
Analyzed:	10 Nov-15 9:59	Analysis:	Parametric-Cor	ntrol vs Trea	tments	Offic	dat Rosult	s: Yes		
Batch ID:	01-2356-7711	Test Type:	Growth-Surviva	ป (7d)		Ana	lyst:			
Start Date:	15 Sep-15 15:42	Protocol:	EPA/821/R-02-	013 (2002)		Olfu	ent: Lab	boratory Wate	≙ Γ	
Ending Date:	23 Sep-15 14:45	Species:	Pinnephales pro	omelas		8rin	e: No	t Applicable		
Duration:	6d 22h	Source:	Aquatic Biosyst	tems, CO		Age	:			
Sample ID:	19-3797-2229	Code:	VCF0915.131f			Clie	nt: VO	:WPD		
Sample Date:	15 Sep-15 03:45	Material:	Sample Water			Proj	ect: 201	15/16-1(We1)		
Receive Date:	: 15 Sep-15 10:15	Source:	Bioassay Repo	ert						
Sample Age:	376 (11.5 °C)	Station:	MO-CAM							
Data Transfor	m Z	eta Alt Hy	/p Triats	Sced		PMSD	NOEL	LOEL	TOEL	TU
Untransformed	1 6	IA C>T	NA	NA		6.14%	10D	>100	NA	1
Dunnett Multi	 Iple Comparison To	est								
Control	vs G-%	Test S	lat Critical	MSD DF	P-Value	Р-Туро	Doctsion	n(a:5%)		
Negative Conf.	rol 6.25	-0.548		0017 6	0.9461	CDF	Non-Sign	sificant Effect		
-	12.5	-1.098	2.407	0.017 6	0.9868	CDF		sificant Effect		
	25	-0.262	5 2.407	0.017 6	0.8990	CDF	Non-Sign	sificant Effect		
	50	0.1432	2.407	0.017 6	0.7877	CDF	Non-Sign	sificant Effect		
	100	0.0954	15 2.407	0.017 6	0.8037	CDF	Non-Sign	nificant Effect		
Test Acceptat	bility Criteria									
Attribute	Test Stat T	AC Limits	Overlap	Decision						
Control Resp	0.2738 0	.25 - NL	Yes	Passes Ad	cceptability	Criteria				
PMSD	0.06139 0	.12 - 0.3	Yes	Below Acc	eptability (riter ₁ a				
ANOVA Table	l									
Sourco	Sum Square	s Mean	Square	DF	F Stat	P-Value	Decision	n(a:5%)		
Between	0.000222370	8 4,4474	116E-05	5	0.4559	0.8036	Nan-Sigr	silicant Effect		
Error	0.001755998	9,7555	46E-05	18						
Total	0.001978369	1		23						
Distributional	Tests									
Attribute	Test		Tost Stat	Critical	P-Value	Decision				
Variances		asity of Variance	7.984	15.09	0.1571	Equal Va				
Variances		Equality of Varia		4 248	0.2474	Equal Va				
Variances	-	ality of Variance	2.223	4 248	0.0968	Equal Va				
Distribution		k W Normality	0.9408	0 884	0.1703		istribution			
Distribution	Kolmogorov		0.163	0 2056	0.0987		istribution			
Distribution	D'Agastino S		1.525	2 576	0.1273		istribution			
Distribution	D'Agastino i		0.8754	2 576	0.3814		istribution			
Distribution Distribution	_	Pearson K2 Omn ariing A2 Normali		9 21 3 878	0.213 2 0.0677		hstribution histribution			
			ny 0.0890	2010	0.0011	HOPETIES D	134 IDOLION			
	mass-mg Summar				14			0.75	D. M.	
C-%		ount Mean	95% LCL		Modian	Min	Max	Std Err	CV%	%Effec
D B a s	Negative Control 4			0 2786	0.2733	0.2713	0.2773	0.0015	1.1%	0.0%
6.25	4			0 2987	0.273	0.268	0.2957	0.006514	4.76%	-14%
12.5	4			0.307	0.28	0.2647	0.3013	0.008011	5.59%	-28%
25	4			0.2854	0.2733	0.2713	0.2847	0.003049	2.21%	-0.57% 0.32%
50 400	4			0 2837 0 2050	0.2727	0.2647	0.2813	0.003414		0.37%
100	4	0.2732	0.2608	0 2856	0.2703	0.2673	0.2847	0.0039	2.85%	0.24%

Report Date:

10 Nov-15 10:05 (p 4 of 4)

Test Code:

VCF0915.131(mt) 16-4236-4795

Fathead Min	now 7-d Larval St	ne leviviu	nd Growti	h Tost		Aquatic Bl	cassay & Consulting Labs, Inc.
Analysis ID: Analyzed:	10 Nov-15 9:59		idpoint: ialysis:	Mean Dry Bromass-mg Parametric-Confrol vs Treatments		CETIS Version: Official Results:	CETISv1.8.7 Yes
Mean Dry Blo	omass-mg Detail				•		
C-%	Control Type	Rep 1	Rop 2	Rep 3	Rop 4		
0	Negative Control	0.2773	0.2713	3 0.2713	0 2753		
6 .25		0.2767	0.2961	7 0.2693	0 268		
12.5		0.2647	0.3010	3 0.2733	0.2857		
25		0.2727	0.2841	7 0.274	0.2713		
50		0.2813	0.2733	3 0.2647	0.272		
100		0.2673	0.2703	7 0.27	0.2847		

Report Date:

10 Nov-15 10:05 (p.1 of 4)

Test Code:

VCF0915.131fml | 16-4236-4795

Falhea		w 7-d Larval Şı							Aquali			lling Labs, Inc
Analysi		09-0101-9144		•	7d Survival Rai				'IS Versio		1 8.7	
Analyzo	e d:	10 Nov-15 9:59	Ana	lysis:	Linear Interpola	ition (ICPIN)	Offi	cial Resu	ill s: Yes		
Batch I	D: (01-2366-7711	Tes	Type:	Growth-Surviva	l (7d)		Ana	lyst:			
Start D	ate:	16 Sep-15 16:4:		tocel:	EPA/821/R-02-				-	aboratory Wa	te.	
Ending	Date:	23 Sep-15 14:4	5 Sp e	cles:	Pimephales pro	melas		Brit	ne: 1	Not Applicable		
Duratio	ıπ: (6d 22h	\$ ou	rce:	Aquatic Biosyst	ems, CO		Age	:			
Sample	: ID:	19-3/97-2229	Cod	e:	VCF0915.131f			Cile	at: \	/CWPD		
3ample	Date:	15 Sep-15 03:4:	5 Mat	erial:	Sample Water			Pro.	ject: 2	015/16-1(W e	t)	
		15 Sep-15 10:1:	5 So u	rce:	Broassay Repor	ď						
Sample	Age:	37h (11.5 °C)	Stat	lon:	MO-CAM							
Line ar I	Interpola	ation Options							·· · -			
X Trans	sform	Y Transform	See	d	Resamples	Exp 95%	CL Meth	nod				
mear		Linear	D		280	Yes	Two	-Point Interp	noifelec			
fest Ac	ceptabil	ity Criteria										
Altribul	te	Test Stat	TAC Limit	ts	Overlap	Decision						
Control		0 9833	0.8 - NL		Yes		cceptability	Criteria				
Point F	stimates											
Level	%		95% UCL	TŲ	95% LCL	95% UCL						
EC5	>100	N/A	N/A	<1	NA NA	NA VOL						
EC10	>109	N/A	N/A	<1	NA	NA						
EC15	>109	N/A	N/A	$\leq k$	NA	NA						
EC20	>100	N/A	N/A	<1	NA	NA						
EC25	>100	N/A	N/A	<t< td=""><td>NA</td><td>NA</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	NA	NA						
EC40 EC50	>100 >100	N/A N/A	N/A N/A	<1 <1	NA NA	NA NA						
		. ———	M//3		IN.							
		o Summary	_				lated Varia					_
C-%)		ntrol Type gative Control	Count 4	Mean 0.983		Max 1	\$td Err 0.01667	\$td Dev 0.03333	CV% 3.39%	%Effect 0.0%	59	8 60
3.25	ine	gative Connut	4	0.983		t	0.01667	0.03333	3.39%		59	60
12.5			4	0.983		1	0.01667	0.03333	3.39%		59	60
25			4	0.966		1	0.01924	0.03849	3.98%		58	60
50			4	0.95	0.8667	1	0.03191	0 06383	6.72%		57	60
100			4	1	1	1	0	Ó	0.0%	-1 7%	60	60
	rival Rat	o Detail										
>%		ntroi Type	Rep 1	Rep 2	Rop 3	Rep 4						
1		gative Control	1	1	0 9333	1						
25		•	1	0.933		1						
2.5			1	1	0.9333	1						
5			0.9333	0.933		1						
i0			1	î	0.8567	0.9333						
100			1	î	í	1						
d Surv	 ∕Ival Rat	e Binomlats						-				
-%		ontrol Type	Rep 1	Rep 2	Rep3	Rep 4						
)	N	legative Control	1 15/15	15/15	[4/15	15/15						
25			15/15	14/15	15/15	15/15						
2.5			15/15	15/15	14/15	15/15						
25			14/15	14/15	15/15	15/15						
60			15/15	15/15	13/15	14/15						
**												

Report Date:

10 Nov-15 10:05 (p 2 of 4)

Test Codo:

VCF0915.131fml | 1G-4236-4795

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

09-0101-9144 10 Nov-15 9,59 Endpoint: 7d Survival Rate

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CE1ISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p 3 of 4)

Test Code:

VCF0915.131fm1 | 16-4236-4795

F ai hear	d Minn	ow 7-d Larval Şı	urvival and	Growt	h Tesi	_			Aqual	ic Blo	assay & (Consulting Lab	s, Inc
Analysi Analyze		06-1665-9054 10 Nov-15 9:59		point: lysis:	Mean Dry Biom Linear Interpola	•)		IS Versi clai Res			B.7	
Batch I	D:	01-2366-7711	Teşi	Туре:	Growth-Surviva	I (7d)		Ana	lyst:				
Start Da	ate:	16 Sep-15 16:4:	2 Prot	ocol:	EPA/821/R-02-	013 (2002)		Dilu	ent:	Labor	atory Wate	er	
Ending	Date:	23 Sep-15 14:49	5 Spe	cies:	Pimephales pro	omelas		Brli	1 ė ;	Not A	pplicable		
Duratio	in:	6d 2 2h	Şou	rçe:	Aquatic Biosyst	tems. CO		Age	:				
Bample	10:	19-3797-2229	Cod	e:	VCF0915 131f			Clle	nt:	VCW	PD		
Sample	Date:	15 Sep-15 03:4:	5 Mate	rial:	Sample Water			Pro	ect:	2015/	16-1(We1)		
Receive	o Dato:	15 Sep-15 10:1:	5 8ou	/CO:	Bioassay Repo	rt							
Sample 	Age:	375 (11.5 °C)	Stat	on:	MO-CAM								
inear l	Interpo	fation Options											
X Trans	sfarm	Y Transform	See	1	Resamples	Exp 95%							
Linear		Linear	2761	21	280	Yes	Two	Point Inter	polation				
Tost Ac	ceptab	ility Criteria											
Attribut		Test Stat		<u> </u>	Overlap	Decision							
Control	Resp .	0 2738	0.25 · NL		Yes	Passes A	cceptability	Criteria					
Point E	stimate	9 5											
_ovel	%	95% LCL	95% UCL	τυ	95% LCL								
IC5	>100	N/A	N/A	≺1	NA	NA							
C10	>100	N/A	N/A	<1	NA	NA							
C15	>100	N/A	N/A	<1	NA	NA							
C20	>100	N/A	N/A	<1	NA	NA							
C25	>100	N/A	N/A	<1	NA	NA							
C40	>100	N/A	N/A	<1	NA 414	NA							
C50	>100	N/A	N/A	<1	NA	NA							
Moan D	ry Blor	mass-mg Summ	iary			Cal	culated Va	ris t e					
C-%	С	ontrol Type	Count	Mean	. Min	Max	Std Err	Std Dev	CV%		%Effect		
)	N	legative Control	4	0.273	8 0.2713	0.2773	0.0015	0.003	11%		0.0%		
3 25			4	0.277	7 0.268	0.2967	0.006614	0.01323	4 .76%	6	-1.4%		
12.5			4	0.281		0.3013	0.008011	0.01602	5.89%	6	-2.8%		
25			4	0.275	7 0.2713	0.2847	0.003049	0.006098	2 2 2 1 %	6	-0.67%		
50			4	0.272		0.2813	0.003414				0.37%		
100			4	0.273	2 0.2673	0.2847	0.0039	0.007801	2 86%	6	0.24%		
Mean D	ry Blor	nass-mg Detail											
0-%		ontrol Type	Rep 1	Rep 2		Rep 4							
0	N	legative Control	0.2773	0.271		0.2753							
6 25			0.2767	0.296		0.268							
12.5			0.2647	0.301	3 0.2733	0.2867							
			0.2727	0.284	7 0.274	0.2713							
25			0.2)21	U.LU 1		0.2110							
25 50			0.2813	0.273		0.272							

Report Date:

10 Nov-15 10:05 (p 4 of 4)

Tost Code:

VCF0915.131fml | 16-4236-4795

Fathead Minnow 7-d Larval Survival and Growth Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

06-1665-9054 10 Nov-16 9:59

Endpoint: Mean Dry Biomass-mg

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

000 055-1 Ventura Countywide Stormwater Quality Management Program 2015/16 Annual Report

CETIS V1.8.7.11

Attachment D Appendix I

Roport Date:

10 Nov-15 10:05 (p.1 of 2)

Test Code:

VCF0915.131fmi | 18-4236-4795

							Т	est Code:	VCF091	5.131fmi 1	8-4236-4795
Fathead Minn	ow 7-d Larvat 9	Survival	and Growt	lh Test				Aquatio	c Bloassay &	Consulting	Labs, Inc.
Batch ID: Start Date: Ending Date:	01-2366-7711 16 Sep-15 16.4 23 Sep-15 14.4		Protocol: Species:	Growth-Surviv EPA/821/R-02 Pimephalos pr	-013 (2002) omelas		D	ltino: N	aboratory Wa tot Applicable	ter	
Duration:	6d 22h		Source:	Aquatic Biosys	stems, CO		A	.ge:			
Sample ID:	19-3797-2229		Code:	VCF0915.1311	ſ		c	tient: V	/CWPD		
Sample Date:	15 Sep-15 03:	45	Material:	Sample Water			Р	roject: 2	015/16-1(Wel)	
Receive Date:	15 Sep-15 10:	15	Source:	Bioassay Repo	Pro						
Sample Age:	37h (11.5 °C)		Station:	MO-CAM							
Alkalinity (Car	CO3)-mg/L									-	
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dav	CV%	QA Count
0	Negative Contr	3	63.88	61.71	66.04	62	67	0.9149	2.588	4.05%	0
100		8	29	29	29	29	29	0	0	0.0%	0
Overall		16	46.44			29	67				O (D%)
Conductivity-											
¢-%	Control Type	Count		95% LCL	95% UCL	Min	Max	Std Err		CV%	QA Count
0	Negative Contr	-	336.1	326 9	345.4	326	358	3 903	11.04	3.28%	D
6.25		8	313.5	310.5	316.5	307	318	1 268	3.586	1.14%	D .
12.5		8	309.3	306.2	312. 3	302	314	1.292	3 655	1,18%	D
25		8	291	283	299	269	299	3,396	9.607	3.3%	0
50		8	255.5	245.5	265.5	242	270	4.217	11.93	4.67%	0
100		8	190.1	172.2	208	160	210	7,565	21.4	11 25%	0 (000)
Overall		48	282.6			160	358				0 (0%)
Dissolved Oxy											
C-%	Control Type	Count		96% LCL	95% UCL	Min	Max	Ştd Err	Std Dav	CV%	QA Count
0	Negative Contr		7.625	7.091	8 159	6.5	8.7	0.2258	0.6386	8.38%	0
6.25		θ	7.163	6.659	7 666	5.9	7.8	0.2129	0.6022	8.41%	0
12.5		8	7.088	6.511	7 66 4	5.6	7.8	0.2438	0 6896	9.73%	0
25		8	6.863	6.149	7 576	5	7.8	0.3017	0 8535	12 44%	0
50		8	6.638	5.945	7.33	4.8	7.6	0 2927	0.828	12 47%	0
100 Overall		48	5. 82 5 6. 8 67	5.032	6.618	4.2	7.1 8.7	0.3353	0 9483	16 28%	0 (0%)
Hardness (Ca	CO3), med		0.007			1.2	J.,				0 (0747
C-%	Control Type	Count	Mean	96% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr		83.13	81.83	84.42	82	85	0.5489	1.553	1.87%	Ó
100	Negative Colli	8	56	56	56	56	56	0.0103	0	0.0%	ō
Overall		16	69 56			56				0.070	0 (0%)
pH-Units											-
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Confr	6	8.113	7.968	8 257	7.8	8.3	0.06105		2.13%	0
6 25	-	8	7.338	7.025	7.65	6.7	7.8	0 1322	0.3739	5 1%	0
12.5		8	7.263	6.991	7.534	6.9	7.7	0.1149	0.3249	4.47%	0
25		8	7.238	7.023	7.452	6.9	7.6	0.09051	0.256	3.54%	0
		_								0.001	^

₿

8

48

7.15

6.925

7.337

6.977

6.**658**

7.323

7.192

6.9

6.5

6.5

7.5

7.5

8.3

0.07319

0.113

0.207

0.3196

50

100

Overall

29%

4.52%

¢

0

0 (0%)

Report Date:

10 Nov-15 10 05 (p 2 of 2)

Test Code:

VCF0915 131fml | 16-4236-4795

	nnow 7-d Larval S	urvivar ai	na Growin	1850				Aquatici	eloassay o	Consulting	g Labs, Inc.
Temperatu	тв-°С										
¢-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	DA Cout
D .	Negative Contr	8	24.25	23.75	24.75	24	25.7	0.2104	0.5952	2.46%	Ò
6.25		8	24.28	23.78	24.77	24	25.7	0.2077	0.5874	2.42%	0
12.5		8	24.23	23.91	24.54	24	25.1	0.1333	0.377	1.56%	0
25		8	24.23	23.95	24.49	24	24.9	0.1114	0.3151	1.3%	0
50		8	24.2	24.02	24.38	24	24.5	0.07792	0.2204	0.91%	0
100		<u> </u>	24.15	23.97	24.33	2/	24.5	0.0756	0.2138	0.89%	0
Overali .		48 	24.22			24	25.7				D (0%)
	CaCO3)-mg/L										
G-% 0	Control Type	1 07	2	3	4	5	6	7	8		
	Negative Confr	62	62	62	62	62	67	67	67		
100		29	29	29	29	29	29	29	29		
Conductivi			_				_				
<u>C-%</u>	Control Type	1	2	3	4	5	6	7	B		
0	Negative Contr	358	326	335	329	335	332	327	347		
6.25		315	315	315	316	318	307	312	310		
12.5		308	308	314	312	312	302	369	309		
25		289	289	298	299	295	269	294	295		
50		248	244	268	270	270	242	249	253		
100		160	166	206	208	210	168	201	202		
Dissolved (Охудал-mg/L										
<u>c-%</u>	Control Type	1	2	3	4	5	6	7	8		
0	Negativo Contr	7.5	7.9	7.1	7.8	7.8	B .7	7.7	6.5		
6.25		7.2	7.8	68	7 1	7.3	7.6	7.6	5.9		
12.5		7.3	7.8	69	7	7.2	7.8	7.1	5.6		
25		7.2	7.6	66	69	68	7.8	7	5		
50		69	7.1	63	68	6.7	7.6	6.9	4 8		
100		58	49	5.5	61	6.7	7.1	6.3	42		
	CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Contr	82	82	82	82	82	8 5	85	85		
100		56	56	56	56	56	56	56	56		
pH-Units											
C-%	Cantrol Type	1	2	3	4	5	6	7	8		
0	Negative Contr	82	7.9	8.2	83	B 2	8.2	8.1	7.8		
5.25		7.5	6.7	7.3	78	7.8	7.3	7.3	7		
12.5		74	6.9	7.2	7.7	7.7	7,3	7	69		
25		7.4	7	7.2	7.5	7.6	7,3	7	6.9		
50		7.3	6.9	7.2	7.3	7.5	7	7	7		
100		6.5	6.6	6.7	7.1	7.5	7	7	7		
Temperatui	re-°C										
C-%	Control Type	1	2	3	4	5	6	7	8		
0	Negative Confr	24	24	25.7	24	24	24	24	24.3		
6.25		24	24	25.7	24	24.2	24	24	24.3		
12.5		24	24.1	25.1	24	24.3	24	24	24.3		
25		24	24.2	24.9	24	24.4	24	24	24.3		
50		24	24 4	24 5	24	24.4	24	24	24.3		
100		24	24.5	24	24	24.4	24	24	24.3		



November 12, 2015.

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 LD.:

ME-VR2

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.130

CHRONIC TOPSMELT SURVIVAL AND GROWTH BIOASSAY

Survival

NOEC =

100,00

TUe =

1.00

lC25

>100.00 %

IC50 =

>100.00 %

Biomass.

NOEC +

100.00 %

TUc

1.00

1C25 =

>100.00 %

IC50 ---

>100,00 %

Yours very truly,

g / Scott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

10 Nov-15 10:06 (p.1 of 2)

Test Code:

VCF0915 130lops | 14-7137-2394

Batch ID: 03-3242-7772 Test Type: Growth-Survival (7d) Diluent: Laboratory Start Date: 16 Sep-15 17:38 Protocol: EPA/600/R-95/136 (1995) Ending Date: 23 Sep-15 15:55 Species: Atherinops affinis Analysis Brine: Not Applicable Not Applicable Not Applicable Not Applicable Age:	le –	
Ending Date: 23 Sep-15 15:55 Species: Atherinops affinis Brine: Not Applicable Duration: 6d 22h Source: Aquatic Biosystems, CO Age: Sample ID: 02-4869-0728 Code: VCF0915.130t Client: VCWPD Sample Date: 15 Sep-15 05:10 Material: Sample Water Project: 2015/16-1(WRecolve Date: 15 Sep-15 10:15 Source: Bioassay Report Sample Age: 36h (14 2 °C) Station: ME-VR2 St	le –	
Duration: 6d 22h Source: Aquatic Biosystems, CO Age:	/et) /ank Sum Test	
Sample D: 02-4869-0728 Code: VCF0915.130t Cllent: VCWPD	ank Sum Test	
Sample Date: 15 Sep-15 05:10 Material: Sample Water Project: 2015/16-1(W. Recolve Date: 15 Sep-15 10:15 Source: Bioassay Report	ank Sum Test	
Recolve Date: 15 Sep.15 10:15 Source: Bioassay Report	ank Sum Test	
Sample Age: 36h (14 2 °C) Station: ME-VR2 Comparison Summary Analysis D Endpoint NOEL LOEL TOEL PMSD TU Method 08-8111-0707 7d Survival Rate 100 >100 NA 9.02% 1 Steel Many-One R 20-6978-0664 Mean Dry Biomass-mg 100 >100 NA 18.1% 1 Steel Many-One R Point Estimate Summary Analysis D Endpoint Level % 95% LCL 95% UCL TU Method 08-7777-1280 7d Survival Rate EC5 >100 N/A N/A <1 Linear Interpolation EC10 >100 N/A N/A <1		
Comparison Summary		
Analysis ID		
08-B111-0707 7d Survival Rate 100 >100 NA 9.02% 1 Steel Many-One R 20-6978-0664 Mean Dry Biomass-mg 100 >100 NA 18.1% 1 Steel Many-One R Point Estimate Summary Analysis ID Endpoint Level % 95% LCL 95% UCL TU Method 08-7777-1280 7d Survival Rate EC5 >100 N/A N/A <1		
20-6978-0664 Mean Dry Biomass-mg		
Point Estimate Summary Analysis ID	ank Sum Test	
Analysis ID Endpoint Level % 95% LCL 95% UCL TU Method 08-7777-1280 7d Survival Rate EC5 >100 N/A N/A <1		
08-7777-1280 7d Survival Rate EC5 >100 N/A N/A <1 Linear Interpolation EC10 >100 N/A N/A <1 EC15 >100 N/A N/A <1		
EC10 >109 N/A N/A <1 EC15 >100 N/A N/A <1		
EC15 >100 N/A N/A <1	n (ICPIN)	
EC20 >100 N/A N/A <1		
EC25 >100 N/A N/A <1		
EC40 >100 N/A N/A <1		
FC50 >100 N/A N/A <1		
00-8997-4228 Mean Ozy Gromass-mg IC5 4.153 0.3265 N/A 24 08 Linear Interpolation	n (ICPIN)	
IC10 >100 N/A N/A <1		
1C15 >100 N/A N/A <1		
IC20 >100 N/A N/A <1		
1C40 >100 N/A N/A <1 1C50 >100 N/A N/A <1		
Test Acceptability		
Analysis ID Endpoint Attribute Test Stat TAC Limits Overlap Decisi	on.	
	s Acceptability	Critoria
•	s Acceptability	
•	s Acceptability	
•	s Acceptability	
	s Acceptability	
20-6978-0664 Mean Dry Biomass-mg PMSD 0.1815 NL - 0.5 No Passet	s Acceptability	Crilesia
'd Survival Rate Summary		
C-% Control Type Count Mean 95% LCL 95% UCL Min Max Std Err Std De		%Effect
Negative Control 5 1 1 1 1 0 0	0.0%	0.0%
5 1 1 1 1 0 0	0.0%	0.0%
12.5 5 1 1 1 1 1 0 0	0.0%	0.0%
5 0.92 0.784 1 0.8 1 0.04899 0.1096		B.0%
5 1 1 1 1 6 0	0.0%	0.0%
100 5 1 1 1 1 1 0 0	0 0%	0.0%
Mean Dry Blomass-mg Summary		
C-% Control Type Count Mean 95% LCL 95% UCL Min Max Std Err Std D e		%Effect
Negative Control 5 1.494 1.004 1.923 0.915 1.848 0.1547 0.3458		0.0%
3.25 5 1.244 1.014 1.474 1.06 1.532 0.08299 0.1856	14.92%	16 71%
2.5 5 1.342 1.222 1.462 1.22 1.474 0.04331 0.0968	4 7 22%	10 15%
25 5 L 326 1 15 1 501 1.162 1.47 0.06313 0.1412	2 10.65%	11 25%
	08 6.73%	14.38%
5 1,279 1,172 1,386 1,13 1,354 0,03849 0,0860	72 4.82%	-14.86%

CETIS Summary Report

Report Date:

10 Nov-15 10.08 (p.2 of 2)

Test Code:

VCF0915.130tops | 14-7137-2394

 Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bloassay & Consulting Labs, Inc.

7d Survival f	Rafe Detail						
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rop 4	Rep 5	
0	Negative Control	1	1	1	1	1	
6.25		1	1	1	1	1	
12.5		1	1	1	1	1	
25		1	1	8.0	1	0.8	
50		1	1	1	1	1	
100		1	1	1	1	1	
Mean Dry Bi	omass-mg Detail						
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	
D D	Negative Control		1 532	1.848	1.568	0.916	
6.25		1 114	1 214	1.3	1.532	1.06	
12.5		1 474	1.22	1.366	1.28	1.37	
25		1 468	1.47	1.218	1.31	1.162	
50		1.308	1.3	1.13	1.354	1.302	
100		1 726	1.665	1.608	1.824	1.754	

Tal	Carnelland	0.10	Binamia	••

-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	
)	Negalive Control	5/5	5/5	5/5	5/5	5/5	
.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	4/5	5/5	4/5	
50		5/5	5/5	5/5	5/5	5/5	
100		5/5	5/5	5/5	5/5	5/5	

Report Date:

10 Nov-15 10:05 (p 1 of 4)

Test Code:

VCF0915.130tops | 14-7137-2384

Pacific Topsmelt 7-d Survival and Growth Test Aquatic 6f0assay & Consulting L
Analyzed: 10 Nov-15 9 59
Batch D: 03-3242-7772 Test Type: Growth-Survival (7d) Analyst:
Start Date: 16 Sep-15 17:38 Protocol: EPA/B00/R-95/136 (1995) Dilluent: Laboratory Seawater Ending Date: 23 Sep-15 15:55 Species: Afherinops affinis Brine: Not Applicable
Ending Date: 23 Sep-15 15;55 Species: Afherinops affinis Brine: Not Applicable
Duration:
Sample 10 02-4869-0728 Code VCF0915-130t Client: VCWPD
Sample Date 15 Sup-16 05:10 Material Sample Water Project 2019/16-1 (Wet)
Receive Date: 15 Sup-15 10:15 Source: Bloassay Report Sample Age: 36h (14.2 °C) Sfation: ME-VR2
Station MeVRZ
Data Transform
Angular (Corrected) NA C > T NA NA 9.02% 100 >100 NA
Steel Many-One Rank Sum Test Control vs C-% Test Stat Critical Ties DF P-Value P-Type Decision(α:5%)
Test Stat Critical Ties DF P-Value P-Type Decision(0:5%)
Negative Control 6.25 27.5 16 1 8 0.8333 Asymp Non-Significant Effect 12.5 27.5 16 1 8 0.8333 Asymp Non-Significant Effect 25 22.5 16 1 8 0.8333 Asymp Non-Significant Effect 50 27.5 16 1 8 0.8333 Asymp Non-Significant Effect 100 27.5 16 1 8 0.8333 Asymp Non-Significant Effect Non-Signif
12.5
25
50 27.5 16 1 8 0.8333 Asymp Non-Significant Effect
Tost Acceptability Criteria
Tost Acceptability Criteria
Attribute Test Stat TAC Limits Overlap Decision
Control Resp 1 0.6 - NL Yes Passes Acceptability Criteria PMSD 0.0902 NI 0.25 No Passes Acceptability Criteria ANOVA Table Source Sum Squares Mean Square DF F Stat P-Valuro Decision(0:5%) Between 0.03780527 0.007561053 5 2.657 0.0471 Significant Effect Error 0.06804948 0.002835395 24 Total 0.1058547 29 Distributional Tests
PMSD 0 0902 NI 0.25 No Passes Acceptability Criteria ANOVA Table Source Sum Squares Mean Square DF F Stat P-Value Decision(0:5%) Between 0.03780527 0.007561053 5 2.657 0.0471 Significant Effect Error 0.06804948 0.002835395 24 Total 0 1058547 29 Distributional Tests
ANOVA Table Source Sum Squares Mean Square DF F Stat P-Value Decision(c:5%) Between 0.03780527 0.007561053 5 2.657 0.0471 Significant Effect Error 0.06804948 0.002835395 24 Total 0.1058547 29 Distributional Tests
Source Sum Squares Mean Square DF F Stat P-Valure Decision(α:5%) Between 0.03780527 0.007561053 5 2.657 0.0471 Significant Effect Error 0.06804948 0.002835395 24 Total 0.1058547 29 Distributional Tests
Between 0.03780527 0.007561053 5 2.657 0.0471 Significant Effect Error 0.06804948 0.002835396 24 Total 0.1058547 29 Distributional Tests
Error 0.06804948 0.002835395 24 Total 0.1058547 29 Distributional Tests
Total 0 1058547 29 Distributional Tests
Distributional Tests
Attribute Test Test Stat Critical P-Value Decision(c:1%)
Variances Med Levene Equality of Variance 3 4.248 0.0384 Equal Variances
Variances Levene Equality of Variance 96 3.895 <0.0004 Unequal Variances
Distribution Shaptro-Wilk W Normality 0.5565 0.9031 <0.0004 Non-normal Distribution
Distribution Kolmogorov-Smirnov D 0.4333 0.1853 <0.0001 Non-normal Distribution
Distribution D'Agostino Skewness 2 356 2.576 0 0185 Normal Diskribution
Distribution D'Agostino Kurtosis 3 067 2 576 0 0022 Non-normal Distribution
Distribution D'Agostino-Pearson X2 Omnibus 14,96 9.21 0.0006 Non-normal Distribution
Distribution Anderson-Darling A2 Normality 7,491 3,878 <0,0001 Non-normal Distribution
C-% Control Type Count Mean 95% LCL 95% UCL Median Min Max Std Err CV%
C-% Control Type Count Mean 95% LCL 95% UCL Median Min Max Std Err CV% 0 Negative Control 5 1 1 1 1 1 1 1 0 0.0%
C-% Control Type Count Mean 95% LCL 95% UCL Median Min Max Std Err CV% 0 Negative Control 5 1 1 1 1 1 1 1 0 0.0% 625 5 1 1 1 1 1 1 1 0 0.0%
C-% Control Type Count Mean 95% LCL 95% UCL Median Min Max Std Err CV% 0 Negative Control 5 1 1 1 1 1 1 1 0 0.0% 6 25 5 1 1 1 1 1 1 1 0 0.0% 12.5 5 1 1 1 1 1 1 1 0 0.0%
0 Negative Control 5 1 1 1 1 1 1 0 0.0% 625 5 1 1 1 1 1 1 1 0 0.0% 625 5 1 1 1 1 1 1 1 0 0.0% 625 5 1 1 1 1 1 1 1 0 0.0% 625 5 0.92 0.784 1 1 0.8 1 0.04899 11.91%
C-% Control Type Count Mean 95% LCL 95% UCL Median MIn Max Std Err CV% 0 Negative Control 5 1 1 1 1 1 1 0 0.0% 6 25 5 1 1 1 1 1 0 0.0% 12.5 5 1 1 1 1 1 0 0.0%

Report Date:

10 Nov-15 10:05 (p 2 of 4)

Tast Code:

VCF0915.130tops | 14-7137-2394

Pacific Topsi	melt 7-d Survival .	and Gro	wth Test					Aquatic Bl	oassay & ·	Consulting	Labs, Inc
Analysis ID: Analyzed:	08-8111-0707 10 Nov-15 9:59		-	7d Survival Rat Nonparametric		Freatments		TIS Version: icial Results:	CETISv1 Yes	.8 7	
Angular (Cor	rected) Transforn	ied Sum	mary	_							
C-%	Control Type	Count	Mean	95% ECL	95% UCL	Median	Min	Max	\$td Err	CV%	%Effect
0	Negative Contr	5	1 345	1.345	1 346	1.345	1.345	1.345	0	0.0%	0.0%
6.25		5	1 345	1,345	1 346	1.345	1.345	1.345	0	0.0%	0.0%
12.5		5	1 345	1,345	1 346	1.345	1.345	1.345	0	0.0%	0.0%
25		5	1 25	1.038	1 412	1 345	1.107	1.345	0.05833	10.43%	7.08%
50		5	1 345	1,345	1 346	1.345	1.345	1.345	0	0.0%	0.0%
100		5	1 345	1.345	1 346	1.345	1.345	1.345	0	0.0%	0.0%
7d Survival R	Rate Detail										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5					
0	Negative Control	1	1	1	1	1			•		
6.25		1	1	1	1	1					
12.5		1	1	1	1	1					
25		1	1	8.0	1	0.8					
50		1	1	1	1	1					
100		1	1	1	1	1					
—— Angular (Cor	rected) Transform	ed Deta	ıil								
C-%	Control Type	Rép 1	Rep 2	Rep 3	Rep 4	Rep 5					
0	Negative Control		1.345	1.345	1.345	1.345					
6.25	•	1.345	1.345	1.345	1.345	1.345					
12.5		1.345	1.345	1.345	1.345	1.345					
25		1.345	1.345	1.107	1.345	1.107					
5 0		1.345	1.345	1.345	1.345	1.345					
100		1.345	1.345	1.345	1.345	1.345					
7d Survival F	Rate Binomials										
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 6					
0	Negative Control		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	4/5	5/5	4/5					
		5/5	5/5	5/5	5/5	5/5					
50											

Report Date:

10 Nov-15 10:05 (p 3 of 4)

Test Code:

VCF0915 130tops | 14-7137-2394

Analysis ID:	20-6978-0664	F	ndpoint: N	loan Dry Biom	ass.mo			CET	IS Versio	n: CETISv1	8.7	
Analyzed:	10 Nov-15 9:59		-	ioan bry Bioti Ionparametric	_	vs Tre	atments		ial Resul		0.7	
Batch (D):	03-3242-7772	Te	st Type: (Brewth-Surviva	1 (7 d)			Ana	lyst:			
Start Date:	16 Sep-15 17:3			PA/600/R-95/		(5)		Ðllu	ent: L	aboratory Sea	waler	
Ending Date:	23 Sep-15 15:5	5 S t	ancies: /	therisops after	nis			8rln	ie: N	ot Applicable		
Duration:	6d 22h			quatic Biosyst)		Ago				
Sample ID:	02-4869-0728	 C	ode: \	ACF0915.130I			•••	Clle	nt: V	CWPD		
	15 Sep-15 05:1			ample Water				Proj	•	015/16-1(Wel)		
	: 15 Sep-15 10:1			lioassay Repo	rı							
	35h (14.2 °C)			ME-VR2								
Data Transfor	· ·	Zela	Alt Hyp) Trials	Seed			PMSD	NOEL	LOEL	TOEL	TU
Untransformer		NA.	C > T	NA	NA			18 1%	100	>100	NA	1
Stool Many-O	ne Rank Sum Te	est										
Control	vs C-%		Tast St	at Critical	Ties	DF \$	-Value	Р-Туре	Decisio	n(a:5%)		
Negative Cont			20.5	16	1		0.2245	Asymp		nificant Effect		
-	12.5		20	16	Ð	8	0.1899	Asymp		nificant Effect		
	25		20	15	0	8	0.1899	Asymp	Non-Sig	gnificant Effect		
	50		20	15	0	8 (1899	Asymp	Nan-Sr	gnificant Effect		
	100		35	16	0	8 (0.9979	Asymp	Nan-St	gnificant Effect	:	
Test Acceptal	bility Criteria											
Attribute	Test Stat	TAC Lin	nils	Overlap	Decisi	on	_					
Control Resp	1 494	0 85 - N	Ĺ	Yes	Passe:	s Acc	eptability (Criteria				
PMSD	0 1815	NL - 0.5		No	Passes	s Acc	eptability (Criteria				
ANOVA Table	1											
Saurce	Sum Squa	ares	Меал S	quare	DF	6	Stat	P-Value	Decisio	m(a:5%)		
Between	0.7814456	i	0.15628	91	5	4	1746	0.0037	Signific	ani Effect		
Error	0 7903903	ļ	0.03293	293	24							
T-1-1												
	1,571836				29							
					29							
Distributional	l Tests Test			Test Stat	Critica			Decision				
Distributional Attribute Vanances	Tests Test Bartlett Ed	-		12.71	Critics	(0.0262	Equal Va	riances			
Distributional Attribute Variances Variances	Tests Test Bartlett Ed Mod Leve	ne Equal	ity of Varian	12.71 ce 1.148	Critica 15.09 4.248	(0.0262 0.3720	Equal Va Equal Va	riances riances			
Distributional Attribute Variances Variances Variances	Tests Test Bartlett Er Mod Leve Levene F	ne Equal quality of	ity of Varian Variance	12.71 ce 1.148 1.726	Critics 15.09 4.248 3.895	(0.0262 0.3720 0.1669	Equal Va Equal Va Equal Va	riances riances riances			
Distributional Attribute Variances Variances Variances Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro V	ne Equal quality of Vilk W No	ity of Variaa Variance irmality	12.71 ce 1.148 1.726 0.8998	Critica 15.09 4.248 3.895 0.9031	(0.0262 0.3720 0.1669 0.008 3	Equal Va Equal Va Equal Va Non-norm	riances riances riances riances			
Distributional Attribute Variances Variances Variances Distribution Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro V Kolmogor	ene Equal quality of Vilk W No rov-Smirni	ity of Varian Variance irmality ov D	12.71 ce 1.148 1.726 0.8998 0.1251	Critica 15.09 4.248 3.895 0.9031 0.1853	(0.0262 0.3720 0.1669 0.008 0 0.2617	Equal Va Equal Va Equal Va Non-nom Normal D	riances riances riances nat Distribution			
Distributional Attribute Variances Variances Variances Distribution Distribution	Tests Test Bartlett Ed Mod Leve Levene E Shapiro V Kolmogor D'Agoslin	ene Equali quality of Wilk W No rov-Smirni to Skewna	ity of Varian Variance Irmality ov D	12.71 ce 1.148 1,726 0.8998 0.1251 2,428	Critics 15.09 4.248 3.895 0.9031 0.1853 2.576	0	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162	Equal Va Equal Va Equal Va Non-nom Normal D Normal D	riances riances riances nat Distribution ristribution			
Distributional Attribute Variances Variances Distribution Distribution Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro V Kolmogor D'Agoslin	ene Equali quality of Valk W No rov-Smirn to Skewna to Kurtosia	ity of Varian Variance irmality ov D ess	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951	Critica 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576	(0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032	Equal Va Equal Va Equal Va Non-norm Normal D Normal D Non-norm	riances riances riances rial Distribution ristribution ristribution	ution		
Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro V Kolmogor D'Agoslin D'Agoslin	ene Equal quality of Vilk W No rov-Smirni to Skewne to Kurtosis to-Paarso	ity of Varian Variance irmality ov D ess s n K2 Omnik	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61	Critica 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21	0 0	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032 0.0007	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm	riances riances riances nat Distribution ristribution nat Distribution nat Distribution	ution ution		
Distributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson	ene Equal quality of Vilk W No rov-Smirni to Skewne to Kurtosia to-Paarso t-Darling A	ity of Varian Variance irmality ov D ess	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61	Critica 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576	0 0	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm	riances riances riances rial Distribution ristribution ristribution	ution ution		
Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Tests Test Bartlett Ed Mod Leve Levene F, Shapiro V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson	ene Equali quality of Vilk W No rov-Smirni to Skewna to Kurtosis to-Paarso t-Darling A	ity of Varian Variance Immality ov D SSS Immality N N N N N N N N N N N N N N N N N N N	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076	Critics 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.878		0.0262 0.3720 0.1669 0.0083 0.2617 0.0162 0.00032 0.0007	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Non-norm	riances riances riances nat Distribution istribution nat Distribution retribution	ulian ulian	COLUMN TO THE PARTY OF THE PART	N Fee
Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution Mean Dry Gio	Tests Test Bartlett Er Mod Leve Levene F, Shapiro-V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson mass-mg Summ	ene Equal quality of Vilk W No rov-Smirni to Skewne to Kurtosis to-Pearso t-Darling A many Count	ity of Varian Variance Immality Inv O Inv	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076	Critics 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.878	CL 1	0.0262 0.3720 0.1669 0.0083 0.2617 0.0162 0.0032 0.0007 0.0207	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D	riances riances riances riances nat Distribution nat Distribution nat Distribution mat Max	ulion ulion SId Err	CV%	
Distributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution Distribution	Tests Test Bartlett Ed Mod Leve Levene F, Shapiro V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson	ene Equal quality of Vilk W No rov-Smirni to Skewne to Kurtosis to-Pearso t-Darling A trany Count	ity of Varian Variance Immality Inv O Inv	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076	Critics 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.878 95% U 1.923	CL 1	0.0262 0.3720 0.1669 0.0083 0.2617 0.0152 0.0032 0.0007 0.0207	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D Min	riances riances riances riances nal Distribution ristribution nal Distribution mat Distribution Max 1.848	ution ution Std Err 0 1547	23.15%	0.0%
Distributional Attribute Variances Variances Variances Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro-V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson mass-mg Summ	ene Equal quality of Vilk W No rov-Smirni to Skewne to Kurtosis to-Pearso t-Darling A tary Count 1 5	ity of Varian Variance Immality Immalit	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076 95% LCL 1.064 1.014	Critics 15.09 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.878 95% U 1.923 1.474	CL 1	0.0262 0.3720 0.1669 0.0083 0.2617 0.0162 0.0032 0.0007 0.0207 Median i.568	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D Min 0.916 1.06	riances riance	SId Err 0 1547 0.08299	23.15% 14.92%	0.0% 16.71%
Distributional Attribute Variances Variances Variances Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro-V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson mass-mg Summ	ene Equaliquality of Vilk Wilhous Sheimalo Skewnalo Kurtosis io-Paarsoi-Darling Alary Count 5 5 5	ity of Varian Variance variance variance variance variance variance variance variance variance Mean 1 494 1 244 1 342	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076 95% LCL 1.064 1.014 1.222	Critics 15.09 4.248 3.695 0.9031 0.1853 2.576 2.576 9.21 3.878 95% U 1.923 1.474 1.462	CL !	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032 0.0007 0.0207 Median i.558 i.214	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D Min 0.916 1.06 1.22	riances riance	Std Err 0 1547 0.08299 0.04331	23.15% 14.92% 7.22%	0.0% 16.71% 10.15%
C-% 0 6.25 12.5 25	Tests Test Bartlett Er Mod Leve Levene F, Shapiro-V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson mass-mg Summ	ene Equal quality of Vilk Wilks o Skewna o Kurtosia o-Paarso i-Darling A nary Count 1 5 5 5 5	ity of Varian Variance Immality OV O SS In K2 Omnik A2 Normality Moan 1 494 1 344 1 342 1 326	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076 95% LCL 1.064 1.014 1.222 1.15	Critics 15.09 4.248 3.695 0.9031 0.1853 2.576 2.576 9.21 3.878 95% U 1.923 1.474 1.462 1.501	CL 1	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032 0.0007 0.0207 Median i.558 i.214 i.366 i.31	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D Min 0.916 1.06 1.22 1.162	riances riance	Std Err 0 1547 0.08299 0.04331 0.06313	23.15% 14.92% 7.22% 10.65%	16.71% 10.15% 11.25%
Distributional Attribute Variances Variances Variances Distribution	Tests Test Bartlett Er Mod Leve Levene F, Shapiro-V Kolmogor D'Agoslin D'Agoslin D'Agoslin Anderson mass-mg Summ	ene Equaliquality of Vilk Wilhous Sheimalo Skewnalo Kurtosis io-Paarsoi-Darling Alary Count 5 5 5	ity of Varian Variance variance variance variance variance variance variance variance variance Mean 1 494 1 244 1 342	12.71 ce 1.148 1.726 0.8998 0.1251 2.428 2.951 us 14.61 7 0.9076 95% LCL 1.064 1.014 1.222	Critics 15.09 4.248 3.695 0.9031 0.1853 2.576 2.576 9.21 3.878 95% U 1.923 1.474 1.462	CL 1 1 1 1 1 1 1 1 1	0.0262 0.3720 0.1669 0.0080 0.2617 0.0162 0.0032 0.0007 0.0207 Median i.558 i.214	Equal Va Equal Va Equal Va Non-norm Normal D Non-norm Non-norm Normal D Min 0.916 1.06 1.22	riances riance	Std Err 0 1547 0.08299 0.04331	23.15% 14.92% 7.22%	0.0% 16.749 10.159

Report Date:

10 Nov-15 10:05 (p.4 of 4)

Test Code:

VCF0915.130tops | 14-7137-2394

							rest Code:	VGF0915.130tops 14-7137-2394
Pacific Tops	mélt 7-d Survival	and G	irowth Test	•			Aquatic B	ioassay & Consulting Labs, Inc.
Analysis ID: Analyzed:	20-6978-0564 10 Nov-15 9:59		Endpoint: Analysis:	Mean Dry Bro Nonparametri		Treatments	CETIS Version: Official Results:	CET/Sv1.8 7 Yes
Maan Dry Bi	omass-nıg Detall							
C-%	Control Type	Rep '	1 Rep 2	Rep 3	Rep 4	Rep 5		
0	Negative Control	1.604	1.532	1 848	1.558	0.916		
6.25		1.114	1.214	13	1.532	1.06		
12.5		1.474	1.22	1 366	1.28	1.37		
25		1.468	1.47	1 218	1.31	1.162		
50		1.308	1.3	1.13	1.354	1.302		
100		1.726	1 666	1,608	1.824	1.754		

Report Date:

10 Nov-15 10:05 (p.1 of 4)

Test Code:

VCF0915 130tops | 14-7137-2394

Pacific Topsmei	t 7-d Survival	and Growt	th Test					Aqu	atic Bl	oassay & (Consultir	1g Labs,
•	8-7777-1280 O Nav-15 10:0		point: lysis:	7d Survival Rat Linear Interpola)		CETIS Ve Official Re		CETISv1 Yes	.8.7	
Batch ID: 0	3-3242-7772			Growth-Surviva	1 (7d)			Analyst:				
Start Date: 1	5 Sep-15 17.3	l8 Prof	tocol:	EPA/600/R-95/	136 (1996)			Diluent:	Labo	ratory Seav	vater	
Ending Dato: Z	3 Sep-15 15 5	i5 Spa	cies:	Atherinops affin	iis			Brino:	Not /	Applicable		
Duration: 6	d 2 2h	Sou	rce:	Aquatic Biosyst	enis, CO			Ago:				
•	2-4869-0728	Cod	e:	VCF0915.1301				Client:	VCW			
Sample Date: 1	_		erial:	Sample Water				Project:	2015	/16-1(Wet)		
Receive Date: 1	-			Bioassay Repor	Н							
Sample Aga: 3	6h (14.2°С)	Stat	ion:	ME-VR2	_							
inear Interpolat	tion Options											
CYransform	Y Transform		<u>d</u>	Resamples	Exp 95%		ottood					
,inear 	Linear			280	Yes	. Tw	ro-Point l	nterpolatio	n —			
Test Acceptabilis	ty Criteria											
Attribute	Test Stat	TAC Limit	t \$	Overlap	Decision							
Control Resp	1	0.8 - NL		Yes	Passes A	.cceptabilit 	ty Criteria	'				
oint Estimates					 -	-						
.evel %	95% LCL		TU	95% LCL	95% UCL							
EC5 >100	N/A	N/A	<1	NΛ	NΑ							
EC10 >100	NA	N/A	<1	NA	NA							
C15 >100	N/A	N/A	<1	NA	AM							
:C20 >100	N/A	N/A	<1	NA	MA							
C25 >100	N/A	N/A	<1	NA NA	NA.							
EC40 >100 EC50 >100	N/A N/A	N/A N/A	<1 <1	NA NA	NA NA							
-		N/A	. 51	. NA								
7d Survival Rate						ila(ed Var						_
:	troi Type ative Control	Count 5	Mean 1	Min 1	Max 1	Std Err	5td_t	0.0°		%EMoct 0.0%	A 25	B 25
5.25	ative Control	5	1	1	1	0	0	0.0		0.0%	25	25 25
12.5		5	1	1	1	ð	0	0.0		0.0%	25	25
25		5	0.92	8.0	1	0.04899			91%	80%	23	25
50		5	1	1	1	0	0.14	0.0		0.0%	25	25
100		5	1	1	1	0	ā	0.0		0.0%	25	25
d Survival Rate	Dotail			·· - ·								
	trol Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5						
	ative Control	1	1	1	1	1						
6.25		1	1	1	1	1						
2.5		1	1	1	1	1						
:5		1	1	8.0	1	8.0						
60		1	1	1	1	1						
:00		1	1	1	1	1						
 'd Survival Rate	Binomials											
	introl Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5						
	galive Confro	<u> </u>	5/5	5/5	5/5	5/5						
5.25		5/5	5/6	5/5	5/5	5/5						
		5/5	5/5	5/5	5/5	5/5						
2.5			cic	4/5	5/5	4/5						
		5/5	<i>\$1</i> 5	4/0	20.00	4/5						
\$2.5 ?5 50		5/5 5/5	\$/S	5/5	5/5	5/5						

Report Date:

10 Nov-15 10:05 (p.2 of 4)

Test Code:

VCF0915.130tops | 14-7137-2394

Pacific Topsmalt 7-d Survival and Growth Test

10 Nov-15 10:00

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

08-7777-1280

Endpoint: 76 Survival Rate

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1.8 7

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p.3 of 4)

Test Gode:

VCF-0915 130tops | 14-7137-2394

									1 est 6 0 0 8 :	v	Choale is	otops [1	4-7 1377239
Pacific	Topsm	elt 7-d Survival	and Grow	rth Test					Aqua	tic Blo	assay & Co	onsulting	g Labs, inc.
Analys	is 10:	00-8997-4228	Ėn	dpoint:	Mean Dry Brom	ass mg		-	CETIS Vers	ion:	CETISv1.6	3.7	
Analyz	od:	10 Nov-15 10:0	10 Ап	alysis:	Linear Interpola	tion (ICPIN))		Official Res	sults:	Yes		
Batch	ID:	03-3242-7772	Tes	st Type:	Growth-Surviva	(7d)			Analysi:				
Start E	ate:	16 Sep-15 17:3		tocol:	EPA/600/R-95/			1	Diluant:	Labora	atory Seawa	ater	
Ending	Date:	23 Sep-15 15:5	5 S p	ecles:	Atherinops affin	15			Brine:	Not Ap	oplicable		
Duratio	on:	6d 22h	Şo	urce:	Aquatic Biosyst	ems, CO			Age:				
Sampl	e ID:	02-4869-0728	Co	do:	VCF0915.130t				Offent:	VCWP	. סי		
Sampl	o Dato:	15 Sep-15 05:1	o Ma	terial:	Sample Water			I	Project:	2015/1	IG-1(Wet)		
		15 Sep-15 10:1	5 So	urcu:	Bioassay Re por	1							
Sampl-	e Ago:	36ħ {14.2 °C]	Sta	tion:	ME-VR2								
Linear	Interpo	ation Options											
X Tran	sform	Y Transform			Resamples	Exp 95%		lhod					
Linear		Linear	202	2162	280	Yes	Two	s-Point In	nterpolation				
Tost A	cceptab	llity Critoria											
Attribu		Test Stat			Overlap	Decision							
Control	Resp	1.494	0.85 - NL		Yes	Passes A	cceptabitily	y Criteria					
Point E	- Estimate) 5											
Level	%	95% LCL	95% UCI		95% LCL	95% UCL							
IC5	4.153		N/A	24.08		308.3							
IC10	>100	N/A	N/A	<1	NA	NA.							
IC15	>100	N/A	N/A	<1	NA 	NA.							
CSO	>100	NΛ	N/A	<1 -4	NA NA	NA NA							
IC25	>100	N/A N/A	N/A	<1	NA NA	NA NA							
C40	>100	N/A	N/A	<1 	NA NA	NA 							
IC50	>100	N/A	N/A	<1	NA	N/A							
Mean I	ory Blon	nass-mg Summ	ary			Çal	culated V	ariate					
C-%		ontrol Type	Count	Mear		Max	Std Err	Std D			%Effect		
ם	N	egative Control	5	1.494		1.848	0.1547	0.345			0.0%		
6 25			5	1 244		1.532	0.08299				16 71%		
12.5			5	1.342		1 474	0.04331	0.098			10.15%		
25			5	1.326		1.47	0.06313				11 25%		
50			5	1.279		1.354	0.03849	0.086			14.38%		
100			5	1.716	1.608	1.824	0.03699	0.082	72 4 829	% ·	-14.8 6 % 		
		nass-mg Detall											
C-%		ontrol Type	Rep 1	Rep		Rep 4	Rep 6						
0	N	egative Control	1.604	1 532		1 568	0.916						
6.25			1.114	1.214		1.532	1 06						
12.5			1.474	1.22	1.366	1.28	1 37						
Z 5			1.468	1.47	1.218	1.31	1.162						
50			1.308	1.3	1.13	1.354	1.302						
100			1.726	1.666	1.608	1.824	1.754						

Report Date:

10 Nov-15 10:05 (p.4 of 4)

Test Code:

VCF0915.130tops | 14-7137-2394

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioessay & Consulting Labs, Inc.

Analysis ID: Analyzed:

00-8997-4228 10 Nov-15 10:00

Endpoint: Mean Dry Biomass-mg

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISv1 8.7

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p.1 of 2)

								Test Gode:	VCF0915	.130tops 1	4-7137-2394
Pacific Topsm	iott 7-d Surviva	l and G	rowth Test					Aquatio	c Bloassay &	Consulting	Labs, Inc.
Batch ID:	03-3242-7772		Test Type:	Growth-Surviv	al (7d)			Analyst:			
Start Date:	16 Sep-15 17:3	38	Protocol:	EPA/800/R-95	/136 (1995)			Diluent: L	aboratory Sea	avater	
Ending Date:	23 Sep-15 15:	55	Species:	Atherinops affi	nis			Brins: N	lot Applicable		
Duration:	6d 22h		Source:	Aqualic Biosys	items, CO			Age:			
Sample ID:	02-4869-0728		Code:	VCF0915.130t	:			Client: \	/CWPD		
Sample Date:	15 Sep-15 05:1	10	Material:	Sample Water				Project: 2	015/16-1(Wet)	
Receive Date:	15 Sep-15 10:1	15	Source:	Bioassay Repo	ort						
Sample Age:	36h (14.2 °C)		Station:	ME-VR2							
Dissolved Ox	ygen-mg/L										
C-%	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Мак	Std Err	Std Dev	¢v%	QA Count
0	Negative Contr	₿	6.938	6,701	7.174	66	7,4	0.09989	0.2825	4.07%	ů.
6.2 5		8	6.563	5.937	7.188	4.8	7.2	0.2645	0.7482	11.4%	0
12.5		6	888.6	6.274	7.101	56	7.3	0.1747	0.4941	7.39%	0
25		8	6,663	6.041	7.084	52	7.2	0.2203	0.6232	9.5%	0
50		8	6 175	5.372	6.978	4	7	0.3395	0.9603	15.55%	0
100		В	5 088	5.31	6.865	4.1	6.9	0.3287	0.9296	15.27%	0
Overall		48	6 502			4	7.4				0 (0%)
pH-Units											
	Control Type	Count		95% LCL	95% LICL	Min	Max	Std Err		CV%	QA Count
0	Negative Contr	8	7.625	7.478	7.772	7.3	7.9	0.03198		2.3%	G.
6.25		8	7 85	7.761	7.939	77	8	0.0378	0.1069	1.36%	G.
12.5		8	7 858	7 834	7 941	7 B	8	0.02266		0.81%	D.
25		8	7 913	7 883	7.942	7.9	8	0.01249		0.45%	0
50		8	7,938	7.894	7.981	7.9	8	0.01829		0.65%	0
100 Overall		8 48	7.95	7.867	8.013	7.9	81	0.02672	0.07559	0.95%	0.70977
	_	40	7.86			7.3	₽.1				0 (0%) -
Salinity-ppt											
	Control Type	Count		95% LCL	95% UCL		Max	Std Err		CV%	QA Count
	Negative Contr		25	25	25	25	25	0	0	0.0%	0
6 25 43.5		8	25	25	25	25	25	0	0	0.0%	0
12.5		8	25	25	25	25	25	0	0	0.0%	0
25 50		8	25	25	25	25	25	0	0	0.0%	0
100		8	25 26	25 25	25 25	25	25	0	0 0	0 0% 0 0%	0 0
Overall		8 48	25 25	/2	/->	25 25	25 25	0	Ų	V U7a	0 (0%)
Temperature-	'C										- 1,
-	Control Type	Count	t Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
	Negative Centr	8	21	21	21	21	21	0	0	0.0%	D
6.25		8	21	21	21	21	21	O	0	0.0%	0
12.5		8	21	21	21	21	21	٥	0	0.0%	0
25		8	21	21	21	21	21	o	0	0.0%	0
50		8	21	21	21	21	21	O	0	0.0%	0
100		8	21	21	21	21	21	0	0	0.0%	0

0 (0%)

21

Overall

21

Report Date:

10 Nov-15 10:05 (p.2 of 2)

Test Code: VCF0915.130tops { 14-7137-2394

		_					• • • • • • • • • • • • • • • • • • • •	ISC OULIE.	**************************************
Pacific Topsmel	lt 7-d Survivat	and Gre	wth Test					Aquatio	c Bioassay & Consulting Labs, Inc.
Dissolved Oxyg	éri-mg/L								
c.% ¢	ontrol Typo	1	2	3	4	5	6	7	8
	egative Contr	68	7.3	6.6	6.8	6.9	7.4	7	67
6 2 5		68	7.2	6.7	6.8	6.8	7	6.4	4.8
12.5		69	7.3	5.8	6.8	6.7	5.9	6.5	5.6
25		7.1	72	5.7	6.8	6.7	5.5	6.3	5.2
50		7	6.4	6.6	6.8	6.7	5.8	6.1	4
100		5.9	6.5	5.3	6.7	6.7	5.4	6.1	4.1
pH-Units									
C-% C	ontrol Type	1	2	3	4	5	6	7	8
0 N	egative Contr	7.5	7.9	7.3	77	7.7	7,7	76	76
6.25		7.9	7.9	7.9	78	7.7	8	79	7.7
12.5		7.9	7.9	7.9	7.9	7.8	8	79	7.8
25		7.9	7.9	7.9	7.9	7.9	8	7.9	7.9
50		8	7.9	7.9	7.9	7.9	8	7.9	ŝ
100		7.9	8	7.9	7.9	7.9	В	7.9	8.1
Salinity-ppt									
C-% C	ontrol Type	1	2	3	4	5	6	7	8
0 N	egative Contr	25	25	25	25	25	25	25	25
6.25		25	25	25	25	25	25	25	25
12.5		25	25	25	25	25	25	25	25
25		25	25	26	25	25	25	25	25
50		25	25	25	25	25	25	25	25
100		25	25	25	25	25	25	25	25
Temperature-'C									
C-% Ç	ontrol Typo	1	2	3	4	5	6	7	8
0 N	egative Contr	21	21	21	21	21	21	21	21
6.25		21	21	21	21	21	21	21	21
12.5		21	21	21	21	21	21	21	21
25		21	21	21	21	21	21	21	21
50		21	21	21	21	21	21	21	21
100		21	21	21	21	21	21	21	21



November 12, 2015.

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 LD.:

ME-CC

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.129

CHRONIC TOPSMELT SURVIVAL AND GROWTH BIOASSAY

Survival

NOEC: 100.00

TUc = 1.00

IC25 = >100.00 % IC50 -- >100.00 %

Biomass

NOEC = 100.00 %

TUe = 1.00

JC25 = >100.00 %

IC50 = >100.00 %

Yoffrs, yery truly,

Scott Johnson

Laboratory Director

CETIS Summary Report

Pacific Topsmolt 7-d Survival and Growth Test

Roport Date:

10 Nov-15 10:06 (p.1 of 2)

Test Code:

VCF0915.129tops | 14-6668-2168

Aquatic Bioassay & Consulting Labs, Inc.

											consumny	<u> </u>
Batch ID:	02-5089-1252			Growth-Surviva	-			Analyst:				
Start Date:	16 Sep-15 17:48		tocol:	EPA/600/R-95/	-			Olluent:		ratory Seav	waler	
_			ecles:	Atherinops affor				Orine:	Not A	Ap p licab i e		
Ouration:	6d 22h	\$00	urco:	Aquatic Biosys	tems, CO			Age:				
šampie ID:	06-1610-5753	Cor	de:	VCF0915.129t				Client:	VCW	/PD		
šample Date:	15 Sep-15 05:55	5 Mar	terial:	Sample Water				Project:	2015	716-1(Wet)		
Recoive Date:	15 Sep-15 10.15	5 S o	unce:	Bioassay Ropo	nt							
Sampio Age:	36N (17.5 °C)	Sta	tion:	ME-CC								
Comparison 8	Summary											
knalysis (O	Endpoint		NOEL	LÖEL	TÖEL	PMSD	TU	Moth	nod			
5-2979-3215	7d Surviyal Rate	•	100	>100	NΑ	12.1%	1	Stee	l Many	y-One Rank	(Sum Test	
5-6326-5392	Mean Dry Bloma	ass-mg	100	>100	NA	27.4%	1	Duni	nett Mi	ultiple Com	parison Tes	st .
olnt Estimat	e Summary										'	
inalysis ID	Endpoint		Level	%	95% LCL	95% UCL	TU	Meth	nod			
6-2792-4719	7d Survival Rate	,	ECS	100	N/A	N/A	1	Line	ar Inte	rpolation (K	CPIN)	
			FC10	÷100	N/A	N/A	<1					
			EC15	>100	N/A	M/A	51					
			EC20	>100	N/A	N/A	<1					
			EC25	>100	N/A	N/A	<1					
			EC40	>100	N/A	AV4	<1					
			12050	>100	N/A	NVA	<1					
5-7559-2422	Moan Dry Bioma	ass-ing	IC5	>100	N/A	N/A	<1	Line	ar Inte	rpolation (K	CPIN)	
			IC10	>100	N/A	N/A	<1					
			IC15	>100	N/A	N/A	<1					
			JC20	>100	N/A	N/A	<1					
			IC25	>100	N/A	N/A	<1					
			1C40	>100	N/A	N/A	<1					
			IC50	>100	N/A	N/A	<1					
—. Fest Acceptat	nility	_										
Analysis ID	Endpoint		Attrib	uto	Test Stat	TAC Limi	ts	Over	rtap	Decision		
05-2792-4719	76 Survival Rațe	!	Contro	ol Resp	1	08 - NL		Yes		Passes Ai	cceptability	Criteria
5-2979-3215	7d Survival Rate	:	Contro	Resp	1	08-NL		Yes			cceptability	
	Mean Dry Bioma			olResp	1.091	0.85 - NL		Yes			cceptability	
5-7559-2422	Mean Dry Bioma	-		SIResp	1.091	0.85 - NL		Yes			cceptability	
5-2979-3215	-	-	PMSE		0.1211	NL - 0.25		No			cceplability	
	Mean Dry Bioma		PMSE	}	0.2738	NL - 0.5		No			cceplability	
7d Survival Ra	ate Summary											
	Control Typo	Count	Mean	95% LCL		Min	Max		Err	Std Dev	CV%	%EHo
	Negative Control		1	1	1	1	1	0		0	0.0%	0.0%
.25		5	1	1	1	1	1	0		0	0.0%	0.0%
2.5		5	0.92	0.784	1	0.8	1	0.04		0.1095	11.91%	8.0%
15		5	0.92	0.784	1	0.8	1	0.04	899	0.1095	11.91%	8.0%
0		5	0.96	0.8489	1	O.B	1	0.04		0.08944	9.32%	4.0%
0 0		5	1	1	1	1	1	0		0	0.0%	0.0%
-	mass-my Summa	-							_			
	Control Type	Count	Moan	95% LCL		Min	Max			Std Dev	CV%	%Elfe
	Negative Control		1 091	0.952	1.23	1.004	1 28			0.1121	10.28%	0.0%
		5	1 084	0 9558	1 212	1.006	1 25			0 1032	9.52%	0.66%
1.25										An Alexander		0.00
3.25 2.5		5	1.119	0.9793	1.259	0.992	1 22			0.1127	10.07%	
3.25 12.5 25		5 5	1.119 1.05	0.9133	1.185	0.924	1.21	2 0.04	91	0.1098	10.46%	3.81%
3.25 12.5 25 50 100		5	1.119					2 0.049 8 0.129	91 03			-2 57% 3.81% -9.93% -36.889

Report Date:

10 Nov-15 10:05 (p 2 of 2)

Test Code:

VCF-0915.1291ops | 14-6668-2168

Pacific T	opsmelt 7-d Survival	and Grov	wth Test				Aquatic Bloassay & Consulting Labs, inc.
7d Survi	val Rate Detail						· ·
C-%	Control Type	Rap 1	Rep 2	Rep 3	Rep 4	Rep 5	
o - 	Negative Control	1	1	1	1	1	· · · · · · · · · · · · · · · · · · ·
6.25		1	1	1	1	1	
12.5		0.8	1	1	Q.B	1	
25		1	0.8	1	1	8.0	
50		1	1	1	0.8	1	
100		1	1	1	1	1	
Mean Dr	y Biomass-mg Detall						
C-%	Control Type	Rep 1	Rop 2	Rep 3	Rop 4	Rep 5	
0	Negative Control	1 028	1 106	1.004	1.28	1.038	·
6 25		1.03	1 018	1.11	1.254	1.008	
12.5		1 136	1 228	1.014	0.992	1.226	
25		1.054	0 924	1.212	0.978	1.08	
50		1.578	1 378	1.09	0.94	1.012	
100		1.604	1 532	1.848	1.568	0.916	
7d Survi	val Rate Binomials						
C-94	Control Tune	Dan 1	Pan 2	Pag 3	Don 6	Pan 6	

C.%	Control Type	Rop
0	Negative Control	5/5
6 25		5/5
12.5		4/5

25 50 100

1	Rep 1	Rep 2	Rep 3	Rep 4	Rop 5
trol	5/5	5/5	5/5	5/5	5/5
	5/5	5/5	5/5	5/5	5/5
	4/5	5/5	5/5	4/5	5/5
	5/5	4/5	5/5	5/5	4/5
	5/5	5/6	5/5	4/5	5/5
	5/5	5/6	5/5	5/5	5/5

Report Date:

10 Nov-15 10:06 (p 1 of 4)

Test Code:

VCF0915 129lops | 14-6668-2168

	•							Test	Code:	VCF0915_1	29tops 14	1-6668-216
Pacific Topsn	nelt 7-d Survival a	ind Growt	th Test						Aquatic I	Bloassay & C	Consulting	Labs, Inc
Analysis (D:	15-2979-3215	End	point: 7d	Şurvival Rat	2			CET	IS Version	CETISV1.	8.7	
Analyzed:	10 Nov-15 10:00	Ana	iysis: No	nparametric-	Control vs	s Trea	tments	Offic	ial Results	t Yes		
Batch ID:	02-5089-1252	Tes	Tvae: Gro	xvlis-Surviva	l (7d)			Anal	vst:			
Slart Date:	16 Sep-15 17:48			A/600/R-95/		,		Dilu		oorato ry Seav	vater	
Ending Date:				erinops affir		,		Brin		Applicable		
Ouration:	Gd 22h			uatic Biosyst				Age:				
										 WED		
Sample ID:	06-1610-5753	Cod		F0915 1291				Ciler		WPD		
•	15 Sep-15 05.55			mpte Water	-1			Proj	e ct: 20	15/16-1(Wat)		
	15 Sep.15 10.15			assay Repo	rι							
Samplo Age:	35h (17.5 °C)	5131	lon: ME	-00								
Data Transfor	m	Zeta	Alt Hyp	Trials	Seed			PMSD	NOEL	LOEL	TOEL	TU
Angular (Corre	cted)	NA	C>T	NA	NA			12 1%	100	>100	NA	1
Steel Many-O	no Rank Sum Tes	t										
Control	vs C-%		Test Stat	Critical	Ties C	OF P	Value	P-Type	Decision			
Negative Cont			27.5	16	1 8		833 3	Asymp	-	ificant Effect		
	12.5		22.5	16			3937	Asymp	_	ificant Effect		
	25		22.5	16			3937	Asymp		infreant Effect		
	50		25	16			6353	Asymp		iitisant Effect		
	100		27.5	16	1 8	3 O.	8333	Asymp	Non-Sign	iificant Effoct		
Test Acceptat	oillty Criteria											
Attribute	Tast Stet		ļs.	Overlap	Decisio	л		·.				
Control Resp		0.B - NL		Yes	Passes							
PMSD	0.1211	NL - 0.25		No	Passes	Accep	Mability	Criteria				
ANOVA Table												
Source	Sum Squar	e 5	Mean Squ	1918	DF	F	Stat	P-Value	Decision	ι(α:6%)		
Batween	0.05481764		0.0109838	53	5	1.	45	0.2428	Non-Sign	iificant Effect		
Error	0.1814653		0.0075616	053	24							
Tolaí	0.2362829				29							
Distributional	Tests											
Attribute	Test			Test Stat	Critical	P	Value	Decision	(a:1%)			
/ariances	Mod Laven	e Equality	of Variance	1.582	4.246	0.	2155	Equal Var	rances			
/anances	Levene Egi	uality of Vi	ariance	18.13	3.895	<(0.0001	Unequal \	Variances			
0.stribution	Shapiro-Wi	ik W Norn	nalily	0.8132	0.9031	0.	0001	Non-norm	ral Distribut	ion		
0.ștribuțion	Kolmogoro	v-Smirnov	D	0.3333	0.1853		0.0001	Non-norm	ial Distribut	ion		
O/stribution	D'Agastina	Skewnes	5	2.194	2.576		D 28 2	Normal D	istribution			
Distribuțion	D'Agostino			0.755	2.576		4503		istribution			
Distribution	-		K ? Omnibus		9.21		0677		istribution			
) stribution	Anderson()	Darling A2	Normality	2716	3.878	<().0001 	Nэп-попт ————	nal Distribut	ian		
d Survival R	ate Summary											
C-%		Count	Mean	95% LCL	95% UC	L M	edlan	Min	Max	Std En	CV%	%Effect
)	Negative Control		1	1	1	1		1	1	D	0.0%	0.0%
6.25		5	1	1	1	1		1	1	D .	0.0%	0.0%
125		5	0.92	0 7 8 4	1	1		0.8	1	0.04899	11.91%	8.0%
25		5	0.92	0.784	1	1		0.8	1	0.04899	11.91%	8.0%
50		5	0.96	0.8489	1	1		O B	1	0.04	9.32%	4.0%
4.00		-						4	4	α.	0.006	0.000

0.0%

0.0%

0

1

1

100

50

100

Report Date:

10 Nov-15 10.06 (p.2 of 4)

Yest Code:

VCF0915.129lops | 14-6668-2168

Pacific Tops	molt 7-d Survival	and G	rowth Test				•			Consulting	
Analysis ID: Analyzed:	15-2979-3215 10 Nov-15 10:0			7d Survival Rat Nonparametric		reatments		ETIS Version: Hicial Results:	CETISVI		
Angular (Cor	rected) Transform	ned Si	ummary							•	
C-%	Control Type	Coun	it Mean	95% LCL	95% UCL	Median	Min	Max	SId Err	CV%	%Effec
Ö	Negative Confr	5	1 345		1.346	1.345	1.345	1.345	0	0.0%	0.0%
6 2 5	-	5	1 345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
12.5		5	1 25	1.088	1.412	1.345	1.107	1.345	0.05833	10.43%	7 08%
25		5	1 25	1.088	1.412	1.345	1.107	1.345	0.05833	10.43%	7.08%
50		5	1 298	1.165	1.43	1.345	1.107	1.345	0.04763	8.21%	3 54%
100		5	1 345		1.346	1.345	1.345	1.345	0	0.0%	0.0%
7d Survival F	Rate Defall										
C-%	Control Type	Rap :	Rop 2	Rep 3	Rep 4	Rep 5					
ō	Negative Control	1	1	1	1	1					
6.25	_	1	1	1	1	1					
12.5		0.8	1	1	0.8	1					
25		1	0.8	1	1	8.0					
50		1	1	1	0.8	1					
100		1	1	1	1	1					
Angular (Cor	rected) Transform	ned Da	otail								_
C-%	Control Type	Rop 1	Rep 2	Rop 3	Rep 4	Rep 5					
0	Negative Control			··	1.345	1 345					
6.25	•	1.345			1.345	1 345					
125		1.107			1.107	1 345					
25		1.345			1.345	1 107					
50		1.345			1.107	1.345					
100		1.345			1.345	1.345					
7d Survival F	Rato Binomials							- ·			
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5					
0	Negative Control		5/5	5/5	5/5	5/5					
6,25		5/5	5/5	5/5	5/5	5/5					
125		4/5	5/5	5/5	4/5	5/5					
25		5/5	4/5	5/5	5/5	4/5					
23		3/3	413	510	343	400					

5/5

5/5

4/5

5/5

5/5

5/5

5/5

5/5

5/5

5/5

Report Date:

10 Nov-15 10:05 (p 3 of 4)

Test Code: VCF0915.129lops | 14-6568-2168

Pacific Topsn	neit 7-d Survival	l and Grov	vtii Test					Aquatic I	Bioassay & (Consulting	Labs, Inc.
Analysis ID: Analyzed:	05 6326-5392 10 Nov-15 10:0			ean Dry Biom grametric-Cor		tments		IS Version lat Result:		8.7	
Batch (D: Start Date: Ending Date: Duration:	02-5089-1252 16 Sep-15 17:4 23 Sep-15 15:5 6d 22h	18 Pro 10 Sp	otocol: El ectes: At	rowth-Surviva PA/600/R-95/ herinops affir quatic Biosyst	136 (1995) lis		Anal Ollur Brin Age:	ent: Lal e: No	ooratory Sea I Applicable	water	
Sample ID:	06-1610-5753	Co	de: V	CF0915.129t			Clier	nt: VC	WPD		
Sample Date:	15 Sep-15 05:5	5 Ma	iterial: Sa	empte Water			Proj	ect: 201	15/16-1 (Wet)	l	
Receive Date:	: 15 Sep-15 10:1	5 \$o	urçe: Bi	oassay Repo	rt						
Sample Age:	366 (17.5 °C)	\$ta	ation: M	E-CC							
Data Transfor		Zeta	Alt Hyp	Trials	Seed		PMSD	NOEL	LOEL	TOEL	TU
Untransformed	i 	NA	C>T	NA	NA		27.4%	100	>100	NA	1
Dunnett Multi	ple Comparisor	Test									
Control	vs C-%		Tost Sta	t Critical	MSD DF	P-Value	P-Type	Decision	<u> </u>		
Negative Conf	rol 6.25		0.05692	2.362	0.299 8	0.8160	CDF	-	rificant Effect		
	12.5		-0.2214	2.352	0.299 8	0 8904	CDF	•	ilicant Effect		
	25		0 3289	2.352	0.299 8	0.7185	COF	_	rificant Effect		
	50		-0.857	2.362	0.299 8	0.9754	COF		nikoant Effect		
	100		-3.181	2.362	0.299 8	1.0000	CDF	Non-Sign	nikoant Effect	t 	
Test Accoptat	ollity Criteria										
Attribute	Tost Stat	TAC Lim	ılts	Overlap	Decision						
Control Resp	1 091	0.85 - NI		Yes	Passes Ad	cceptability	Criteria				
PMSD	0.2738	NL - 0.5		No	Passes Ad	cceptability	Criteria				
ANOVA Table	ı										
Source	Sum Squ	ares	Mean Sc	uare	₽F	F Stel	P-Value	Decision	ı(p:5%)		
Belween	0.6811303	3	0 136226	31	5	3.406	0.0182	Significa	nt Effect		
Error	0 9599393	2	0 039997	47	24						
Total	1,641069				29						
Distributional	Tests										
Aftribute	Test			Test Stat	Critical	P-Value	Decision	(a:1%)			
Variances	Barllett E	quality of \	/ariance	11.44	15.09	0.0433	Equal Vai	riances			
Variances	Mod Levi	ene Equal:l	y of Variand	e 1.104	4.248	0.3927	Equal Var	riances			
Variances	1,evene F	quality of Y	Variance -	2.175	3.895	0 0907	Equal Var	riances			
Distribution		Milk W Nor		0.9353	0.9031	0.0680		istribution			
Distribution	_	rov-Smirno		0.1422	0.1853	0.1226		istribution			
Distribution	_	io Skewne		1.475	2.576	0.1398		istribution			
Distribution	-	io Kurtosis		2.311	2.576	0.0208		istribution			
Distribution	_		K2 Omnibu		9.21	0.0233		stribution			
Distribution			2 Normality	0.6413	3.878	0.0949	Nomai	stribution			
•	mass-mg Sumn	тагу									
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Modian	Min	Max	Std Err	CV%	%Effect
0	Negativo Contro		1.091	0.952	1.23	1.038	1.004	1.28	0.05015	10 28%	0.0%
6.25		5	1.084	0.9558	1.212	1.03	1.008	1.254	0.04616	9 52%	0.66%
12.5		5	1.119	0.9793	1.259	1.136	0.992	1.228	0.05038	10 07%	-257%
25		5	1.05	0.9133	1.186	1.054	0.924	1.212	0.0491	10.45%	3.81%
50		5	1.2	0.8655	1.534	1.09	0.94	1.578	0.1203	22.43%	-9.93%
100		5	1 494	1.064	1.923	1.568	0.916	1.848	0.1547	23.15%	-36.88%

Pacific Topsmelt 7-d Survival and Growth Test

Report Date:

10 Nov-15 10:06 (p 4 of 4)

VCF0915.129tops | 14-6668-2168

Test Code:

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID:	05-6326-5392
Analyzed:	10 Nov-15 10:00

Endpoint: Mean Day Biomass-mg Analysis:

Parametric-Control vs Treatments

CETIS Version: CETISv1.8.7 Official Results: Yes

Mean Dry Blomass-mg Detail

C-%	Control Type	Rep 1	Rop 2	Rop 3	Rep 4	Rop 5
0	Negalive Control	1.028	1 106	1 004	1.28	1,036
5.25		1.03	1.018	1 1 1	1.254	1,008
12.5		1.136	1 228	1 014	0.992	1.226
25		1.054	0.924	1 212	0.978	1.08
50		1.578	1.378	1.09	0.94	1.012
100		1.604	1.532	1.848	1.568	0.916

Report Date:

10 Nov-15 10:06 (p.1 of 4)

Test Code:

VCF0915.129lops | 14-6668-2168

Pacific	Topsm	elt 7-d Survival	and Growt	h Tost					Aq	juatic Bi	oassay & (Consulli	ng Labs,
Analysis ID: 08-2792-4719 Endpoint Analyzed: 10 Nov-15 10.00 Analysis:			•					CETIS Version: CETISv1.8.7 Official Results: Yes					
			Growth-Surviva	 l (7d)			Analyst:						
Start Date: 16 Sep-15 17:48				EPA/600/R-95/136 (1995)			1	Diluent:	Labo	ratory Sea	water		
Ending Date: 23 Sep-15 15:50 Species		cles:	Athericops affin	ćs.		I	Brine:	Not a	Applicable				
-			Aquatic Biosystems, CO				Age: 		_				
-			VCF0915.1291				Client: VCWPD						
•			Sample Water	١	Project:	2010	716-1(Wet)						
Receive Date: 15 Sep-15 10:15 Source: Sample Age: 35h (17.5 °C) Station:			Bioassay Repor										
		lation Options							<u> </u>				
Х Тгалз	-	Y Transform	See	#	Resamples	Exp 95%	&CL Me	athod					
Linear		Linear	0		280	Yes		vo-Point Id	verpo ati	on			
Test Ac	ceptab	ility Criteria											
Attribut	•	Test Stat	TAC Limit	£	Overlap	Decision	1						
	Confroit Rosp 1 0.8 - NL			Yes									
Point &						3-2-71							
roma a: Level	stimate %	95% LCL	95% UCL	TU	95% LCL	95% UCI	L						
EC5	100	N/A	N/A	1	NA NA	NA				—-·			
FC10	>100	N/A	N/A	e1	NA	NA							
EC15	>100	N/A	N/A	<1	NA	NA							
EC20	>100	N/A	N/A	<1	NA	NA							
EC25	>100	N/A	N/A	<1	NA	NA							
EC40	>100	N/A	N/A	≺1	NA	N/A							
EC50	>100	N/A	N/A	<1	NA	ŅΑ							
		te Summary					ulated Var						
C-%		ontrol Typo	Count	Mean		Max	Şid Err			V%	%Effect	A	B 05
0	N	egative Control	5	1	1 1	1	0	0		0% 0%	0.0% 0.0%	25 25	25 25
5.25 12.5			5 5	0.92	0.8	1	0.04899			.91%	8.0%	23	25
12. 3 25			5	0.92	0.8	,	0.04899			.91%	8.0%	23	25
50			5	0.96	0.8	i	0.04	0.089		32%	4.0%	24	25
100			5	1	1	1	0	0		0%	0.0%	25	25
/d Surv	rival Ra	to Detail			···								
C-%	C	ontrol Type	Rep 1	Rep 2	Rep 3	Rep 4	Кер б						
0	N	egative Control	1	1	1	1	1						
3.25			1	í	1	1	1						
12.5			8.0	1	1	8.0	1						
25			1	0.8	1	1	0.8						
50			1	í	1	8.0	1						
100			1	<u> </u>	1	1	1						
d Surv	vival Ra	te Binomlals											
0-%		Control Type	Rep 1	Rop 2		Rep 4	Rep 5						
0		Negative Control		5/5	5/5	5/5	5/5						
5.25			5/5	5/5	5/5	5/5	5/5						
			4/5	5/5	6/5	4/5	5/5						
125													
25			5/5	4/5	5/5	5/5	4/5						
			5/5 5/5 5/6	4/5 5/5 5/5	5/5 5/5	5/5 4/5 5/5	475 5/5 5/5						

Report Date:

10 Nov-15 10.06 (p 2 of 4)

Test Code:

VCF0915, 129tops | 14-6568-2168

Pacific Topsmelt 7-d Survival and Growth Test

Aquetic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

05-2792-4719 10 Nov-15 10:00

Endpoint: 7d Survival Rale

Analysis: Linear Interpolation (ICPIN)

CETIS Version: CETISV1.87

Official Results: Yes

000-055-14entura Countywide Stormwater Quality Management Program 2015/16 Annual Report cePage, DI 184111 Aftachment D Appendix I

Report Date:

10 Nov-15 10:06 (p 3 of 4)

Test Code:

VCF0915.129tops | 14-5668-2168

									t Couo.	4011	70 10. 12 010p	5 14.0 <u>000 7.1</u>	
Pacific	Topsm	elt 7-d Survival	and Grov	vth Test					Aquati	c Bloass	ay & Consu	Ming Labs, Inc	
·				Mean Dry Biom		CETIS Version: CETISv1.8.7							
Analyz	ed: 10 Nov-15 10.00 Analysis:		Linear Interpola		Official Results: Yes								
Batch ID: 02-5089-1252 Test Type:			Grow(h-Surviva		Ana	ilyst:							
Start Date: 16 Sep-15 17:4				EPA/600/R-95/		Diluent: Laboratory Seawater							
Ending Date: 23 Sep-15 15:5		Species:		Athericops affin		Brine: Not Applic							
Durațio	эη;	6d 22h	So	urce:	Aquatic Biosyst	ems, CO		Age	: :				
Sample	e ID:	06-1610-5763	Go	Code: VCF091		.1291		Client: VCV		VCWPD	NPD		
Sample Date: 15 Sep-15 05.		55 Material:		Sample Water		Pro	ject: 2	2015/16-1	5/16-1(Wel)				
Receive Date: 15 Sep-15 10		15 Sep-15 10.1			Bioassay Report								
Sample	e Age:	36h (17.5 °C)	Sta	tion:	ME-CC								
inear	Interpo	iation Options											
X Trans	storm	Y Transform			Resamples	Exp 95% C			_				
Linear 		Linear	19	37517	280	Yes -	Two	-Point Inter	polation	·			
fest Ac	cceptab	llity Criteria											
<u>Attribu</u>	<u>10</u>	Tost Stat			Overlap	Decision							
Control Resp 1.091 0.85 - N			0 8 5 - NI	•	Yes	Passes Acc	eptability	Criteria					
Point E	stimate	95											
evel	%	95% LCL			95% LCL	95% UCL					. —		
C5	>100	N/A	N/A	<1	NA	NA							
C10	>100	N/A	N/A	<1	NA.	NA							
C15	>100	N/A	N/A	<1	NA NA	MA							
IC20 IC25	>100 >100	N/A N/A	N/A N/A	<1	NA NA	MA MA							
IC40	>100	N/A	N/A N/A	<1 <1	NA.	NA NA							
C50	>100	N/A	N/A	<1	N/A	NA NA							
					11/2		.1						
	_	mass-mg Summ	_				ulated Va						
2-%		ontrol Type	Count	Mear			Std Err	Std Dev	CV%		fect	·	
)	Ŋ	egative Control	5	1.091			0.05015	0 1121	10.283				
25			5	1.084			0,04616	0 1032 0 1127	9.52% 10.679				
12.5 25			5 5	1.115 1.05	0.992 0.924		0.05038 0.0491	0 1098	10.469				
50			5	1.2	0.94		0.1203	0.2691	22.439				
100			5	1.494			D.1547	0.3458	23.159		88%		
	Yer Birc	nass-mg Oslail											
-%	•	ontrol Type	Rep 1	Rep 2	2 Rep 3	Rep 4	Rep 5						
5		egative Control	1.028	1.106	· · —		1.038						
5.25	.,	- gante danne	1.03	1.018			1.008						
12.5			1.136	1.228			1.226						
			1.054	0.924	1.212	0.978	1.08						
25 50			1.054 1.578	0.924 1.378			1.08 1.012						

Roport Dato:

10 Nov-15 10:06 (p 4 of 4)

Test Code:

VCF0915.129tops | 14-6668-2168

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

15-7559-2422 10 Nov-15 10.00

Endpoint: Mean Dry Biomassing

Analysis: Linear Interpolation (ICPIN)

CETIS Varsion: CETISv1.8.7

Official Results: Yes

000-055-1 Kentura Countywide Stormwater Quality Management Program 2015/16 Annual Report

CETIS V1 8.7.11

Report Dato:

10 Nov-15 10:06 (p.1 of 2)

VCF0915.129lops | 14-6668-2168

		,.	-					Tast Code:	VCF0915	.129lops 1	4-6668-2166
Pacific Topsn	nolt 7-d Surviva	l and G	rowth Test						itic Bloassay &	Consulting	j Labs, inc.
Batch ID: Start Date:	02-5089-1252 16 Sep-15 17:	48	Test Type: Protocol:	Growth-Surviv				Analyst: Diluent:	Laboratory Sea	awater	
Ending Date:	23 Sep-15 15:		Spacles:	Atherinops affi	inīs .			Brine:	Not Applicable		
Duration:	6d 22h		Source:	Aqualic Biosys				Age:			
Sample ID:	06-1610-5753		Code:	VCF0915.1290	:			Cilout:	VCWPD		
Sample Date:	15 Sep-15 05:	55	Material:	Sample Water	•			Project:	2015/16-1(Wei	:)	
Receive Date:	15 Sep-15 101	15	Source:	Bioassay Repo	ort						
Sample Age:	36h (17.5°C)		Station:	ME-CC							
Dissolved Ox	ygon-mg/L										
C-%	Control Type	Count		95% LCL	95% UCL		Max	Std E		ÇV%	QA Coun
0	Negative Contr		6.938	6.701	7 174	66	7.4	0.099		4.07%	0
6.25		8	6.475	5.805	7 145	48	7.3	0 283		12 38%	0
12.5		8	6.375	5.452	7.298	4	7.3	0.390		17.32%	0
25		8	6.188	5.316	7.0 5 9	4.2	7.1	0.368		16 85%	0
50		8	5.053	5.204	6.921	4.3	6.9	0.363		16.94%	0
100		8	5.975	5.15	6.8	4.2	6.8		8 0.9857	16.51%	0
Overall -		4B	6.335			4	7.4				0 (0%)
pH-Units											
C-%	Control Type	Count		95% LCL	95% UCL	Min	Max	Std E		CV%	QA Coun
0	Negative Contr		7.625	7.478	7.772	7.3	7.9	0 061		2.3%	0
6.25		8	7.825	7 728	7.922	7.6	8	0.041		1.49%	0
12.5		8	7 85	7.75	7 95	76	8	0 042		1.52%	0
25		8	7 875	7.801	7.949	7.7	8	0 031		1,13%	0
50		8	7 925	7 851	7.999	7.8	8.1	0 031		1.12%	Q ^
100		8	7.938	7.797	8.078	7.6	8.2	0.059	57 0.1685	2.12%	0 0000
Overali -		4B 	7.84			7.3	8.2				0 (0%)
Salinity-ppt											
C-%	Control Type	Caunt		95% LCL	95% UCL		Max	Std E		CV%	QA Coun
	Negative Confr		25	25	25	25	25	0	0	0.0%	0
6.25		8	25	25	25	25	25	0	0	0.0%	0
12.5		8	25	25	25	25	25	0	0	0.0%	0
25 50		8	25	25	25	25	25	0	0	0.0%	0
100		8	25	25	25	25	25	0	0	0.0%	0
Overall _		8 48	25 25	25	25	25 25	25 25	0	0	0.0%	0 (0%)
Temperature.	·	40	23			23	23				V (V /9/
•	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	QA Coun
	Negativo Contr		21	21	21	21	21	0	0	0.0%	0
5.25		В	21	21	21	21	21	ů	ō	0.0%	ō
12.5		8	21	21	21	21	21	o o	o	0.0%	o
25		8	21	21	21	21	21	Õ	ő	0.0%	0
50		θ	21	21	21	21	21	o o	ō	0.0%	0
100		8	21	21	21	21	21	ő	Ö	0.0%	0
D "	_	• • •		£!	· ·			<u>'</u>	<u>`</u>	0.070	0.0000

0 (0%)

Overall

CETIS Measurement Report

Report Date:

10 Nov-15 10:06 (p 2 of 2)

Test Code: VCF0915.129tops | 14-6668-2168

Pacific To	psmolt 7-d Survival	l and Gro	wth Test					Aquatio	Bloassay & Consulting Labs, Inc.
Dissolved	Oxygen·mg/L			•					
C-%	Control Type	1	2	3	4	5	6	7	8
0	Negative Confr	6.8	7.3	6.6	6.8	6.9	7.4	7	G.7
6.25		6.B	7.3	8.8	6.7	6.8	7	5.8	4.8
12.5		6.9	7.3	7.2	6.7	6.7	6.7	55	4
25		7.1	69	6.7	6.8	6.7	6.1	5	4 2
50		6.9	6.5	6.7	83	66	6.1	4.6	43
100		6.8	5.5	6.5	6.7	67	6.5	49	4 2
pH-Units									
C-%	Control Type	1	2	3	4	S	6	7	8
0	Negative Contr	7.5	7.9	7.3	7.7	77	7.7	7.6	7.6
6.25		7.9	7.8	7.8	7.8	7.8	8	7.9	7.6
125		7.9	7.9	7.9	7.8	7.8	8	7.9	7.G
25		7.9	7.9	7.9	7.9	7.8	8	7.9	7 7
50		7.9	8	7.9	7.9	7.9	8.1	7.9	7 8
100		7.6	8	7.9	7.9	79	8.2	8	8
Salinity-pp	ı.								
C-%	Control Type	1	2	3	4	5	6	7	8
0	Negative Contr	25	25	25	25	25	25	25	25
6.25		25	25	25	25	25	25	25	25
12.5		25	25	25	25	25	25	25	25
25		25	25	25	25	25	25	25	25
50		25	25	25	25	25	25	25	25
100	<u> </u>	25	25	25	25	25	25	25	25
Temperatu	re-°C								
C-%	Cantrol Type	1	2	3	4	6	6	7	θ
0	Negative Contr	21	21	21	21	21	21	21	21
6 25		21	21	21	21	21	21	21	21
12.5		21	21	21	21	21	21	21	21
25		21	21	21	21	21	21	21	21
50		21	21	21	21	21	21	21	21
100		21	21	21	21	21	21	21	21



November 12, 2015

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 LD.:

ME-HUE

DATE RECEIVED:

9/15/2015

ABC LAB, NO.:

VCF0915.123

CHRONIC TOPSMELT SURVIVAL AND GROWTH BIOASSAY

Survival

NOEC :: 100.00

TUe = 1.00

IC25 = >100.00 %

IC50 -- >100.00 %

Biomass

NOEC = 100.00 %

TUe = 1.00

IC25 = > 100.00 %

IC50 = >100.00 %

Yours very truly,

j&ćott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

10 Nov-15 10:05 (p.1 of 2)

	many maps.	•						Test Code:	VCF0915.	123tops 13	3-530 8-8 95
Pacific Topsn	nelt 7-d Survival	and Gre	owth Test					Aqual	ic Bioassay &	Consulting	Labs, Inc.
Satch ID:	09-0204-9566	т	est Type:	Grawth-Surviva	 al (7d)			Analyst:			
Start Date:	16 Sap-15 17:17		rotocol:	EPA/600/R-95/					Laboratory Sea	water	
Ending Date:	23 Sep-15 15:35	5 \$	peçles:	Atherinops affir	nis				Not Applicable		
Duration:	5d 22h	S	ource:	Aquatic Biosys	lems, CO			Age:			
Sample ID:	09-9767-1191	0	ode:	VCF0915.123t				Cliant:	VCWPD		
Sample Date:	15 Sep-15 04;45	, N	faterial:	Sample Water				Project:	2015/16-1 (Wet)	
Receive Date:	: 15 Sep-15 10;15	, s	ource:	Bioassay Repo	ort						
Sample Age:	37h (18.4 °C)	s	tation:	MO-HUE							
Comparison S	Summary										
Analysis ID	Endpoint		NOEL		TOEL	PM\$D	TU	Metho			
	7d Survival Rate		100	>100	NA	8.2%	ı		Many-One Rad		
16-3795-6146	Mean Dry Bioma	ss-nig	100	>100	NA · · ·	26 3% 	1 :	Dunne - ————	eti Multiple Con	sparison Te:	5t
Point Estimat	-										
Analysis ID	Endpoint		Level		95% LCL	95% UCL		Metho			
J 4-6321-16 02	7d Survival Rate	•	EC5	>100	N/A	N/A	<1	Linoar	Interpolation (ICPIN)	
			EC1D		N/A	N/A	<1				
			EC15		N/A	N/A	<1				
			EC20		N/A	N/A	<1				
			EC25		N/A	N/A	<1				
			FC40 EC50		N/A	N/A N/A	*1				
11.0472.224P	Mean Dru Bioma				N/A	N/A N/A	<1 1 794	F 1	. Intornalation (Otalko	
71-0412-2240	Mean Dry Bioma	iss-ing	IC5	92.05	N/A N/A	N/A	1.089	o Linear	Interpolation (CPII4)	
			IC10 IC15	>100	N/A	N/A N/A	<1				
			1020	>100 >100	N/A N/A	N/A N/A	<1 <1				
			IC25	>100	N/A	N/A	<1				
			IC40	>100	N/A	N/A	<1				
			IC50	>100	N/A	N/A	<1				
ost Accoptat	· · ·			- 100	I	TAILE	~1		-		
Analysis ID	Endpoint		Attrib	ule	Test Stat	TAC Limi	ils	Overt	ap Decision	ı	
4-6321-1602	7d Survival Rate	!		ol Resp	1	0.8 - NL		Yes	•	cceptability	Crileria
	7d Survival Rale			ol Resp	1	0.8 - NL		Yes		cceptability	
	Mean Dry Bioma			ol Resp	0 8252	0.85 - Nt.		Yes		ceptability (
	Mean Dry Bioma	_		ol Resp	0.8252	0.85 · NL		Yes		ceptability (
	7d Survival Rate	_	PMS0	-	0.08202	NL - 0.25		No		cceptability	
16-3795-6146	Mean Dry Bioma	iss-mg	PMSE		0.2631	NL - 0.5		No		cceptability	
d Survival Ra	ate Summary										
		Count	Mean			Min	Max	Std E		CY%	%Effect
	Negative Control		1	1	1	1	1	0	0	0.0%	0.0%
5.25		5	1	1	1	1	1	0	0	0.0%	0.0%
2.5		5	1	1	1	1	1	0	0 00044	0.0%	0.0%
•5 io		5	0.96	0 8489	<u>;</u>	0.8	1	0.04	0.08944	9.32%	4.0%
00 00		5	1	1	1	1	1	0	0	0.0% n.ow	0.0% a.pv
		<u>5</u>		1	t	1	1	0	0	0.0%	0.0%
	nasa-mg Summa Control Type	ary Count	Mean	95% LCL	95% UCL	Min	Max	Ştd E	rr Std Dev	CV%	%Effec
) - /a	Negative Control		0.825		1.081	0.572	1.124			24.95%	0.0%
, i.25	_	5	0.825		1.115	0.572	i 146			13.71%	-15.519
2.5		5	0.953		1.063	0.8	1 086			12.98%	-10.919
2.5 !5		5	0.913		1.124	0.694	1 202			21,44%	-7 56%
i0		5	0.9048		1	0.82	1 03	0.003 0.0344		8.61%	-9.55%
100		5	0.8446		0.9756	0.73	1 012			12.47%	-9.03 M
		,	V.0440	0 0714	0.0130	V.10	. 012	0.041	12 V.1034	12.4170	-2 JOW

CETIS Summary Report

Report Date:

10 Nov-15 10 05 (p. 2 of 2)

Test Code:

VCF0915.123tops | 13-5308-8954

Pacific Topsmelt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

7d Surviv	al Rate Detail							
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rop 4	Rep 5		
0	Negative Control	1	1	1	1	1		
6 25		1	1	1	1	1		
12.5		1	1	1	1	1		
25		1	1	1	0.8	1		
50		1	1	1	1	1		
100		1	1	1	1	1		
Mean Dry	Giomass-ıng Detail							
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rap 4	Rep S		
0	Negative Control	0.824	0.572	0.716	0.89	1.124		
6.25		0.95	0.876	0.994	1.146	0.8		
12.5		0.812	0.988	0.872	1.086	0.818		
25		0.848	0.89	1 202	0.804	0.694		
50		0.9	0.896	0.878	0.82	1.03		
100		0.73	0.864	0.796	1 012	0.822		
7d Surviv	al Rate Sinomials							
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5		
0	Negative Control	5/5	5/5	5/5	5/6	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	4/5	5/5		
50		5/5	5/5	5/5	5/5	5/5		
100		5/5	5/5	5/5	5/5	5/5		

Report Date:

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Test Code:

VCF0915.123tops | 13-5308-8954

Aquatic	Bioassay	5.	Consulting	Labs.	inc

Pacific Topsm	nelt 7-d Survival	នារព Gr	owin Test					Menby	c Bioassay & •	Consulting	g Labs, Inc
Analysis ID:	07-3335-0006	ı	Endpoint:	7 6 Survival R				TIS Versio		.8.7	
Analyzed:	10 Nov-15 9.59	9 /	Analysis:	Nonparametri	ic-Control v	s Trealments	OH	icial Resu	dts: Yes		
Batch ID:	09-0204-9566	7	Test Type:	Growth-Surve	val (7d)		Ana	dyst:			
Start Date:	16 Sep-15 17:1	7 (Protocol:	EPA/600/R-9:	5/136 (199)	5)	Dilu	uent: L	aboratory Sea	water	
Ending Date:	23 Sep-15 15:3	5 5	Species:	Atherinops of	finis		Brig	ne: N	Not Applicable		
Duration:	6d 22h		Source:	Aquatic Biosy			Age) ;			
Sample ID:	 09-9767-1191	4	Code:	VCF0915.123	ßt		Clie	ent: \	/CWPD		
Sample Date:	15 Sep-15 04:4	5 1	Material:	Sample Wate	:r		Pro	ject: 2	2015/16-1(Wet)	+	
Receive Oate:	: 15 Sep-15 10:1	5 5	Source:	Bioassay Rep	ort						
Sample Age:	37h (18.4 °C)	į	Station:	MO-HUE							
— . Data Transfor	m	Zeta	Alt H	yp Trials	Seed	—	PMSD	NOEL	FOEL	TÖEL	ΤU
Angular (Corre	ected)	NA	ÇÞT	NA	NA		8.2%	100	>100	NA	1
iteel Many-Or	na Rank Sum Te	∍st									
ontrol	vs C-%		Test \$	Stat Critical	Ties	DF P-Value	P-Type		on(o:5%)		
Negativ e Contr			27.5	16		8 08333	Asymp		gnificant Effect		
	12.5		27.5	15	1	8 08333	Asymp		gnificant Effec		
	25		25	15	1	B 05353	Asymp		ignificant Effec		
	50		27.5	16	1	0 0 8333	Asymp		gnificant Effec		
	100		27.5	16	1	8 08333	Asymp	Non-Si	ignikoant Effec	l	
est Acceptat	bility Criteria										
Attribute	Test Stat			Overlap							
Control Resp	1	0.8 - N		Yes		Acceptability					
PMSD	0.08202	NL - 0.	.25	No	Passes	Acceptability	Criteria				
	0.00202					,					
						,					
ANOVA Table				Square	DF	F Şiat	P-Value	 Decişl	 on(a:5%)	• • •	
ANOVA Table Source		aros	Mean						on(a:5%) ignificant Effec	ι	
ANOVA Table Source Between	Sum Squa	aros 317	Mean 0.001	Square	DF	F Şiat	P-Value		<u> </u>	ι	
ANOVA Table Source Between Error	Sum Squa 0.0094513	aros 317	Mean 0.001	Square 890263	DF S	F Şiat	P-Value		<u> </u>	ι	-
ANOVA Table Source Setween Error Total	Sum Squa 0.0094513 0.0450663 0.0548176	aros 317	Mean 0.001	Square 890263	DF 5 24	F Şiat	P-Value		<u> </u>	ι	
ANOVA Table Source Setween Error Total	Sum Squa 0.0094513 0.0450663 0.0548176	aros 317	Mean 0.001	Square 890263 890263	DF 5 24	F Şiat 1 P-Value	P-Value 0.4389 Decision	Non-Si n(a:1%)	<u> </u>	ι	
ANOVA Table Source Selween Foror Total Distributional	Sum Squa 0.0094513 0.0450663 0.0548176 Tests Test	aros 317 32 34 ene Equ	Mean 0.001 0.001	Square 890263 890263 Tost Sta	DF 5 24 29	F Şiat	P-Value 0.4389 Decision Equal Va	Non-Sr n(α:1%) ariances	ignificant Elfec	ι	
NOVA Table cource fetween forat distributional attribute fariances fariances	Sum Squa 0.0094513 0.0450663 0.0548176 Tests Test	aros 317 32 34 ene Equ	Mean 0.001 0.001	Square 890263 890263 Tost Sta	DF 5 24 29	F Şiat 1 P-Value	P-Value 0.4389 Decision Equal Va	Non-Si n(a:1%)	ignificant Elfec	ι	
NOVA Table ource elween irror otal distributional stribute fariances fariances	Sum Squa 0.0094513 0.0450663 0.0548176 Tests Test	aros 517 52 54 ene Equi	Mean 0.001 0.001 ality of Variance	Square 890263 890263 Test Sta	DF 5 24 29	F Stat 1 P-Value 0.4457	P-Value 0.4389 Decision Equal Va Unequal	Non-Sr n(α:1%) ariances	gnificant Effec	 I	
ANOVA Table Source Setween Error Total Distributional Attribute /ariances Ostribution	Sum Squa 0.0094513 0.0453663 0.0548176 Tosts Test Mod Leve Levece E	aros 317 32 54 ene Equa agaality c	Mean 0.001 0.001 afily of Variance lormality	Square 890263 890263 Test Sta ance 1 7 111	DF 5 24 29 t Critical 4.248 3.895	F Stat 1 P-Value 0.4457 0.0003	P-Value 0.4389 Decision Equal Va Unequal Non-nom	Non-Si n(α:1%) ariances Varrances	gnificant Effec	 I	
ANOVA Table Setween Error Total Distributional Attribute /ariances Distribution Distribution	Sum Squa 0.0094513 0.0453663 0.0548176 Tests Test Mod Leve Levece E Shapiro-V	aros 317 32 54 ene Equi quality c quality c yvick W A	Moan 0.001 0.001 afily of Variance lormality nov D	Square 890263 890263 Test Sta ance 1 7 111 0 4063	DF 5 24 29 t Critical 4.248 3.895 0,9031	F Stat 1 P-Value 0.4457 0.0003 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom	Non-Si 	gnificant Elfec		
ANOVA Table Source Setween Error Total Distributional Attribute /ariances /ariances /ariances /ariances /ariances	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogos	aros 317 32 34 ene Equi quality c Quality c Vitk W 5 rov-Smir o Skewi	Mean 0.001 0.001 afily of Variance lormality nov Diness	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567	DF 5 24 29 t Critical 4.248 3.895 0,9031 0.1853	F Stat 1 P-Value 0.4457 0.0003 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom	Non-Si 	gnificant Elfec		
ANOVA Table Source Setween For Total Distributional Attribute /ariances /ariances Distribution Distribution Distribution	Sum Squa 0.0094513 0.045063 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agosin D'Agosin	aros 317 32 54 Mit, W 5 rov-Smir io Skewio Kurtos	Mean 0.001 0.001 afily of Variance lormality mov D ness sts	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58	DF 5 24 29 t Critical 4.248 3.895 0,9031 0,1853 2,576	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom	Non-Si m(c:1%) ariances Varrances mal Distrib mal Distrib	gnificant Elfoc s sution pution pution pution		
NOVA Table detween detween detributional distribution distribution distribution distribution distribution distribution	Sum Squa 0.0094513 0.0450663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin	aros 317 32 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30	Mean 0.001 0.001 afily of Variance lormality mov D ness sts	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 mbus 55.27	DF 5 24 29 t Critical 4.248 3.895 0,9031 0.1853 2.576 2.576	P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom	Non-Si m(a:1%) triances Varrances mal Distrib mal Distrib mal Distrib	gnificant Elfoc s sulion sulion sulion sulion sulion	I.	
NOVA Table cource fetween foror ofat distributional attribute fariances fariances fistribution	Sum Squa 0.0094513 0.0450663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson	aros 317 32 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30	Mean 0.001 0.001 afilty of Variance formality mov D ness ses on K2 Orne	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 mbus 55.27	DF 5 24 29 t Critical 4.248 3.895 0,9031 0.1853 2.576 2.576 9.21	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom	Non-Si m(c:1%) ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib	gnificant Elfoc s sulion sulion sulion sulion sulion		
MOVA Table cource fetween forat distributional attribute (ariances distribution	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson ate Summary Control Type	ares 17 12 54 ene Equality of Quality of Witk W Morey-Smir to Skewn to Skewn to Count	Mean 0.001 0.001 afilty of Variance formality nov D ness sis on K2 Omr A2 Norma	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4667 5.58 4.912 nbus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom	Non-Si n(a:1%) ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib mal Distrib	soution pution pution pution pution pution pution pution pution	CV%	
NOVA Table ource etween irror otat istributional tirribute ariances istribution istribution istribution istribution istribution istribution outsiden outside	Sum Squa 0.0094513 0.0450663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson	ares 117 12 14 154 164 17 165 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Mean 0.001 0.001 afily of Variance formality nov D ness son K2 Omr A2 Norma	Square 890263 890263 Test \$ts ance 1 7 111 0 4063 0.4667 5.58 4.912 nbus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom	Non-Si ariances Varrances Mal Distrib mal Distrib mal Distrib mal Distrib mal Distrib Max	gnificant Effect solution pution pution pution pution Std Err		0.0%
NOVA Table cource detween direct distributional distribute distribution	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson ate Summary Control Type	ares 517 52 54 ene Equality of Vitik W Moreov-Smire Skewn on Count of Skewn on Count	Mean 0.001 0.001 afilty of Variance lormality nov D ness s:s on K2 Ornr A2 Norma 1	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 ribus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom	Non-Si ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib Max	gnificant Effect solution pution pution pution pution Std Err 0 0	CV% 0.0% 0.0%	0.0% 0.0%
ANOVA Table Source Setween Forar Total Distributional Attribute Variances Va	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson ate Summary Control Type	ares 517 52 54 ene Equality of Vitik W Moreov-Smire Kurtos 10 - Pears 10 - Pears 10 - Pears 10 - Pears 11 5 5 5 5	Mean 0.001 0.001 afilty of Variance lormality nov D ness s:s on K2 Ornr A2 Norma 1 1 1	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 mbus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom 1 1 1	Non-Si ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib Max 1 1	gnificant Effect solution pution pution pution pution Std Err 0 0 0	CV% 0.0% 0.0%	0.0% 0.0% 0.0%
ANOVA Table Source Setween Error Total Distributional Attribute Variances Variances Distribution	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson ate Summary Control Type	aros 117 122 144 Ine Equality of Mick W Move Smire Skewn of Kurton of Kurto	Mean 0.001 0.001 afity of Variance formality mov D ness sis on K2 Omr A2 Norma 1 1 1 0.96	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 ribus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom 1 1 1 0.8	Non-Si ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib Max	soution pution p	CV% 0.0% 0.0% 0.0% 9.32%	0.0% 0.0% 0.0% 4.0%
ANOVA Table Source Setween Error Fotal Distributional Attribute Variances Variances Distribution Distribution Distribution Distribution Distribution Distribution	Sum Squa 0.0094513 0.0453663 0.0548176 Test Mod Leve Levece E Shapiro-V Kolmogor D'Agostin D'Agostin Anderson ate Summary Control Type	ares 517 52 54 ene Equality of Vitik W Moreov-Smire Kurtos 10 - Pears 10 - Pears 10 - Pears 10 - Pears 11 5 5 5 5	Mean 0.001 0.001 afilty of Variance lormality nov D ness s:s on K2 Ornr A2 Norma 1 1 1	Square 890263 890263 Test Sta ance 1 7 111 0 4063 0.4567 5.58 4.912 mbus 55.27 lity 7.95	DF 5 24 29 1t Critical 4.248 3.895 0.9031 0.1853 2.576 2.576 9.21 3.678	F Stat 1 P-Value 0.4457 0.0003 <0.0001 <0.0001 <0.0001 <0.0001 <0.0001	P-Value 0.4389 Decision Equal Valuequal Non-nom Non-nom Non-nom Non-nom Non-nom Non-nom 1 1 1	Non-Si ariances Varrances mal Distrib mal Distrib mal Distrib mal Distrib Max 1 1	gnificant Effect solution pution pution pution pution Std Err 0 0 0	CV% 0.0% 0.0%	0.0% 0.0%

Report Date:

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Test Code:

VCF0915.123lops | 13-5308-8954

Aquatic	Bloassay	& Consulting	Labs,	Inc.
			,	

Analysis ID:	07-3335-0006	Endpoint:	7d Survival Rate	CET(S Version:	CET/Sv1.8.7
Analyzed:	10 Nov-15 9:59	Analysis:	Nonparametric-Control vs Treatments	Official Results:	Yes

Angular	(Corrected)	Transformed	Summary
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Pacific Topsmelt 7-d Survival and Growth Tost

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	Max	Std Err	CV%	%Effect
ō	Negative Contr	5	1.345	1.345	1.346	1.345	1.345	1,345	0	0.0%	0.0%
6.25		5	1.345	1.345	1.346	1.345	1.345	1,345	0	0.0%	0.0%
12.5		5	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
25		5	1.298	1.165	1.43	1.345	1.107	1.345	0.04763	8.21%	3.54%
5D		5	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%
100		5	1.345	1.345	1.346	1.345	1.345	1.345	0	0.0%	0.0%

7d Survival Rate Detail

C-%	Control Type	Rép 1	Rép 2	Rep 3	Rep 4	Rep 5
o	Negative Control	1	1	1	1	1"
6.25		1	t	1	1	1
12.5		1	1	1	1	1
25		1	1	1	0.B	1
50		1	1	1	1	1
100		1	1	1	1	1

Angular (Corrected) Transformed Detail

C-%	Control Type f	Rep 1	Rep 2	Rep 3	Rep 4	Rep 6
0	Negative Control 1	1,345	1.345	1 345	1 345	1.345
6.25	1	1.345	1.345	1 345	1 345	1 345
125	1	1.345	1.345	1 345	1 345	1 345
25	1	1.345	1.345	1.345	1.107	1 345
50	1	1.345	1.345	1.345	1.345	1 345
100	1	1.345	1.345	1.345	1.345	1,345

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	
0	Negative Control	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	575	4/5	5/5	
50		5/5	5/5	5/5	5/5	5/5	
100		5/5	5/5	5/5	5/5	5/5	

Report Date:

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Test Code:

VCF0915.123tops | 13-5308-8954

C-% 0	Control Type	Coni	nt Mean	95% LCL	95% UCL	Median	Min	Max	Std Erc	CV%	%Effo
Moan Dry Biom	_	_									** - **
				, 0.0011	u	5.51.34	rionnai Di	.2/11/2/11/01/			
Distribution			ng A2 Normali		3.878	0.0754	Normal Di				
Distribution	_		rson K2 Omni		921	0.4136	Normal Di				
Distribation Distribation	D'Agosti D'Agosti			1.637 0.8176	2.576 2.576	0.1016 0.4136	Normal Di				
Distribution	_			0.1594	0.1853 2.576	0.0500	Normal Distribution Normal Distribution				
Distribution	Snapiro- Koʻmogo		-	0.951	0 9031 0 1863	0.1799	Normal Distribution				
Variances Distribution			y of Variance / Normality	0.751 8 0.951	3 895 .n.ooz.i	0.5929	Equal Var Normal Di				
			-		4 248 3 804	0.5280	Equal Var				
variances Variances			r or variance jublity of Varia		15.09 6.249	0.4489	Equal Var				
Attribute Variances	Test Padlett 5	Envette	of Variance	Test Stat 4.736		P-Value	Decision	· ·			
Distributional 1					* 1.7						
Total	0.552521	4			29						
Error Total	0.507211 0.507211		0.0211	330	24						
Belween Error			0.0110		5	0.5244	0.7554	workeligh	ificant Effect	•	
Source Bobuson	Sum Squ 0.055410			Square enne	DF E	F Stat	P-Value	Decision			
ANOVA Table											
PMSD	0.2531	NL -	0.5	No	Passes A	sceplability	Criteria				
Control Resp	0.8252	0.85	- NL	Yes		eptability (
Attribute	Test Stat	TAC	Limits	Overlap	Doctsion						
Tost Acceptabi	lity Criteria										
	10D		-0.213	2 2 3 6 2	0.217 8	0.8886	CDF	_	ificant Effect		
	50		-0.865		0.217 8	0.9759	CDF	_	ificant Effect		
	25		-0.678		0.217 8	0.9610	CDF	_	ificant Effect		
	12.5		-0.978		0.217 8	0.9823	CDF	-	iificant Effoc		
Control Negative Contro	· ·		-1.392		0.217 8	0.9947	P-Type CDF	Decision Non-Sign	i(a:5%) ificant Effect	:	
Dunnett Multipi Control		n Test		tat Gritical	MSD DE	P.Malue	P.Tunn	Daelelee	Ja-E% k		
					NA .		20 3%				
Data Transform Uniransformed	1	Zeta NA	Alt Hy C > T		Sced NA		PMSD 26.3%	100 100	2100	TOEL NA	1
		7			e		DAMOO	NOT!	.051	TAE:	7713
Sample Age:				MO-HUE							
Receive Date:				Bioassay Repo			,			•	
Sample ID: Sample Date:	09-9767-1191 15 Sep-15 04:	45		VCF0915.123t Sample Water			Citer Proje	-	WPD 5/16-1(W et)	ı	
									IAIDD		
	6d 22h	••	•	Aquatic Biosys			Age		Прриович		
Ending Date:				Athermops affi			Brin		l Applicable		
	16 Sep-15 17.			EPA/800/R-95			Dilu	-	oratory Sea	water	
Batch (D:	09-0204-9566		Test Type:	Growth-Survaya	al 77ds		Anal	ust:			
Analyzed:	10 Nov-15 9:5		•	Parametric-Co	_	tments		ial Results			
· · Analysis ID:	16-3795-6146		Endpoint:	Moan Dry Bron	nass-mo		CEL	IS Varsion:	: CETISv1	.8.7	
Pacific Topsme	elt 7-d Surviva	il and (Growth Test					Aqualic I	Bloassay & ∘	Consultin	g Labs, II
	· —						-				

24.95%

13.71%

12.98%

21,44%

8 51%

12.47%

0.0%

-15.51%

-10 91%

-7.56%

-9 65%

-2 38%

1.081

1.115

1.063

1.124

0.9756

1

0.824

0.95

0.872

0.846

0.896

0.822

0.572

0.812

0.694

0.82

0.73

0.8

1.124

I 146

1 086

1 202

1 03

1 012

0.09206

0.05843

0.05312

0.08511

0.03441

0.04712

Negative Control 5

5

5

5

5

0 8252

0 9532

0.9152

0.8876

0.9048

0.8448

0.5696

0.791

0.7677

0.6513

0.6093

0.714

0

6.25

125

25

50

100

Report Date:

10 Nov-15 10.05 (p.4 of 4)

Test Code:

VCF0915.123tops | 13-5308-8954

								· - · - · · · · · · · · · · · · · · · ·	
Pacific Topsmott 7-d Survival and Growth Test Aquatic Bioassay & Consulting Analysis ID: 16-3795-6146 Endpoint: Mean Dry Biomass-mg CET/S Version: CET/SV1.8.7 Analyzed: 10 Nov-15 9:59 Analysis: Parametric-Control vs Treatments Official Rosults: Yes Mean Dry Blomass-mg Detail C-% Control Type Rop 1 Rep 2 Rep 3 Rep 4 Rep 5 0 Negative Control 0.824 0.572 0.716 0.89 1.124 6.25 0.95 0.876 0.994 1.146 0.8									
•				,		eatments			
Mean Dry Bla	omass-mg Detail								
C-%	Control Type	Rop 1	Rep 2	Rep 3	Rep 4	Rep 5			
0	Negative Control	0.824	0.572	0.716	0.89	1.124			
6.25		0.95	0.876	0.994	1.146	8.0			
12.5		0.812	0.988	0.872	1.086	0.818			
25		0.848	0.89	1.202	0.804	0.694			
50		0.9	0.896	0.878	0.82	1.03			
100		0.73	0.864	0.796	1.012	0 822			

Report Date:

10 Nov-15 10:05 (p 1 of 4)

Tost Code:

VCF0915.123tops [13-5308-8954

				. 001 - 004	verbana:reetapat na abab obox
Pacific Topsm	ieft 7-d Survival and	Growth Test		Aqu	atic Bioassay & Consulting Labs, Inc.
Analysis ID:	04-6321-1602	Endpoint:	7d Survival Rate	CETIS Ver	rsion: CETISv1 8 7
Analyzed:	10 Nov-15 9 59	Analysis:	Linear Interpolation (ICPIN)	Official Re	asults: Yes
Beich ID:	09-0204-9566	Test Type:	Growth-Survival (7d)	Analyst:	
Start Date:	16 Sep-15 17:17	Protocol:	EPA/600/R-95/136 (1995)	Diluent:	Laboratory Spawater
Ending Date:	23 Sep-15 15:35	Species:	Atherinops affinis	Brine:	Not Applicable
Duration:	6ď 22h	Source:	Aqualic Biosystems, CO	Age:	
Sample ID:	09-9767-1191	Codo:	VCF0915.123t	Client:	VCWPD
Sample Date:	15 Sep-15 04:45	Material:	Sample Water	Project:	2015/16-1(Wet)
Recoive Date:	15 Sep-15 10.15	Source:	Bioassay Report		
Sample Age:	37h (18.4 °C)	Station:	MO-HUE		
	1-4			•	

Linear Interpolation Options

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

Test Acceptability Criteria

Attribu	to	Tost Stat	TAC Limit	s	Overlap	Doctsion	
Control	Resp	1	0.8 • NL		Y e s	Passes Acceptability Criteria	
Point E	stimates						
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL	
EC5	>100	N/A	N/A	<1	NA	NA .	
EC10	>100	N/A	N/A	<1	NA.	NA	

EC5	>100	N/A	N/A	<1	NA	AN
EC10	>100	N/A	N/A	<1	NA.	NA
EC15	>100	N/A	N/A	< 1	MA	NA
EC20	~100	N/A	N/A	51	NΑ	NA
F,C25	~100	N/A	N/A	<1	MA	NA
EC40	>100	N/A	N/A	<1	NΑ	NA
EC50	>100	N/A	N/A	<1	NA	NA

7d Survi	val Rato Summary		Calculated Variate(A/B)								
C-%	Control Type	Count	Mean	Min	Max	Std Err	\$td Dev	CV%	%Effect	A	В
0	Negative Control	5	1	1	1	0	0	0.0%	0.0%	25	25
6 25		5	1	1	1	0	0	0.0%	0.0%	25	25
12.5		5	1	1	1	0	0	0.0%	0.0%	25	25
25		5	0.96	8.0	1	0.04	0.08944	9.32%	4.0%	24	25
50		5	1	1	1	0	0	0.0%	0.0%	25	25
100		5	1	1	1	0	0	0.0%	0.0%	25	25

7d Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Negative Control	1	1	1	1	1
6 25		1	1	1	1	1
12.5		1	1	1	1	1
25		1	1	1	0.8	1
50		1	1	í	1	1
100		1	1	1	1	1

7d Survival Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 6	
0	Negative Control	5/5	5/5	5/5	5/5	5/5	
6.25		6/5	6/5	5/5	5/5	5/5	
12.5		6/5	6/5	5/5	5/5	5/5	
25		5/5	5/5	5/5	4/5	5/5	
50		5/5	5/5	5/5	5/6	5/5	
100		5/5	5/5	5/5	5/5	5/5	

Report Date:

10 Nov-15 10:05 (p.2 of 4)

Teşt Code:

VCF0915.123tops | 13-5306-6954

Pacific Topsmell 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

04-6321-1602 10 Nov-15 9:59

Endpoint: 7d Survival Rate

Analysis: Likear Interpolation (ICPIN)

CETIS Version: CETISv1.8.7

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p 3 of 4)

Test Code:

VCF0915.123tops | 13-5308-8964

										- +
Pacific	Topsm	elt 7-d Survival	and Growt	h Test					Aquatic Bl	passay & Consulting Labs, In
Analys Analyz		01-0472-2248 10 Nov-15 9:59		point: lysis:	Mean Dry Biom Linear Interpola	_			S Version: ial Results:	CETISyt.8 7 Yes
Batch	ID:	09-0204-9566	Tesl	Type:	Growth-Survival	I (7d)		Analy	yst:	
Start D	late:	16 Sep-15 17:1	7 Prof	ocol:	EPA/600/R-95/1	136 (1995)		Diffue	nt: Labo	ratory Seawaler
Ending	g Date:	23 Sep-15 15:3	5 Spa	CiBS:	Athermops affin	ıS		Brine	e: Not A	loplicable
Duratio	on:	6d 22h	Sou	rce:	Aquatic Biosyst	ems, CO		Age:		
Sample	e ID;	09-9767-1191	Cod	Code: VCF0915.1231				Clien	t: VCW	PD
\$ampli	ople Date: 15 Sep-15 04:45 Material: Sample Water				Proje	oct: 2015	/16-1(Wet)			
Receiv	pelve Date: 15 Sep-15 10:15 Source: Bioassay Report		1							
\$amp1	e Age:	37h (18.4 °C)	Stat	lon:	MO-HUE					
Linear	Interpo	lation Options								
X Tran	sform	Y Transform	See	đ	Resamples	Exp 95% CL	Meth	od		
Linear		Linear	5010)58	280	Yes	Two-	Point Interp	olation	
Test A	cceptab	liity Criteria								
Attribu	ite	Test Stat	TAC Limit	ļş.	Overlap	Decision				
Control	l Resp	0.8252	0.85 - NL		Yes	Below Accept	tability C	ritena		
Point E	Estimate									
Lével	%	95% LCL	95% UCL	TU	95% LCL	95% UCL				
IC5	92.05	N/A	NA	1.085	NA	NA .				
IC10	>100	N/A	N/A	<1	NA	N/A				
IC15	>100	N/A	N/A	≺1	NA	AM				
IC20	>100	N/A	N/A	≺1	NA	NA				
IC25	>100	N/A	N/A	≺1	NA	NA				
IÇ40	>100	N/A	N/A	<1	NA	NA				
IC50	>100	N/A	N/A	<1	NA	NA				
Меал 1	Dry Blon	nass-mg Summ	nary			Calcul	ated Var	niate		
C-%	С	ontrol Type	Count	Mean	Min	Max \$	td Err	Std Dev	CV%	%Effect
0	N	egative Control	5	0.825	2 0.572	1 124 0.	09206	0.2059	24.95%	0.0%
6.25			5	0.953	2 0.8	1.146 0.	05843	0 1306	13.71%	-15 51%
			5	0.915	2 0.812	1.086 0.	05312	0.1188	12.98%	-10.91%
12.5						1 202 0		0.1002	21.44%	-7.56%
12.5 25			5	0.887	6 0.694	1 202 0.	08511	0.1903	21.7770	-V.0070
			5 5	0.887			.03441	0.1903	8 51%	-9.65%

Mean Ory Blomass-mg Octali

D

6.25

12,5

25

50

100

Control Type

Negative Control

Rep 1

0.824

0.95

0.812

0.848

0.9

0.73

Rep 2

0.572

0.876

0.988

0.89

0.896

0.864

Rep 3

0.716

0.994

0.872

1,202

0.878

0.796

Ввр 4

0.89

1 146

1 086

0.804

0.82

1 012

Rep 5

1.124

0.818

0.694

1.03

0.822

0.8

Report Date:

10 Nov-15 10 05 (p 4 of 4)

Test Code:

VCF0915.123tops | 13-5308-8954

Pacific Topsmolt 7-d Survival and Growth Test

Aquatic Bioassay & Consulting Labs, Inc.

CETISv1.8.7

Analysis ID: Analyzed:

01-0472-2248 10 Nov-15 9:59

Endpoint: Mean Dry Biomass-mg

Analysis: Linear Interpolation (ICPIN)

CETIS Version:

Official Results: Yes

Report Date:

10 Nov-15 10:05 (p.1 of 2)

Test Code:

VCF0915 123tops | 13-5308-8954

Pacific Topsn	nelt 7-d Surviva	l and G	rowth Test					Aqua	tic Bloassay &	Consulting	j Labs, Inc.
Batch ID: Start Date: Ending Date: Duration:	09-0204-9566 16 Sep-15 17:1 23 Sep-15 15:1 6d 22h		Test Type: Protocol: Species: Source:	Growth-Surviv EPA/600/R-95 Alhericops affi Aquatic Biosys	/136 (1995) nis		•	Analyst: Diluent: Laboratory Seawal Brine: Not Applicable Age:			
Sample ID: Sample Date:	09-9767-1191 15 Sep-15 04:4	45	Code: Material:	VCF0915.1231 Sample Water				Cilont: Project:	VCWPD 2015/16-1(Wel	0	
Receive Date:	15 Sep-15 10:1	15	Source:	Bioassay Repo	ort						
Sample Age:	37h (18.4 °C)		Station:	MO-HUE							
Dissolved Oxy	ygen-mg/L										
¢.%	Control Type	Count	naon t	95% LCL	95% UCL	Min	Мах	Std E	rr Std Dev	CV%	QA Count
C C	Negative Contr	8	6,938	6,701	7.174	6.6	7.4	0.099	89 02825	4.07%	0
6.25		8	6.625	5.112	7.138	5.3	7.5	0.2169	9 06135	9 26%	O
12.5		8	6.463	5.868	7.057	4.8	7.1	0.2514	4 0 Y 1 1	11 0%	0
25		8	6.188	5.447	5.928	4.2	7	0.313	1 U 6855	14.31%	0
50		8	6.15	5.339	5.951	4	7	0.3424	8 09695	15.76%	0
100		8	5.738	4.596	6.879	4	7.5	0.482	9 1.366	23.81%	0
Overall		48	6.35			4	7.5				0 (0%)
pH-Units											
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dav	CV%	QA Count
0	Negative Confr	8	7.625	7.478	7.772	7.3	7.9	0.0611	96 0 1753	2.3%	Ð
6.25		8	7,75	7 661	7 839	7.6	7.9	0.037	8 0 1069	1.38%	0
12.5		θ	7.788	7 705	7.87	7.6	7.9	0.035	04 0 0991	1.27%	Ð
25		θ	7.813	7,759	7 866	7.7	7.9	0.0224	66 0.06409	0.82%	0
50		θ	7.838	7.775	7.9	8.7	8	0.026	31 0.07441	0.95%	0
100		B	7.838	7.69	7.985	7.5	8.1	0.062	5 01768	2 26%	0
Overall		48	7.775			7.3	8.1				0 (0%)
Salinity-ppt	- -										
G-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dev	CV%	QA Count
0	Negative Contr	8	25	25	25	25	25	0	0	0.0%	0
6.25		8	25	25	25	25	25	0	۵	0.0%	D
12.5		8	25	25	25	25	25	0	û	0.0%	D
25		8	25	25	25	25	25	0	Q.	0.0%	۵
50		8	25	25	25	25	25	0	0	0.0%	۵
100		8	25	25	25	25	25	o	0	0.0%	۵
Overall		48	25			25	25				0 (0%)
Temperature-	'¢				•						
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std E	rr Std Dav	CV%	QA Count
	Negative Contr	8	21	21	21	21	21	O	a	0.0%	D.
6.25		8	21	21	21	21	21	0	O.	0.0%	0
12.5		8	21	21	21	21	21	0	0	0.0%	D
25		8	21	21	21	21	21	0	0	0.0%	D
50		8	21	21	21	21	21	0	0	0.0%	O .
100		8	.21	21	21	21	21	0	0	0.0%	0
Overati		48	21			21	21				D (Q%)

CETIS Measurement Report

Report Date:

40 Nov-15 10:05 (p.2 of .2)

Test Code:

VCF0915.123tops | 13-5308-8954

Pacific To	psmelt 7-d Survival	l and Gro	wth Test			c Bloassay & Consulting Labe, Inc.			
Dissolved	Oxygen-mg/L								
C-%	Control Type	1	2	3	4	5	6	7	8
0	Negative Contr	6.8	7.3	6.6	6.8	6.9	7.4	7	67
6.25		5.6	7.5	6.8	6.7	6.8	6.8	6.5	53
12.5		6.8	7.1	6.8	6.7	6.7	65	6.3	4.8
25		7	G	6.6	6.7	6.8	6.2	6	42
50		7	6.5	6.7	66	6.7	6.1	56	4
100		7.5	5.7	6.8	6.6	6.7	43	4.3	4
pH-Units									
C-%	Control Type	1	2	3	4	5	6	7	8
0	Negative Contr	7.5	7.9	7.3	7.7	7.7	7.7	7.6	7.G
6 25		7.7	7.8	7.8	7.8	7.8	7.9	76	7.G
12.5		7.9	7.8	7.8	7.8	7.8	7.9	7.7	7 6
25		7.9	7.8	7.8	7.8	7.8	7.9	7.8	77
50		7.8	7.8	7.8	7.8	7.8	8	79	7 8
100		7.5	7.8	7.8	7.8	7.8	8.1	7.9	8
Salinity-p	pt								
C-%	Control Type	1	2	3	4	5	6	7	B
0	Negative Contr	25	25	25	25	25	25	25	25
6.25		25	25	25	25	25	25	25	25
125		25	25	25	25	25	25	25	25
25		25	25	25	25	25	25	25	25
50		25	25	25	25	25	25	26	25
100		25	25	25	25	25	25	26	25
Temperate	ura-°C								
C-%	Control Type	1	2	3	4	5	6	7	0
0	Negative Contr	21	21	21	21	21	21	21	21
6 25		21	21	21	21	21	21	21	21
12.5		21	21	21	21	21	21	21	21
25		21	21	21	21	21	21	21	21
50		21	21	21	21	21	21	21	21
100		21	21	21	21	21	21	21	21



Chain of Custody Record Ventura County Watershed Protection District NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season

Cosmon Affic Calonyoodes

Sampling Date:	4/15 5 Project Number: 2015/16-1 (Wet) FH LM; AA NO; TL 56										
Sampling Team:	KH LM	<u>, 44,1</u>	<u>, ac</u>	<u> </u>	,50	<u>-</u>					· · · · · · · · · · · · · · · · · · ·
SAMPLE ID	DATE/ COLLE		Chronic toxicity · topsmelt (Athennops affinis)	Chronic toxicity - inland silverside (Menidia beryllinx)	Chronic toxicity - giant kelp (Macrocystis pytilers)	Chronic toxicity - purple sea urchin (Strongylocentrous purpuratus)	Chronic toxicity - fathead minnow (Pinnyphales promelas)	Chronic toxicity - daphnid (Ceriodaphnia dubia)	Chronic toxicity - green alga (Raphiducelis subcapitata)	Number of 5-Gallon Buckets	NOTES
ME-CC	+ . 	oss5	Х				-			2	Note 1, Note 2, Note 3 7154
Mile State						~X				1	Note I, Note Z, Note 3
MICVR2	9/15/15	0510	Х	ļ						2	Note 1, Note 2, Note 3 KH, CV
MO-CAM	V	0345					Х			2	Note 1, Note 2, Note 3 TL, 50
अक्षान्त्रीय	<u> </u>		~		· 	<u>-</u>	}{			æ∑.	-Note:1- Note 2, Note 3
<u> 200 200</u>	<u> </u>			<u> </u>	,-		- 1		<u></u>	<u></u> -	Note: L. Nime-2, Note 3
MO-VEN	9/15/15	0310						Х		2	Note 1, Note 2, Note 3 KHLA
		<u></u>							<u> </u>	L	
	<u> </u>										
Relinquished	Psimed Name	·									
	Signature Affiliation					_	Date/	Tiar			
Recesved	Printed Name										
	Signature										
	Affiliation					_	Date/	Тит			
Other Notes.	Note I: Dilui	ions - 6-259	ii, 13.5°	%, 25%	. 50%,	1017%	Non	e aş Ple	ase exe	giji	THE if mortality > 50%
	Note 3: Nonf	jy District w	ithin 2	4 hours	ifsign	aficant	toxicity	ris obs	erved.		



Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program Project: NPDES Stormwater Wet Season

Toxicity - ABC Laboratories

Sampling Date: Sampling Team:	9/15/15 kh,Lm: AA) † ·*	T'L.		Project	: Nomb	er: <u>201</u>	15/1	16-1 (Wet)	
			г Г.				.5	sits	<u> </u>		
		Chronic toxicity - topsmelt (Atherinops affinis)	Chronic toxicity - inland silverside (Menidia beryllina)	Chronic toxicity - giant kelp (Macrocystis pyrilera)	Chronic toxicity - purple sea urchin (Strongylocennous purpuratus)	Chropic toxicity - fathead minnow (Pimephales promelas)	Chronic toxicity - daphnid (Ceriodaphnia dubia)	Chronic toxicity - green alga (Raphidocelis subcapitata)	Ion Buckets		
		oxicíty	oxicity	oxicity	oxicity ocentra	oxicity des pre	oxicity	oxicity ira)	of 5-Ga		
SAMPLE ID	DATE/TIME COLLECTED	Chronic v affinis)	Chronic to beryllina)	Chronic to pyrifera)	Chronic toxicity (Strongylocentri	Chronic toxicity - fathe (Pimephales prometas)	Chronic to dubia)	Chronic toxi subcapitata)	Number of 5-Gallon	NOTES	
MO-OXN	alishs 0300					Х			2		
MO-FICE	V 0445	Pile	1820	2 Pa	((موز) آخ	Coype.	Х		3	Note 1, Note 2, Note 3,Note 4 🔫	۱,5
мо-тно	1-15-15 06:18						х		2	Note 1, Note 2, Note 3	o.
МО МРК	9-15-15 04:43							x	2	Note 1, Note 2, Note 3 AA N Note 1, Note 2, Note 3 AA N Note 1, Note 2, Note 3 AA	Ð
MO-SIM	9-15-15" 05:30						Х		2	Note 1, Note 2, Note 3 AA	Ŋ
мо нг,	9-15-15 03:45						Х		2	Note 1, Note 2, Note 3	7
MO SPA	9-15-15 05110					х			2	Note 1, Note 2, Note 3 AA	ろい
Relinquished	Printed Name	<u>mpa</u> -1/	1.111	<u> </u>	02/3	1.1.					
	Affiliation	46.0 Ven	11 12 1	()		Date/	l'im	1.)	9 5	
Received	Printed Name F.	<u> M/4</u>	Mh	ļΪ							
	Signature	/ +J =	Ÿ								
	Affiliation (1801)	ής <u>η</u>	(<i>)1</i> /35	かし	<u>46</u> 5	Date/	Tin	94	Çσ	is 다마	
Other Motes:	Note 1: Dilutions - 6.253	6, 12.5%	/4, 25%	, 50%,	100%	Note	2: Ple	ase exe	cnte	: TIE if mortality > 50%	
	Note 3: Notify District v	itlun 2	4 hour	s if sign	ificant	toxicity	is obs	erved.			
	Note 4: If salinity ≥2 ppt	thun a	lso run	topsm	elt for	compar	nson. li	f topsu	ielt i	unavailable, use Hyaklla	



February 2, 2016

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 LD.: MO-OJA DATE RECEIVED: 1/5/2016 ABC LAB. NO.: VCF0116.018

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL NOEC = 50.00 %

TUc = 2.00

EC25 >100.00 % EC50 > >100.00 %

BIOMASS NOEC - 50,00 %

TUe = 2.00

3C25 = >100.00 %

1C50 = >100,00 %

Yours very truly,

P. Scott Johnson Laboratory Director

CETIS Summary Report

Report Date:

22 Jan-16 12 19 (p 1 of 2)

Test Code:

VCF0116.018 | 15-1625-6837

			Occurate Occuration							
Batch ID:			Growth-Surviva			Anal Dalini	μεπι: Laboratory Water		,	
itart Date:	06 Jan-16 14.13	Protocol:	EPA/821/R-02-					raiory vvaici Applicable		
inding Cate:	13 Jan-16 12:15	Species:	Pimephates pro			Brin Agni	-	мррікавів		
Swration:	6d 22h	Source:	Aquatic Biosyst	ems, CO		Age	i			
iample ID:	03-4073-3791	Code:	VCF0116.018			Clie			= .	
•	05 Jan-16 09:35	Material:	Sample Water			Proj	ect: NPO	ES Stormwe	iter Wet Se	ason
Receive Date:	05 Jan-16 12:22	Source:	Bioassay Repo	d						
Sample Ago:	29h (10.5 °C)	Station:	MO-OJA							
Comparison S	ummary									
Analysis ID	Endpoint	NOEL		TÖEL	PMSD	TU	Method			
14-B236-635 3	7d Survival Rate	50	100	70 71	8 03%	2		utkple Comp		
11-9873-5566	Mean Dry Biomass-mg	} 50	100	70 71	13.4%	2	- Durinest IVI	ultiple Comp	arison res	·
oint Estimate	e Summary									
Analysis ID	Endpoint	Leve		96% LCL	95% UCL		Method	realation //C	DINI	
8-0368-9243	7d Survival Rate	EC5	11.25	6 583	57.25	8.889	Linear Infe	erpolation (IC	PIN)	
		EC10		48.39	121.4	1.55 6 1.167				
		EÇ19		57.14	N/A					
		EC20		N/A	N/A	<1				
		EC25		N/A	N/A	<1				
		€ C40		N/A	N/A	<1				
		EC50		N/A	N/A	<1	21 14		POR IN	
01-5088-6171	Moan Dry Biomassim;	-	5B.74	N/A	77 25	1.703	Linear Inte	rpolation (IC	(PIN)	
		IC10	72 B	47.31	103.6	1.374				
		IC15	8 5 86	61 34	N/A	1.151				
		IC20	>100	N/A	N/A	<1				
		1C25	>100	N/A	N/A	<1				
		IC40	>100	N/A	N/A	<1				
		IC50	>100	N/A	N/A	<1				
Test Acceptat	oility									
Analysis ID	Endpoint	Attrit	oute	Test Stat	TAC LIM	its	Overlap	Decision		
14-8235-6353	7d Survival Rate	Conti	rol Resp	1	JN - 8.0		Yes	Passes Ad	ceplability	Colena
18-0368-9243	7d Survival Rate	Canti	rol Resp	1	0.8 - NL		Yes	Passes Ac	ceptability	Crileria
01-5088-6171	Mean Dry Biomass-M	g Cost	rol Resp	0.3132	0.25 - NL		Yes	Passes Ad	ceptability	Criteria
01-9873-5666	Mean Dry Biomass-m	g Cost	rol Resp	0.3132	0.25 - NL		Yes	Passes Ad	ceptability:	Criteria
	Moan Dry Biomass⋅m		D	0.1343	012-03		Yes	Passes Ac	ceptability	Criteria
7d Survival R	ate Summary									
C-%	Control Type Cour				Min	Max	SId Err	\$td Dev	CV%	%Effect
0	Negative Control 4	1	1	1	1 00000	1	0 0.01667	0 0.03333	0.0% 3.39%	0.0% 4.67%
G 25	4	0.983		1	0.9333	1	0.01667			8.33%
12.5	4	0.916		1	0.8	1	0.04194	0.08389 0.03849	9.15% 2.08%	
25	4	0.966		1	0.9333	1 00000	0.01925		3 98%	3.33% e.e.7%
50	4	0.933		0.9333	0.9333	0.9333	0.05003	0	0.0%	6.67%
100	4	0.816	87 0.63 5 5	0 9978	0.6667	0.9333	0. 0 56 93	0.1139	13.94%	18,33%
_	mass-mg Summary				• • •			A. J. = -	Origi.	o/ E44
C-%	Control Type Cour			-	Min	Max	Std Err	\$td Dev	_CV%	%Effect
0	Negative Control 4	0.31		0.3592	0 274	0.3353	0.01446	0.02891	9.23%	0.0%
6.25	4	0.32	05 0.2849	0.3561	0 2973	0.344	0.01118	0 02236	6.98%	-2.34%
	4	0.28	12 0.2306	0.3318	0.2533	0.3193	0.0159	0.03179	11.31%	10.22%
	7									
12.5 25	4	0.33	55 0,3015	0.3695	0.32 3 3	0.3673	0.01087	0.02134	6.36%	-7.13%
12.5				0.3695 0.3246	0.32 3 3 0.3113	0 3673 0 3233	0.01087 0.002767		6.36% 1.75%	-7.13% -0.85%

Report Date:

22 Jan-16 12:19 (p 2 of 2) VCF0116.018 | 15-1625-5837

Test Code:

Fathead N	ijnnow 7-d Larval Su	ırvival anı	d Growth T	Aquatic Bloassay & Consulting Labs, Inc.		
7d Surviv.	al Rate Detail					
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
ō	Negative Control	1	1	1	1	
6 25		1	0.9333	1	1	
125		0 B	0.9333	1	0.9333	
25		0 9333	1	1	0.9333	
50		0.9333	0.9333	0.9333	0.9333	
10¢		0.8	0.6667	0.9333	0.8667	
Mean Dry	Siomass-mg Detail	•				
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
٥	Negative Confrol	0.3347	0.3087	0.274	0.3353	·
G 25		0.344	0.3347	0.306	0.2973	
12.5		0.2533	0.2953	0.2567	0.3193	
25		0.328	0.3233	0.3673	0.3233	
50		0.3113	0.3167	0.3233	0.312	
100		0.2547	0.216	0.2853	0.262	
7d Surviv	al Rate Binomiais			··-		
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negative Control	15/15	15/15	15/15	15/15	
6 25		15/15	14/15	15/15	15/15	
12.5		12/15	14/15	15/16	14/15	
25		14/15	15/15	15/15	14/15	
50		14/15	14/15	14/15	14/15	
100		12/15	10/15	14/15	13/15	

Report Date:

22 Jan-16 12:18 (p 1 of 4)

Test Code:

VCF0116.018 | 15-1625-6837

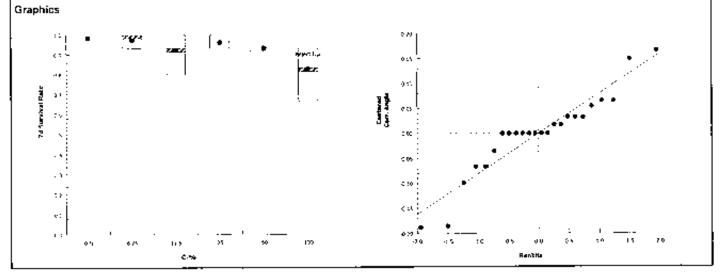
Fathead Minr	now 7-d Larval Su	ırvival	and Growth	lost				Aquatic	Bioassay & C	onsuling	caus, me	
Analysis ID: Analyzed:	14-8236-6353 22 Jan-16 12:16			7d Survival Rate Parametric-Con		tments	Official Results: Yes					
Dala Transfo		Zeta	Alt Hy	p Trials	Seed		PMSD	NOEL	LOEL	TÓEL	TU	
Angular (Corre		NA	C > T	NA.	NA.	 -	6 03%	50	100	70.71	2	
		Tost		<u> </u>		 -						
	lple Comparison	rest	Yank Si	tat Critical	MSD OF	P-Value	Р-Турв	Decision	un-6%)			
Control	vs_C-%		0.5024		0.158 6	D.6465	COF		iifscent Effect			
Negalive Coni						0.0635	COF		ificant Effect			
	12.5		2.279 £ 005	2.407	0.158 6 0.158 6	0.4198	COF		ificant Effect			
	25			2.407		0.1026	CDF		ificant Effect			
	50		2.009	2 407	0.158 6	0.0008	CDF	Significa				
	100.		4.553	2 407	0158 6	0.0006	CDF	Signilica	IL EURC			
ANOVA Table	Ď.											
Source	Sum Squa	ITB\$	Mean 3	Square	DF	F Stat	P-Value	Decision	 ,			
Between	0.2307848		0.0461	5695	5	5.373	0.0034	Significa	nt Effect			
Error	Q. 154638B		0.0085	91034	18							
fetal	0 3854234				23							
Oistributlona	i Tosts											
Attribute	Test			Test Stat	Critical	P-Value	Decision					
Variances	Mod Levé	ne Equ	iality of Varia	nce 2 425	4.248	0.0757	Equal Va	riances				
Variances	ljevene E	quality	of Variance	3,502	4.248	0.0219	Equal Va	riances				
Distribution	Shapiro-V	Vitk W	Normality	0.91	0.684	0.0353	Normal Distribution					
Distribution	Koʻmogor	ov-Smi	iznov D	0.25	0.2056	0.0004	Non-normal Distribution					
Distribution	D'Agostin	vness	1.051	2.576	0.2932	Normal E)istribution					
Distribution	D'Agostin	o Kurte	osis	1 441	2.576	0 1497						
Distribution	D'Agostin	o-Pear	san K2 O m ni	bus 3.18	9.21	0 2039	Normal Distribution					
Distribution	Anderson	-Darlin	g A2 Normali	ty 1.15	3.878	0.0053	Non-norn	nal Distribu	lion			
7¢ Survival F	Rate Summary											
C-%	Control Type	Cour	it Mean	95% LCL	95% UCL	Median	M In	Max	Std Err	CV%	%Effect	
0	Negative Contro	14	1	1	1	1	1		0	0.0%	0.0%	
6.25	·	4	0 9833	0 9303	1	1	0.9333	1	0.01667	3.38%	1.67%	
125		4	0.9167	0.7832	í	0.9333	08	1	0.04194	9.15%	8.33%	
25		4	0.9657	0 9054	1	0.9667	0.9333	1	0.01924	3.98%	3.33%	
50		4	0.9333	0.9331	0.9336	0 9333	0.9333	0.9333	0	0.0%	6 67%	
100		4	0.8167	0.6355	0.9978	0.6333	0.6867	0.9333	0.05693	13.94%	18.33%	
Angular (Cor	rrected) Transfor	med S	ummary				<u> </u>				-	
C-%	Control Type	Cour		95% LCL	95% UCL	Median	Min	Max	Std Err	cv%	%Effect	
0	Negative Confr	4	1.441	1.441	1.442	1.441	1.441	1.441	0	0.0%	0.0%	
G.25		4	1.408	1,304	1.513	1.441	1 31	1.441	0.03292	4,68%	2.28%	
12.5		4	1.292	1.072	1 511	1.31	1.107	1 441	0.06898	10.68%	10.37%	
25		4	1 375	1.254	1.496	1.375	131	1 441	0.03802	5.53%	4 57%	
50		4	1 31	131	1.31	1.31	1 31	1.31	0	0.0%	9,14%	
100		4	1.142	0 9041	1 38	1.152	0 9553	1.31	0.07483	13.1%	20.75%	
7d Survival I	Rate Detail											
C-%	Control Type	Rep	1 Rep 2	Rep 3	Rep 4							
0	Negative Contro		1		1							
6 25		1	0.9333	3 1	1							
12.5		0.8	0.9333		0.9333							
25		0.933		1	0.9333							
		0.93: 0.93:			0.9333							
50												
100		0.8	0.6667	7 0.9333	0.8687							

Te

leport Date:	22 Jan-16 12:18 (p 2 of 4
est Code:	VCF0116.018 15-1625-6837

- Fathead Min	now 7-d Larval Su	rvival an	d Growth T	Aquatic Bi	oassay & Consulting Labs. inc.		
Analysis ID: Analyzed:	14-8238-6353 22 Jan-16 12:18			Survival Ra transetric-Co	ale optrol vs Treatments	CETIS Version: Official Results:	CFTIŞv1 8 7 Yes
Angular (Co	rected) Transford	ned Detai	il				
¢-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4		· -
0	Negative Control	1 441	1 441	1 441	1.441		
G 25		1 441	1.31	1.441	1 441		
12.5		1.107	131	1.441	1.31		
25		1,31	1 441	1.441	1.31		
50		1,31	1.31	1.31	1.31		
190		1.107	0.9553	1.31	1,197		

7d Survival	Rate Binomials				
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4
a	Negative Control	15/15	15/15	15/15	15/15
6.25		15/15	14/15	15/15	15/15
12.5		12/15	14/15	15/15	14/15
25		14/15	15/15	15/15	14/15
50		14/15	14/15	14/15	14/15
100		12/15	10/15	14/15	13/15



Report Date:

22 Jan-16 12:18 (p 3 of 4)

Test Code:

VCF0116,018 | 15-1625-6837

	·							Test	Code:	VCF01	16,018 15	-1625-683
Fathead Minno	ow 7-d Larval Su	rvival and	d Growth Tes	;t					Aquatic B	Зоа звау & С	ansulting	Labs, inc
Analysis ID:	01-9873-5666	En	•	n Dry Biom					8 Version:	CETISv1.	9.7	
Analyzed:	22 Jan- <u>16 12:18</u>	An:	alysis: Para	metric-Con	rol vs T	real	ments	Offic	iai Rosults:	Yes		
Data Transfore	m	Zeta	Alt Hyp	Trials	Seed			PMSD	NOEL	LOEL	TOEL	TU
Ualransformed	-	NΑ	C > T	NA	ŇΑ			13.4%	50	100	70.71	2
Dunnett Multir	ple Comparison	Test							·-			
Control	vs C-%		Test Stat	Critical	MSD	DF	P-Value	P-Type	Decision(a:5%)		
Negative Contr			-0.4198	2 407	0.042	6	0.9277	CDF	Non-Signi	fiçant E ff ect		
	12.5		1.832	2.407	0.042	6	0.1379	CDF	Non-Signi	ficant Effect		
	25		-1.278	2 407	0.042	6	0.9921	CDF	Non-Signi	hoant Effect		
	50		0 1526	2.407	0.042	6	0.6743	CDF	Non-Signi	ficant Effect		
	1001		3.358	2 407	0.042	6	0.0073	CDF	Şıgnificani	t Effe <i>t</i> t		<u></u>
ANOVA Table												
Source	Sum Squa	res	Mean Squ	are	DF		F Stat	P-Value	DacIsion((a:5%)		
Between	0.01783326		0.0035666	52	5		5.843	0.0022	Significan	Effect		
Error	0.01098689)	0.0006103	827	18							
Total	0.02862019	5			23							_
Olstributional	Tests											
Attribute	Tost			Test Stat	Critica	ı	P-Value	Decision	(a:1%)			
Variances	Bartlett Eq	uality of \	/ariance	6.265	15.09		0.2813	Equal Var	iances			
Variances	Mod Lever	te Equalit	y of Variance	1.2	4.248		0.3466	Equal Var	iances			
Variances	Levene Ét	quality of V	/ariance	1 703	4.248		0.1850	Equal Var	iances			
Distribution	Shapira-W	lilk W No	rmality	0 9733	0.864		0.7488	Normal D	stribution			
Distribution	Kolmogara	y-Smirno	w D	0.08737	0.2056		1.0000	Normal D	istribution			
Distribution	D'Agostino	Skewne	59	0.16	2.576		0 8729	Normal D	istr : bution			
Distribution	D'Agastina	Kurtos:s		0 9257	2.576		0.3546	Normal D	istr <i>i</i> oulion			
Distribution	D'Agostino	-Pearson	KZ Omnibus	0 8925	9.21		0.6432	Normal D	stribution			
Distribution	Anderson-	Darling A	2 Normality	0.2073	3.878		0,9077	Normal D	istribution			
Mean Dry Bio	mass-mg Summ	ary										
C-%	Control Type	Count	Mean	95% LCL	96% U	CL		Min	Max	Std Err	CV%	%Effect
0	Negative Control	4	0.3132	0.2672	0.3592		0.3217	0.274	0.3353	0.01446	9 23%	0.0%
6.25		4	0.3205	0.2849	0.3561		0.3203	0 2973	0.344	0.01118	6.98%	-2.34%
125		4	0.2612	0 2306	0.3318		0.276	0.2533	0.3193	0.0159	11 31%	10.22%
25		4	0.3355	0.3015	0.3695		0.3257	0.3233	0.3673	0.01067	6.35%	-7.13%
50		4	D.3158	0.307	0.3246		0.3143	0.3113	0 3333	0.002767	1.75%	0.85%
100		4	0.2545	0.2087	0.3003		0 2583	0.216	0 2853	0.0144	11 32%	18,73%
Mean Dry Bio	mass-mg Detail											
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4							
	Negative Control	0.3347	0.3087	0.274	0.3353							
G	-			0.308	0.2973	Ļ						
0 6 25	-	0.344	0 3347	0.300								
_		0.344 0.2533	0 3347 0 2953	0.2587	0.3193							
6.25						ı						
6 25 12 5		0.2533	0 2953	0.2587	0.3193	ı						

Roport Date: Tost Code: 22 Jan-16 12:18 (p 4 of 4) VCF0116:018 \ 15-1625-6937

Aquatic Bloassay & Consulting Labs, Inc. Fathead Minnow 7-d Larval Survival and Growth Test CETIS Version: CETISy1 8.7 01-9873-5666 Endpoint: Mean Dry Biomassing Analysis IO: Parametric-Control vs Treatments Official Results: Analyzed: 22 Jan-16 12 18 Analysis: Graphics 000 09: 120 604 201 C 25 50 0:3 125 Rankfla 0.65

Report Date:

22 Jan-16 12:18 (p 1 of 3)

Test Code:

VCF0115.018 | 15-1625-6637

Fathead	d Minnov	w 7-d Larvel Sc	arvival and	Growth	Test				Aquatic Bi	oassay & (Consultir	ng Labs, Inc
•					d Survival Ral inear Interpola				\$ Version: lai Results:	CETISv1. Yes	87	
inear	Interpola	ation Options										
X Trans	storm	Y Transform	Ses	d 8	Resamples	Exp 95%	CL Meth	od				
Linear		Linear	D	2	80	Yes	Two-	Point Interp	olation	·		
Point E	stimates	 3					_					
Level	%	95% LCL	95% UCL	TU	95% LCL	95% UCL			_			
FC5	11.25	6.583	57.25	8.889	1.747	15.19						
EC10	64,29	48.39	121.4	1.556	0.8235	2.067						
EC15	85.71	57.14	N/A	1.167	NA	1.75						
F.C20	>100	N/A	N/A	<1	NA	NA						
EC25	>100	N/A	N/A	<1	NA	ΝA						
EC40	>100	N/A	N/A	< 2	NA	NA.						
£050	>100	N/A	N/A	<1	NA	NA						
7d Sur	vival Rat	e Summary				Calcu	lated Varia	te(A/B)				
Ç.%	·		Count	Меал	Min	Max	Std Err	Std Dev	CV%	%Effect	Α	B
0		gative Contro!	4	1	1	1	0	¢.	0.0%	0.0%	60	60
6.25		-	4	0.9833	0 9333	1	0.01667	0.03333	3 39%	1.67%	59	60
12.5			4	0.9167	8.0	1	0.04194	68880.0	9 15%	8.33%	55	60
25			4	0.9667	0.9333	1	0.01924	0.03849	3.98%	3.33%	58	60
50			4	0.9333	0.9333	0.9333	0	ū	0.0%	567%	56	60
100			4	0.8167	0.6667	0.9333	0.05693	0 1139	13.94%	18.33%	49	60
7d Sur	yival Rat	ta Detail					•	 ·	•			
C-%	Co	entrol Type	Rep 1	Rep 2	Rep 3	Rep 4		_				
0	Ne	gative Control	1	1	1	1			-			
8.25			1	0 9333	1	1						
12.5			0.6	0.9333	1	0.9333						
25			0.9333	1	1	0.9333						
50			0 9333	0.9333	0.9333	0.9333						
100			0.8	0.6667	0.9333	0.8667						
7d Sur	vival Rat	le Binomlais				_						
C-%	(Control Type	Rep 1	Rep 2	Rep 3	Rep 4						
		Vegative Confro		15/15	15/15	15/15						
υ		_	15/15	14/15	15/15	15/15						
6.25			12/15	14/15	15/15	14/15						
0 6.25 12.5 25			12/15 14/15	14/15 15/15	15/15 15/15	14/15 14/15						
6.25			12/15 14/15 14/15	14/15 15/15 14/15	15/15 15/15 14/15	14/15 14/15 14/15						

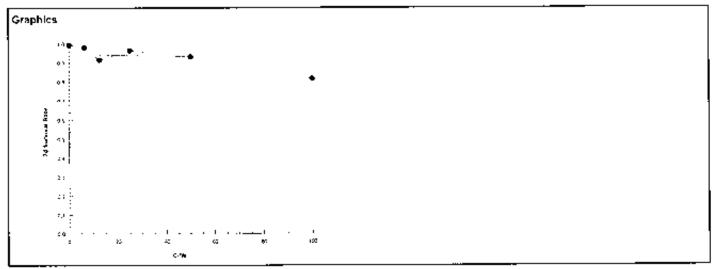
Report Date:

22 Jan-16 12:18 (p 2 of 3)

Test Code:

VCF0116.018 | 15-1625-6837

Fathoad Minn	ow 7-d Larvel Surviv	al and Growt	h Tesl	Aquatic Bl	oassay & Consulting Labs, Inc.
Analysis IO:	18-0368-9243	Endpoint:	7d Survival Rate	GETIS Version:	CETISv1.8.7
Analyzed:	22 Jan-16 12:18	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes



Report Date:

22 Jan-16 12:18 (p 3 of 3)

Test Code:

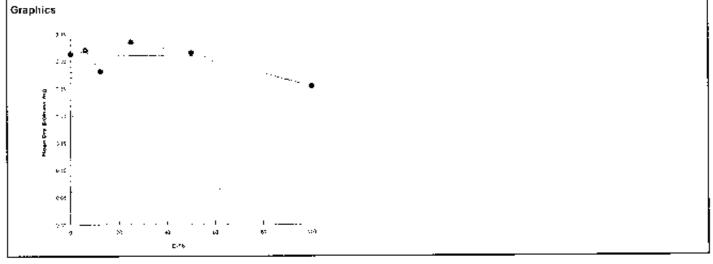
VCF0116.018 | 15-1625-6837

Fathead Minr	ιογν 7⋅d Larval Surviv	al and Growt	th Test	Aquatic Bi	oassay & Consulting Labs, Inc.
Analysis ID:	01-5088-6171	Endpoint:	Mean Dry Biomass-mg	CETIS Version:	CETISv1 8.7
Analyzed:	22 Jan-16 12:18	Analysis:	Linear Interpolation (ICPIN)	Officia <u>l Results:</u>	Yes

Linear	Interpola	tion Options						
X Trans	storm .	Y Transform	See	4	Resamples	Exp 95% CL	Method	
Linear		l,inear	1553	3785	280	Yas	Two-Point Interpolation	
Point E	stimates	i		_			<u> </u>	
Level	%	95% LCL	95% UCL	τU	96% LCL	95% UCL		
IC5	58.74	N/A	77.25	1 703	1.295	NA	-	
IC1D	72.8	47.31	103.5	1 374	0.9658	2.114		
IC15	86.86	61.34	N/A	1.151	NA	1.63		
IC30	>100	N/A	N/A	<1	N/A	NA		
IC25	>100	N/A	N/A	< 1	NA.	NA		
IC40	>100	N/A	N/A	<1	NA	NA		
IC50	>100	N/A	N/A	<1	NA.	NA		

Mean Dry	/ Biomass-mg Summ	ary			Ca	lculated Var	riate		
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Etfect
0	Negative Control	4	0.3132	0.274	0.3353	0.01446	0.02891	9.23%	0.0%
6 25		4	0.3205	0.2973	0.344	0.01118	0.02236	6 98%	-2.34%
12.5		4	0.2812	0.2533	0.3193	0.0159	0.03179	11.31%	10 22%
26		4	0.3355	0.3233	0.3673	0,01067	0.02134	6.36%	-7.13%
50		4	0.3158	0.3113	0.3233	0.002767	0.005534	1.75%	-0.85%
100		4	0.2545	0.216	0 2853	0.0144	0.02681	11 32%	18.73%

Biomass-mg Dotall					
Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
Negative Control	0.3347	0.3087	0.274	0 3353	
	D.344	0.3347	0.306	0.2973	
	0.2533	0.2953	0.2567	0.3193	
	0 328	0.3233	0.3673	0.3233	
	0.3113	0.3167	0.3233	0.312	
	0.2547	0.216	0.2853	0.262	
	Control Type	Control Type Rep 1 Negative Control 0.3347 0.344 0.2533 0.328 0.3113	Control Type Rep 1 Rep 2 Negative Control 0.3347 0.3087 0.344 0.3347 0.2633 0.2953 0.328 0.3233 0.3113 0.3167	Control Type Rep 1 Rep 2 Rep 3 Negative Control 0.3347 0.3087 0.274 0.344 0.3347 0.306 0.2533 0.2553 0.2567 0.328 0.3233 0.3673 0.3113 0.3167 0.3233	Control Type Rep 1 Rep 2 Rcp 3 Rep 4 Negative Control 0.3347 0.3087 0.274 0.3353 0.344 0.3347 0.306 0.2973 0.2533 0.2953 0.2567 0.3193 0.328 0.3233 0.3673 0.3233 0.3113 0.3167 0.3233 0.312



CETIS Measurement Report

Report Date:

22 Jan-16 12:19 (p 1 of 2)

Tast Code:

VCF0116 018 | 15-1625-6837

Fathead Minn	iow 7-d Larval \$	urvivai	and Growt	h Test				Aquati	: Bloassay &	Consulting	Labs, Inc.
Saich ID: Start Date: Ending Date: Duration:	11-7494-0190 06 Jan-16 14:1 13 Jan-16 12:1 6d 22h		Test Type: Protocol: Species: Source:	Growth-Surviva EPA/821/R-02- Pimephales pro Aquatic Biosys	013 (2002) melas		DII	ine: N	aboratory Wal ot Applicable	er	
Sample ID:	03-4073-3791		Code:	VCF0116.018					CWPD		
•	: 0 5 Jan-16 09 :3		Material:	Sample Water			Pr	oject: N	IPDES Storm	water Wei S	eason
	: 0 5 Jan-16 12:2	2	Source:	Bioassay Repo	nt.						
Sample Age:	29h (10 5 °C)		\$fation:	MO-OJA							
Alkalinity (Ca	CO3)-mg/L										
C-%	Control Type	Coun	t Mean	95% LCL	95% UCL_	Min	Max	Std Err	Std Day	CV%	QA Count
0	Negative Contr	ŝ	64,13	61.25	67	5 0	68	1.217	3.441	5.37%	0
100		8	44	44	.44	44	44	0		0.0%	0
Overall		16	54.05			44	68				0 (0%)
Conductivity	-µmhos										
C-%	Control Type	Coun	t Mean	95% LC <u>L</u>	95% UCL	Min	Max	Std Err	Std Day	CV%	QA Count
0	Negative Contr	В	701.3	-181 3	1564	323	3314	373.3	1056	150 5%	0
5.25		8	317	309	325	307	337	3 402	9.621	304%	D .
12.5		θ	297.6	293.7	301.5	288	304	1.679	4.749	1.6%	0
25		8	269.4	261.2	277.6	260	292	3 474	9.826	3.65%	0
50		8	208.6	189 8	227.5	195	263	7.98	22.57	10.62%	0
100		8	68.38	58.71	78 0 4	54	87	4.088	11.56	16 91%	0
Overall		48	310.4			54	3314				0 (0%)
Dissolved Ox	ygen-mg/L										
C-%	Control Type	Çoun	(Mean	95% LCL	95% UCL	Miπ	Max	Std Err	Std Dev	CV%	QA Count
0	Negative Contr	8	8.1	7.586	6 514	7.7	9.2	0.1753	0 4957	6.12%	0
6.25		8	7 825	7.471	8 179	73	8.7	0.1497	0.4234	5 41%	O
12.5		8	7 675	7.535	7.815	7.5	79	0.05901	0.1569	2 18%	0
25		8	7.638	7,459	7.816	7.3	7.9	0.07544		2.79%	0
50		8	7.288	6934	7 641	6.7	7.8	0.1493	0.4224	5.8%	0
100		8	6.938	6.533	7.342	63	7.6	0.1711	0.4836	6.97%	. ° .
Overall	<u></u>	48	7.577			63	9.2				0 (0%)
Hardness (C:	aCQ3}-mg/L										
C-%	Control Type	Coun	it Mean	95% LCL	95% UCL	Min	Max	Ştd Err	Std Dev	CV%	QA Count
D	Negative Contr	8	92.13	88.66	95 57	88	97	1.457	4 121	4.47%	0
100		8	41	41	41	41	41	0	<u> </u>	0.0%	
Overall		16	66.58			41	97				0 (0%)
pH-Units	·										
C-%	Control Type	Coun	il Mean	95% LCL	95% UCL		Max	Std Err		CV%	QA Count
0	Negative Contr	8	8.025		8 247	7.6	8.3	0.09403		3.31%	0
G.25		8	7.9	7.759	8 041	7.6	8.1	0.0597		2.14%	0
		8	7.875		7 999	7.6	8.1	0.0526		1.89%	0
12.5						76	7.0	0.026	0.07072	0.91%	٥
25		6	7.775		7.834	7.6	7.8				
		6 8 8	7.775 7.75 7.725	7.661	7.839 7.924	7.6 7.3	7.9 8	0.0378 0.0839	0 1069	1.38%	0

Report Date: 22 Jan-10 12.19 17 2 Test Code: VCF0118.018 | 15-1625-6837

							Te	st Code: _	VCF	116.018	15-1 625-6 83
 Fathead Mi	nnow 7-d Larval S	urvival ar	nd Growth	Test				Aquatic	Bioassay &	Consultin	g Laba, Inc.
Tomperatu	re-°C										
C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	¢v%	QA Cour
<u> </u>	Negative Contr	8	24.01	23.98	24 04	24	24.1	0.01249	0.03531	0.15%	0
3.25		8	24 04	23.99	24.08	24	24.1	0.01827	0.05167	0.22%	0
12.5		8	24 05	23.99	24.11	24	24.2	0.02 6 7	0.07553	0.31%	0
25		8	24 1	23.97	24.23	24	24.4	0.0567	0.1604	0.67%	0
50		8	24.11	23.93	24.3	24	24.5	0.07892	0.2232	0.93%	0
100		В	24.13	Z3.91	24 34	_24	24.7	0.09014	0.255	1.06%	D
Overall		48	24.07			24	24.7				0 (0%)
Alkalinity (9	CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	б	6	. 7	8		
0	Negative Contr	68	68	68	63	63	63	60	60		
100		44 .	4	44	44	44	44	44	44		
Conductivi	ty-µmhos										
C•%	Control Type	1 .	2	3	4	5	В	. 7	8		
0	Negative Contr	328	332	323	328	330	326	329	3314		
6.25		307	323	310	312	315	312	320	337		
12.5		288	296	295	300	300	299	299	304		
25		260	265	262	268	269	269	270	292		
50		195	202	199	195	199	206	210	263		
100		54	67	. 60	61	63	72	83	87		
Dissolved	Oxygon-mg/L										
Ç.%	Cantrol Type	1	2	3	4	5	6	7	8		
o	Negative Contr	7.8	8.4	77	7.8	7.9	7.9	81	9.2		
6 25		8	8.7	7.4	7.8	7.8	7.8	7.8	7.3		
13.5		7.9	7.7	75	7.7	7.7	7.9	7.5	75		
25		7.9	7.7	7.4	7.6	7.7	7.9	7.3	7.6		
50		7.5	6.7	7.3	7.5	7.7	7.8	6.7	7.1		
100		6.6	6.7	7	7,4	7.6	7.4	5.3	6.5		
Hardness (CaCO3)-mg/L										
C-%	Control Type	1	2	3	4	5	6	7	8		
Ð	Negative Contr	97	97	97	90	90	90	88	68		
100		41	41	41	41	41	41	41	41		
pH-Units											
C-%	Control Type	1	2	3	4	5	6		8		
0	Negative Contr		7.9	7.7	8.3	61	8.2	7.5	8.3		
6 25		76	8	7.7	7.9	θ	7.9	8	81		
12.5		76	8	7.8	7.8	79	7.9	7.9	81		
25		7.6	7.8	78	7.8	7.8	7.8	78	78		
50		7.6	7.7	79	7.8	7.8	7.8	7.6	7.8		
100		7.6	7.5	<u> </u>	79	7.8	7.9	. 7.3	7.8		
Temporatu	re-°C										
C•%	Control Type	1	2	3	4	5	6	7	. 8		
0	Negative Contr	24	24	24	24	24	24	24.1	24		
6.25		24	24	24.1	24	24	24.1	24.1	24		
12.5		24	24	24.2	24	24	24.1	24.1	24		
25		24	24	24.4	24	24	24 3	24.1	24		
							24.2	74	24		
50		24	24	24.6	24	24	24.3	24	24		



February 2, 2016

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 LD.:

MO-MEI

DATE RECEIVED:

1/5/16

ABC LAB, NO.:

VCF0116.019

CHRONIC FATHEAD MINNOW SURVIVAL & GROWTH BIOASSAY

SURVIVAL NOEC = 100,00 %

TUc = 1.00 EC25 >100.00 %

EC50 = >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

Report Date:

22 Jan-16 12:26 (p 1 of 2)

Test Code: VCF0116 019 | 01-1443-0841

Fathead Minno	bw 7-d Larval Survi	val and Grov	rth Test				Aquatic Bi	oassay & 🤇	Consulting	Labs, Inc.
lateli ID:	01-3695-6013	Test Typo	: Growth-Surv	val (7d)		Anal	yst:			
tart Date:	08 Jan-16 14 30	Protocol:	EPA/821/R-(2-013 (2002)		Dilui	ant: Labo	ratory Wate	er	
inding Date:	13 Jan-16 12.30	Species:	Pimephates	promelas		Brin	s: Not A	\oplicable		
Ouration:	6d 22h	Source:	Aquatic Bios	ystems, CO		Age				
ample ID:	04-8531-7309	Code:	VCF0116 01	9		Clier	it: VCW	IPO		
sample Date:	05 Jan-16 10:40	Material:	Sample Wat	er		Proj	ect: NPD	ES Stormw	ater Wet Se	ason
Receive Date:	05 Ján-16 12:22	Source:	Bioassay Re	port						
Sample Age:	28h (9.8°C)	Station:	MQ-MEI							
Comparison S	umməry									
Analysis ID	Endpoint	NOI		TOEL	PMSD	YU	Method		- · · - · ·	
06- 0 073-7390	7d Survival Rate	100		NA	4.29%	1		y-One Rank		
10-9117-2100	Mean Dry B:omass	-mg 100	>100	NA	14 3%	1	Donnett M	ultiple Comp	parison Tesi	
oint Estimate						-				
Analysis ID	Endpoint	Lev		95% LCL	95% UCL		Method	I-bina (II)	*CHAD	<u></u>
10-4086-9444	7d Survival Rate	EC:		8	N/A N/A	1 <1	rineat inte	rpolation (IC	PLIM	
		EC:		N/A						
		EC:		N/A	N/A	<1				
		EC		N/A	N/A	<1				
		EG:		N/A N/A	N/A N/A	<1				
		E04		N/A	N/A	<1 <1				
	Mana Day Biannan	ECS		N/A			Linane Into	rpolakon (K	COLNIV	
17-0531-4074	Mean Dry Biomass		69.8	40.92 55.77	N/A	1,433 1,115	riiidat iiide	abareirasi (iz	ra-ma)	
		IC1		N/A	N/A N/A	<1				
		IC1		N/A	N/A	<1				
		IC2		N/A	N/A	<1				
		IC4		N/A	N/A	41				
		IC5		N/A	N/A	<1				
 Fest Accoptab	:::::::::::::::::::::::::::::::::::::::	103			NIC				–	
reat Acceptac Analysis ID	Endpoint	Atte	ibute	Test Stat	TAC Lim:	ils	Overlap	Decision		
06-0073-7390			trot Resp	1	0.8 - NL		Yes	Passes A	cceptability	Chlena
	76 Survaval Rate		itrol Resp	1	0.8 - NL		Yes		cceptability (
	Mean Dry Biomass		tro i Nes p	0.3132	0.25 - NL		Yes		cceptability	
	Mean Ory Biomass	-	itrol Resp	0.3132	0.25 · NL		Yes	Passes A	cceptability (Criteria
	Mean Dry Biomass			0.1425	0 12 - 0.3		Yes		cceptability	
7d Survival Ra	ate Summary									
								Red Day.	CV%	%Effect
_ 		ount Me		_	Min	Max	Std Err	Std Dov		0.0%
<u> </u>	Negative Control 4	1	1	1	1	1	0	0	0.0%	0.0%
3.25	Negative Control 4 4	1 0.9	1 133 0 9393	1	1 0.9333	1	0 0.01667	0 0.03333	0.0% 3.39%	1.67%
3.25 12.5	Negative Control 4 4 4	1 0.99 1	1 133 0 9393 1	1 1 1	1 0.9333 1	1 1 1	0 0.01667 0	0 0.03333 0	0.0% 3.39% 0.0%	1.67% Q.0%
3.25 12.5 25	Negative Control 4 4 4 4	1 0.9 1 1	1 933 0 9393 1 1	1 1 1 1	1 0.9333 1 1	1 1 1	0 0.01667 0 0	0 0.03333 0 0	0.0% 3.39% 0.0% 0.0%	1.67% 0.0% 0.0%
0 3.25 12.5 25 50	Negative Control 4 4 4 4 4	1 0.93 1 1 0.93	1 933 0 9303 1 1 5 0 897	1 1 1 1	1 0.9333 1 1 0.9333	1 1 1 1	0 0.01667 0 0 0 01667	0 0.03333 0 0 0.03333	0.0% 3.39% 0.0% 0.0% 3.51%	1.67% 0.0% 0.0% 5.0%
0 6.25 12.5 25 50	Negative Control 4 4 4 4 4 4	1 0.97 1 1 0.97 0.98	1 933 0 9303 1 1 5 0 897	1 1 1 1	1 0.9333 1 1	1 1 1	0 0.01667 0 0	0 0.03333 0 0	0.0% 3.39% 0.0% 0.0%	1.67% 0.0% 0.0%
0 3.25 12.5 25 50 100 Mean Dry Blos	Negative Control 4 4 4 4 4 4 4 mass-mg Summary	1 0.93 1 1 0.93 0.93	1 933 0 9303 1 1 5 0 897 5 0 897	1 1 1 1 1 1	1 0.9333 1 1 0.9333 0.9333	1 1 1 1 1	0 0.01667 0 0 0 01667 0.01667	0 0.03333 0 0 0.03333 0 03333	0.0% 3.39% 0.0% 0.0% 3.51% 3.51%	1.67% 0.0% 0.0% 5.0% 5.0%
0 3.25 12.5 25 50 100 Mean Dry Blos	Negative Control 4 4 4 4 4 4 mass-mg Summary	1 0.93 1 1 0.93 0.93	1 333	1 1 1 1 1 1 	1 0.9333 1 1 0.9333 0.9333	1 1 1 1 1 1 1	0 0.01667 0 0 0 01667 0.01667	0 0.03333 0 0 0.03333 0 03333	0.0% 3.39% 0.0% 0.0% 3.51% 3.51%	1.67% 0.0% 0.0% 5.0% 5.0%
0 6.25 12.5 25 60 100 Mean Dry Blos C-%	Negative Control 4 4 4 4 4 4 Control Type Control 4	1 0.93 1 1 0.93 0.93	1 0 9303 1 1 5 0 897 5 0 897 95% Lo	1 1 1 1 1 1 	1 0.9333 1 1 0.9333 0.9333 Min 0.274	1 1 1 1 1 1 1 1 Max	0 0.01667 0 0 0 01667 0.01667 Std Err	0 0.03333 0 0 0.03333 0 03333 Std Dev 0 02891	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV% 9.23%	1.67% 0.0% 0.0% 5.0% 5.0% 5.0%
0 6.25 12.5 25 50 100 Mean Dry Blos C-%	Negative Control 4 4 4 4 4 4 Control Type Control 4 4	1 0.90 1 1 0.90 0.90 0.90 0.90 0.90	1 0 9303 1 1 5 0 897 5 0 897 95% C4 132 0.2672 0.2743	1 1 1 1 1 1 1 	1 0.9333 1 1 0.9333 0.9333 0.9333 Min 0.274 0.2833	1 1 1 1 1 1 1 1 Max 0.3353 0.3307	0 0.01667 0 0 0 01667 0.01667 Std Err 0.01446 0.01088	0 0.03333 0 0 0.03333 0.03333 Std Dev 0.02891 0.02136	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV% 9.23% 6.93%	1.67% 0.0% 0.0% 5.0% 5.0% 5.0% MEffec 0.0%
0 3.25 12.5 25 50 100 Mean Dry Blos CW. 0 5 25 12.5	Negative Control 4 4 4 4 4 4 Control Type Control 4	1 0.90 1 1 0.90 0.90 0.90 0.90 0.90 0.90	1 0 9303 1 1 1 5 0 897 5 0 897 6 0 2672 0 0 2672 0 0 2776 3 5 0 2776 0 2776 0 2776	1 1 1 1 1 1 1 0.3592 0.3423 0.3928	1 0.9333 1 1 0.9333 0.9333 0.9333 Min 0.274 0.2633 0.2873	1 1 1 1 1 1 1 1 Max 0.3353 0.3307 0.3753	0 0.01667 0 0 0 01667 0.01667 Std Err 0.01446 0.01068	0 0.03333 0 0.03333 0.03333 Std Dev 0.02891 0.02136 0.03521	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV% 9.23% 6.93% 10.6%	1.67% 0.0% 0.0% 5.0% 5.0% %Effec 0.0% 1.54% -7.03%
0 6.25 12.5 25 50 100 Mean Dry Blos	Negative Control 4 4 4 4 4 4 Control Type Control 4 4	1 0.90 1 1 0.90 0.90 0.90 0.90 0.90 0.90	1 0 9303 1 1 1 6 0 897 5 0 897 6 132 0.2672 083 0.2743 0.3036	1 1 1 1 1 1 1 1 0.3592 0.3423 0.3928 0.3531	1 0.9333 1 1 0.9333 0.9333 0.9333 Min 0.274 0.2833	1 1 1 1 1 1 1 1 Max 0.3353 0.3307	0 0.01667 0 0 0 01667 0.01667 Std Err 0.01446 0.01088	0 0.03333 0 0 0.03333 0.03333 Std Dev 0.02891 0.02136	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV% 9.23% 6.93%	1.67% 0.0% 0.0% 5.0% 5.0% 5.0%

CETIS Summary Report

Report Date:

22 Jan-16 12:26 (p 2 of 2)

Test Code:

VCF0116.019 [01-1443-0841

Fathead (Minnow 7-d Larval Su	ırvival an	d Growth To	est tee		Aquatic Blosssay & Consulting Labs, Inc.
7d Surviv	val Rate Detail				.	
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negative Control	1	i	1	1	·
6 25		0.9333	1	1	1	
12.5		1	1	1	1	
25		i.	1	1	1	
50		0.9333	1	0.9333	0.9333	
100		0.9333	0.9333	1	0.9333	
Mean Dry	Blomass-mg Detail					•
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
0	Negative Control	0 3347	0.3087	0.274	0.3353	•
6.25		0 2967	0.2633	0.3207	0.3307	
12.5		0.34	0.338	0.3753	0.2873	
25		0.3207	0.3493	0.33	0.3133	
50		0.3287	0.34	0.318	0.3093	
100		0.2547	0.2867	0 326	0.2573	
7d Surviv	vat Rate Binomials		•			<u>-</u>
C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
D	Negative Control	15/15	15/15	15/15	15/15	
6 25		14/15	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		14/15	15/15	14/15	14/15	
100		14/15	14/15	15/15	14/15	

Report Date:

22 Jan-16 12:26 (p 1 of 4)

Tast Code:

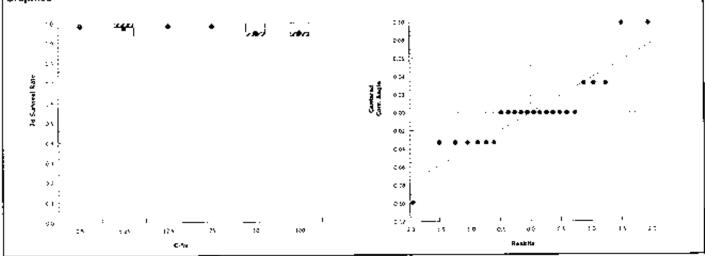
VCF0116.019 | 01-1443-0841

	now 7-d Larval Su	(A(AB) SUG	Growth	Test		_		Aduatic	Bloassay & C	ansulang	Eaps, Inc.
natysis ID: malyzęd:	06-0073-7390 22 Jan-16 12:22			'd Survival Rate Ionparametric-		reatments		S Version lai Results		8.7	
ata Transfo	·m	Zeta	Alt Hyp	eleiT c	Seed		PMSD	NOEL	LOEL	TOEL	ΤŲ
Angular (Corre		NA.	C > Y	NA	NA	_	4.29%	100	>100	NA	1
Steel Many-O	ne Rank Sum Tes	it .	_					•			
Control	vs C-%		Test St	at Critical	Ties DF	P-Value	P-Type	Decision	n(a:5%)		
Negative Cont	1rol 6 25		16	10	1 6	0.5105	Asymp	Non-Sign	niticant Effect		
-	12.5		18	10	1 6	0.8333	Asymp	Non-Sign	nficant Effect		
	25		18	10	1 6	0.8333	Asymp		nilisant Effect		
	50		12	10	1 6	0 1424	Asymp	_	nficant Effect		
	100		12	10	1 6	0.1424	Asymp	Non-Sign	nficant Effect		
ANOVA Table		_	•				•				
Source	Sum Squa	res _	Mean 8	Square	DF	F Stat	P-Value	Decision	n(a:5%)		
Belween	0 04697335	· -	0.0093	94669	5	4.333	0 0092	Significa	nt Effect		
Errar	0.03902401	I	0.00210	58001	18						
Total	0.08599736	}			23						
- Distributiona	al Tests										
Attribute	Test			Test Stat		P-Value	Decision				
Variances	Mod Lever	ne Equalit	y of Varia	nce 0.6	4.248	0.7008	Equal Va				
Variances	Levene Ed	quality of Y	/ariance	54	4.248	0.0033		Variances			
Distribution	Shapiro-W	filk VV Nor	mailty	0 8441	0.B84	0.0017		nal Distribu			
Distribution	Kolmogoro	yy-Smirno	v D	0.2917	0 2056	< 0.0001		ial Distribu	tion		
Distribution	D'Agostino	Sxewne:	58	1.288	2 576	0.2050		straution			
Distribution	D'Agostino			1.995	2 576	0.0460		sti belion			
Distribution	_			bus 5.588	9.21	0.0612		stribulion			
Distribution	Anderson-	Darling A	2 Normalii	ly 1.962	3.878	<0.0001	Non-norn	sal Distribu	1100	<u> </u>	
7d Survival F	Rafe Summary										
7d Survival F C-%	Control Typs	Count	Mean	95% LCL		Median	Min	Max	Std Err	CV%	%Effect
	-		Mean 1	1	95% ƯCL	Median	1	1	0	D.0%	0.0%
C-% 0 6.25	Control Typs			1 0 9303	1	Median 1	0.9333	1	0 0.01667	D.0% 3.39%	0.0% 1.67%
C-% 0 6.25 12.5	Control Typs	4	1	1	1 1	Median 1 1	1 0.9333 1	1	0 0 01667 0	0.0% 3.39% 0.0%	0,0% 1,67% 0,0%
C-% 0 6.25 12.5 25	Control Typs	4	1 0.9833 1 1	1 0 9303 1	1	1 1 1	1 0.9333 1	1	0 0 01667 0	0.0% 3.39% 0.0% 0.0%	0.0% 1.67% 0.0% 0.0%
C-% 0 6.25 12.5 25 50	Control Typs	4 4 4	1 0.9833 1 1 0.95	1 0 9303 1 1 0.897	1 1 1 1	1 1 1 1 0.9333	0.9333 1 1 0.9333	1 1 1 1	0 0 01667 0 0 0 0.01667	0.0% 3.39% 0.0% 0.0% 3.51%	0,0% 1.67% 0.0% 0.0% 5.0%
C-% 0 6.25 12.5 25	Control Typs	4 4 4	1 0.9833 1 1	1 0 9303 1	1 1	1 1 1	1 0.9333 1	1	0 0 01667 0	0.0% 3.39% 0.0% 0.0%	0.0% 1.67% 0.0% 0.0%
C-% 0 6.25 12.5 25 50 100	Control Typs	4 4 4 4 4	1 0.9833 1 1 0.95 0.95	1 0 9303 1 1 0.897	1 1 1 1	1 1 1 1 0.9333	0.9333 1 1 0.9333	1 1 1 1	0 0 01667 0 0 0 0.01667	0.0% 3.39% 0.0% 0.0% 3.51% 3.51%	0.0% 1.67% 0.0% 0.0% 5.0%
C-% 0 6.25 12.5 25 50 100	Control Type Negative Control	4 4 4 4 4	1 0.9833 1 1 0.95 0.95	1 0 9303 1 1 0.897	1 1 1 1	1 1 1 1 0.9333 0.9333	0.9333 1 1 0.9333 0.9333	1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667	0.0% 3.39% 0.0% 0.0% 3.51% 3.51%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0%
C-% 0 6.25 12.5 25 50 100 Angular (Cor	Control Type Negative Control rrected) Transfore	4 4 4 4 4 4	1 0.9833 1 1 0.95 0.95	1 0 9303 1 1 0.897 0.897	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 0.9333 0.9333 Median	0.9333 1 1 0.9333 0.9333 Min 1.441	1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0%
C-% 0 6.25 12.5 25 50 100 Angular (Cor	Control Type Negative Control rrected) Transford Control Type	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 many	1 0 9303 1 1 0.897 0.897 95% LCL 1.441 1.304	1 1 1 1 1 1 1 1 1 1 1.442 1.513	1 1 1 0.9333 0.9333 Median 1 441 1 441	1 0.9333 1 1 0.9333 0.9333 Min 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% CV% 0.0% 4.68%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0% %Effect 0.0% 2.26%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-%	Control Type Negative Control rrected) Transford Control Type	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 mary Mean 1.441	1 0 9303 1 1 0.897 0.897 95% LCL	95% UCL 1.442 1.513	1 1 1 0.9333 0.9333 Median 1 441 1 441	1 0.9333 1 1 0.9333 0.9333 Min 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0% %Effect 0.0% 2.26% 0.0%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25	Control Type Negative Control rrected) Transford Control Type	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 Mean 1,441 1,408 1,441	1 0 9303 1 1 0.897 0.897 0.897 444 1.441 1.304 1.441	95% UCL 1.442 1.513 1.442 1.442	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441	1 0.9333 1 1 0.9333 0.9333 Min 1.441 1.31 1.441 1.441	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 0.0%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25 12.5	Control Type Negative Control rrected) Transford Control Type	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 Mean 1.441 1.408 1.441 1.441 1.343	1 0 9303 1 1 0.897 0.897 55% LCL 1.441 1.304 1 441 1.441 1.238	95% UCL 1.442 1.513 1.442 1.442 1.444	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25 12.5	Control Type Negative Control rrected) Transford Control Type	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 Mean 1,441 1,408 1,441	1 0 9303 1 1 0.897 0.897 0.897 444 1.441 1.304 1.441	95% UCL 1.442 1.513 1.442 1.442	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441	1 0.9333 1 1 0.9333 0.9333 Min 1.441 1.31 1.441 1.441	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 0.0%	0.0% 1.67% 0.0% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 9 6 25 12.5 25 50	Control Type Negative Control rrected) Transfore Control Type Negative Confr	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 Mean 1.441 1.408 1.441 1.441 1.343	1 0 9303 1 1 0.897 0.897 55% LCL 1.441 1.304 1 441 1.441 1.238	95% UCL 1.442 1.513 1.442 1.442 1.444	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 9 6.25 12.5 25 50 100 7d Survival I	Control Type Negative Control rrected) Transfore Control Type Negative Confr	4 4 4 4 4 4 Count	1 0.9833 1 1 0.95 0.95 Mean 1.441 1.408 1.441 1.441 1.343	1 0 9303 1 1 0.897 0.897 0.897 95% LCL 1.441 1.304 1.441 1.238 1.238	95% UCL 1.442 1.513 1.442 1.442 1.444	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%
C-% 6.25 12.5 25 50 100 Angular (Cor C-% 9 6.25 12.5 25 50 100 7d Survival I	Control Type Negative Control rrected) Transford Control Type Negative Confr	4 4 4 4 4 4 4 4 4 4 4 4 7	1 0.9833 1 1 0.95 0.95 mary Mean 1.441 1.408 1.441 1.343 1.343	1 0 9303 1 1 0.897 0.897 0.897 95% LCL 1.441 1.304 1.441 1.238 1.238	95% UCL 1.442 1.513 1.442 1.442 1.444 1.447	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%
C-% 6.25 12.5 25 50 100 Angular (Cor C-% 9 6.25 12.5 25 50 100 7d Survival I	Control Type Negative Control rrected) Transford Control Type Negative Confr	4 4 4 4 4 4 4 4 4 4 4 4 4 7	1 0.9833 1 1 0.95 0.95 mary Mean 1.441 1.408 1.441 1.343 1.343	1 0 9303 1 1 0.897 0.897 95% LCL 1.441 1.304 1 441 1.238 1.238	95% UCL 1.442 1.513 1.442 1.442 1.447 1.447	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.26% 0.0% 0.0% 6.85%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25 12.5 25 50 100 7d Survival I C-% 0	Control Type Negative Control rrected) Transford Control Type Negative Confr	4 4 4 4 4 4 4 4 4 4 4 4 1	1 0.9833 1 1 0.95 0.95 Mean 1.441 1.408 1.441 1.343 1.343 1.343	1 0 9303 1 1 0.897 0.897 0.897 95% LCL 1.441 1.304 1.441 1.238 1.238	95% UCL 1.442 1.513 1.442 1.442 1.447 1.447	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25 12.5 25 50 100 7d Survival I C-% 0 6.25	Control Type Negative Control rrected) Transford Control Type Negative Confr	4 4 4 4 4 4 4 4 4 4 4 4 1 1 1 0.9333	1 0.9833 1 1 0.95 0.95 Mean 1,441 1,441 1,343 1,343 1,343	1 0 9303 1 1 0.897 0.897 55% LCL 1.441 1.304 1 441 1.441 1.238 1.238	95% UCL 1.442 1.513 1.442 1.442 1.447 1.447	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.26% 0.0% 0.0% 6.85%
C-% 0 6.25 12.5 25 50 100 Angular (Cor C-% 0 6.25 12.5 25 50 100 7d Survival I C-% 0 6.25 12.5	Control Type Negative Control rrected) Transford Control Type Negative Confr	4 4 4 4 4 4 4 4 4 4 4 4 1 1 1 0.9333	1 0.9833 1 1 0.95 0.95 Mean 1.441 1.408 1.441 1.343 2.343 Rep 2 1	1 0 9303 1 1 0.897 0.897 0.897 95% LCL 1.441 1.304 1 441 1.238 1.238 Rep 3	95% UCL 1.442 1.513 1.442 1.442 1.447 1.447	1 1 1 0.9333 0.9333 Median 1 441 1 441 1.441 1.441	0.9333 1 0.9333 0.9333 0.9333 Min 1.441 1.31 1.441 1.31	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 01667 0 0 0.01667 0 01667 Std Err 0 0.03292 0 0 0.03292	0.0% 3.39% 0.0% 0.0% 3.51% 3.51% 0.0% 4.68% 0.0% 4.91%	0.0% 1.67% 0.0% 5.0% 5.0% %Effect 0.0% 2.28% 0.0% 0.0% 6.85%

Report Date:

22 Jan-16 12:26 (p.2 of 4)

Test Code: VCF0116 019 | 01-1443-0841 Aquatic Bioessay & Consulting Labs, Inc. Fathead Minnow 7-d Larval Survival and Growth Test **GETIS Version:** CETISV1.8.7 05-0073-7390 Endpoint: 7d Survival Rate Analysis ID: Official Results: Yes Nonparametric Control vs Treatments Analyzed: 22 Jan-16 12:22 Analysis: Angular (Corrected) Transformed Datall Rep 4 Control Type Rep 2 Rep 3 C-% Negative Control 1.441 1.441 1.441 1.441 0 1.441 1.441 1.441 6.25 1 31 1,441 1.441 1.441 125 1 441 1.441 1.441 26 1.441 1,441 1 31 1.31 50 1.31 1 441 1.441 1.31 100 1.31 1 31 7d Survival Rate Binomials Rвр 4 C-% Control Type Rep 1 Rep 2 Rep 3 D Negative Control 15/15 15/15 15/15 15/15 15/15 15/15 15/15 5.25 14/15 15/15 15/15 15/15 15/15 12.5 15/15 15/15 25 15/15 15/15 14/15 14/15 14/15 15/15 50 100 14/15 14/15 15/15 14/15 Graphics



Report Date: Test Code: 22 Jan-16 12:26 (p 3 of 4) VCF0116:019 | 01-1443-0841

Aquatic Bloassay & Consulting Labs, Inc. Fathead Minnow 7-d Larval Survival and Growth Test CETISv1.87 CETIS Version: Endpoint: Mean Dry Biomass-mg Analysis ID: 10-9117-2100 Official Results: Yes Analysis: Parametric-Control vs Treatments 22 Jan-15 12 22 Analyzed: TOEL ΤU **PMSD** NOEL LOEL Zeta Alt Hyp Trials Seed Data Transform >100 NA 1 14.3% 100 NΑ C > T NA ÑΑ Untransformed **Dunnett Multiple Comparison Test** P-Type Decision(a:5%) Test Stat Critical MSD DF P-Value C-% Control CDF Non-Significant Effect 0.045 6 0.7453 6.25 0.2807 2 407 Negative Control CDF Non-Significant Effect 0.045 6 0.9897 12.5 -1.186 2.407 COF Non-Significant Effect 0.045 6 0.9721 25 -0.818 2.407 Non-Significant Effect COF 0.9504 50 -0.58432.407 0.045 6 Non-Significant Effect CDF 0.1631 100 1,726 2.407 0.045 6 ANOVA Table P-Value Decision(a:5%) DF F Stat Sum Squares Mean Square Source 0.1043 Non-Significant Effect 0.007431868 0.001486374 5 2.162 **Between** 0.0006876111 18 0.012377 Error Total 23 0.01980887 Distributional Tests Test Stat Critical P-Value Decision(a:1%) Attribute Tost 3.982 15.09 0.5520 Equal Variances Bartlett Equality of Variance Variances 0.6081 4.248 06949 Equal Variances Mod Levene Equality of Variance Variances 4.248 0.5398 Equal Variances 0.8383 Levene Equality of Variance Variances Normal Distribution 0.9650 0.98480.884 Shapiro-Wilk W Normality Distribution 1.00000 Normal Distribution Kolmogorov-Smirnov D 0.08451 0.2056 Chalabution 0.8444 Normal Distribution 0.1962 2.576 Distribution D'Agostino Skewness 0.9753 Normal Distribution 0.03101 2.576 Distribution D'Agostino Kurtosis D'Agostino-Pearson K2 Omnibus 0.03948 0.9805 Normal Distribution 9.21 Distribution Normal Distribution 3 878 0.9678 0.1824 Distribution Anderson-Darling A2 Normality Mean Dry Blomass-mg Summary CV% %Effect Std Err 95% UCL Median MIn Max Mean 95% LCL **Control Type** Count Ç-% 0.01446 9.23% 0.0% 0.3217 0.274 0.3353 0.2672 0.3592 Negative Control 4 0.3132 0 0.3307 0.01058 6.93% 1.54% 0.3097 0.2743 0.3423 0.2833 0,3083 6.25 4 -7.03% 0.339 0.2873 0.3753 0.0181 10.8% 0.2776 0.3928 0.3352 125 4 -4 84% 0.3253 0.3133 0.34930.007787 4.74% 0.3531 0.3036 25 4 0.3283 4.1% -3 46% 0.34 0.006639 0.3093 0.3029 0.3451 0.3233 50 4 0.32411,81% 10.22% 0.272 0.2547 0.326D.01551 0.2283 0.334 0.2812 4C-0 Mean Dry Biomass-mg Detail Rop 4 Control Type Rep 1 Rep 2 Rep 3 C-% 0.3353 0.3087 0 274 C Negative Control 0.3347 0.2987 0.3307 0.2833 0.3207 6.25 0.3753 0.28730.340.33B 125 0.3207 0.3493 0.33 0.3133 25 0.318 0.309350 0.3287 0.34 0.2573 0.2547 0.2867 0.326 100

Report Date:

22 Jan-16 12:26 (p 1 of 3)

Test Code: VCF0116.019 | 01-1443-0841

Fathead Minr	10w 7-d Larval Survi	val and Growth Test	Aquatic Bloassay & Consulting Labs, Inc.
Analysis (D:	10-4086-9444	Endpoint: 7d Survival Rate	CETIS Version: CETISV1.8.7
Analyzed:	22 Jan-16 12:22	Analysis: Linear Interpolation (ICPIN)	Official Results: Yes

Analysis (D: 10-4086-9444 Analyzed: 22 Jan-16 12:22			Endpoint: 7d Survival Rate Analysis: Linear Interpolation (ICPIN)					\$ Version: lai Results:	CETISV1. Yes	8.7		
Cinear i X Trans		ation Options Y Transform	See	4	Resamplés	Exp 96%	CL Meti	hod				
Linea:	_	Linear	0		280	Yes		-Point Interp	olation			
D-1 C												
-	stimate:		0.504 1161		0504 1 51	ne#/ U.O.						
Level	%	95% LCL	96% UCL	TU	95% LCL	95% UCL 12.5						
EC5	100	8	N/A	1	NA NA	NA						
EC!0	>100	N/A	N/A	<1								
EC15	>100	N/A	N/A	e1	NA NA	NA NA						
ECZ0	>100	N/A	N/A	<1		NA NA						
EC25	>100	N/A	N/A	<1	NA NA							
EC40	>100	N/A	N/A	<1	NA NA	NA NA						
EC50	>10 0	N/A	N/A	<1	NA NA	N/A						
7d Şun	vival Ra	te Summary				Calcu	lated Vari	ate(A/B)				
G-%	Ç	ontrol Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect	A	. 8
D	Ne	egative Control	4	1	1	1	D	0	0.0%	0.0%	60	60
6 25			4	0.983	3 0.9333	1	0.01667	0.03333	3.39%	1.67%	59	60
12.5			4	1	1	1	۵	0	0.0%	0.0%	60	60
25			4	1	1	1	0	0	0.0%	0.0%	60	GO
50			4	0.95	0.9333	1	0.01667	0,03333	3 51%	5.0%	57	60
100			4	0.95	0 9333	1	0.01667	0.03333	3.51%	5.0%	57	60
7d Sur	vival Ra	te Detail										,
Ç-%	C	ontrol Type	Rep 1	Rep 2	Rep 3	Rep 4						
0	N ₄	egative Control		1	1	1						
6.25			0.9333	1	1	1						
12.5			1	1	1	1						
25			1	1	1	1						
50			0.9333	1	0.9333	0.9333						
100			0.9333	0.933	13 1	0.9333						
	olual O -	te Binomials			<u> </u>							
			Eon 4	Ban f) Pom?	Rep 4						
C-%		Contral Type	Rep 1	Rep :		15/15						
0		Negativo Control		15/15								
6 25			14/15	15/15		15/15						
12.5			15/15	15/15		15/15						
25			15/15	15/15		15/15						
50			14/15	15/15	14/15	14/15						

14/15

14/15

14/15

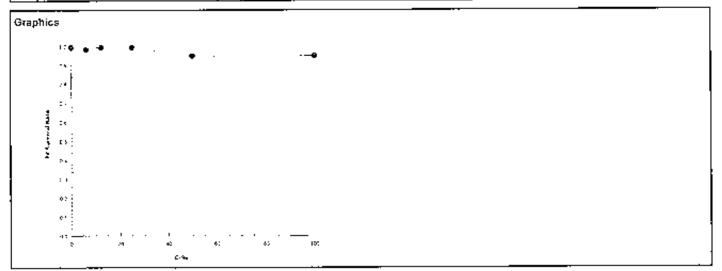
15/15

100

CETIS Analytical Report

Report Date: Test Code: 22 Jan-15 12 26 (p 2 of 3) VCF0116 019 | 01-1443-0841

Fathead Minn	now 7-d Larval Surviv	al and Grow	th Test	Aquatic Bi	Aquatic Bloassey & Consulting Labs, Inc.				
Analyşis ID:	10-4085-9444	Endpoint:	7d Survival Rate	CETIS Version:	CET1\$v1.8.7				
Analyzod:	22 Ján-16 12:22	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes				



22 Jan-16 12:26 (p 3 of 3)

Test Code:

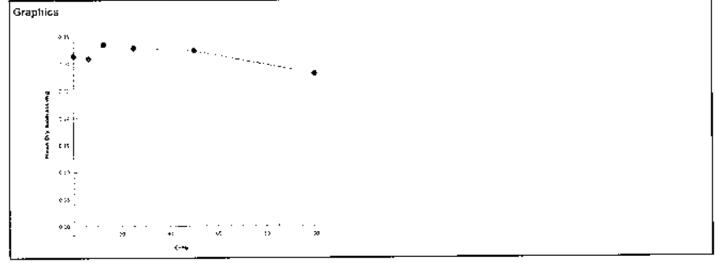
VCF0116.019 | 01-1443-0841

Fathead Minn	ow 7-d Larval Surviv	al and Growt	Aquatic Bio	oassay & Consulting Labs, inc.	
Analysis IO:	17-0631-4074	Endpoint:	Mean Dry Biomassing	CETIS Version:	CETISv1.8.7
Analyzed:	22 Jan-16 12 22	Analysis:	Linear Interpolation (ICPIN)	Official Results:	Yes

X Trans	sform	Y Transform	Seed	1 1	Resamples	Exp 95% CL	Method	
Linear		Linear	1904	804 2	280	Yes	Twa-Point Interpolation	
Point E	slimates							
Level	%	95% LCL	95% UCL	1U	95% LCL	95% UCL		
IC5	698	40.92	N/A	1 433	NA	2.444		
IC10	89.6	55.77	N/A	1.116	NA	1 793		
IC15	>100	N/A	N/A	۲1	NA.	NA		
1020	>100	N/A	N/A	<1	NA	NA		
IC25	>100	N/A	N/A	<1	NA	NA		
IC40	>100	N/A	N/A	<1	NA	NA		
(050	>100	N/A	N/A	<1	NA	NA		

Mean Dry	Biomass-mg Summ	ary			Ca	ficulated Var	rlate		
C-%	Control Type	Count	Mean	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Negative Control	4	0.3132	0.274	0 3353	0.01446	0 02891	9.23%	0.0%
6.25	Ť	4	0.3083	0.2833	0 3307	0.01068	0.02136	6.93%	1.54%
12.5		4	0.3352	0 2873	0.3753	0.0181	0.03621	10.8%	-7.03%
25		4	0.3283	0.3133	0.3493	0.007787	0.01557	4 74%	-4.84%
50		4	0.324	0.3093	0.34	0.006639	0.01328	4 1%	-3.46%
100		4	0.2812	0.2547	0.326	0.01661	0.03322	11 81%	10.22%

Mean Dry	Biomass-mg Detail				
C-%	Control Type	Rop 1	Rep 2	К вр 3	Rep 4
0	Negative Control	0.3347	0.3087	0.274	0.3353
6.25		0 2987	0.2833	0.3207	0.3307
12.5		0.34	0.338	0.3753	0.2873
25		0.3207	0.3493	0.33	0.3133
50		0.3287	0.34	0.318	0.3093
100		0.2547	0.2867	0.326	0.2573



22 Jan-16 12.26 (p 1 of 2)

Tost Code:

VCF0116.019 | 01-1443-0841

								1031 2006.	4040	140.015	11-14-0-0041
Fathead Minn	ow 7-d Larval S	urvival	and Growt	h Test				Aquatic 8	Bioassay &	Consultin	g Labs, Inc.
 Batch ID: Start Date: Ending Date: Duration:	01-3595-6013 05 Jan-16 14:3 13 Jan-16 12:3 6d 22h		Test Type: Protocol: Species: Source:	Growth-Surviva EPA/821/R-02- Pimephales pro Aquatic Biosys	013 (2002) omelas				oratory Wat Applicable	er	
Sample ID:	04-8531-7309		Code:	VCF0116.019				Cileni: VC	WPD		···•
Sample Date:	05 Jan-16 10:4	0	Material:	Sample Water				Project: NP	DES Stormy	vater Wet :	Season
łocoive Date:	: 05 Jan-16 12:2	2	Source:	Bioassay Repo	art						
Sample Age:	28h (9.6 °C)		Station:	MO-MEI							
Alkatinity (Car	CO3)-mg/L	•									
7-%	Control Type	Count	. Mean	95% LCL	95% UCL	Min	Max	Sld Err	Std Dov	CV%	QA Count
)	Negative Contr	8	64.13	61 25	67	60	68	1.217	3 441	5.37%	0
50		8	53	53	53	53	53	0	0	0.0%	0
Overall		16	58.56			53	68				Q (0%)
Conductivity-	umhos										
C-%	Control Type	Coun		95% LCL	95% UCL	Min	Max	Std Err	Std Day	CV%	QA Count
0	Negative Contr		328.4	326	330.8	323	332	1.017	2.875	0.88%	٥
5.25		8	312.4	310.1	314.7	308	316	D.9808	2.774	0.89%	0
2.5		8	303	299 7	306.3	299	310	1.414	4	1.32%	0
25		a	280.1	2 75 2	285	272	288	2.074	5.866	2.09%	0
50		8	228	220 3	235.7	217	240	3.257	9 212	4.04%	0
100		8 48	128.3	120	136.5	117	143 332	3.499	9.696	7.72%	0 (0%)
Overall 		40	263.4			117	3.76				010/0/
Dissolved Ox C-%	Control Type	Çoun	ı Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	QA Count
<u></u>	Negative Contr		8.1	7.686	8.514	7.7	9.2	0.1753	0.4957	6 12%	0
° 6.25		8	7.7	7.354	8.046	6.8	8.1	0.1464	0.414	5.38%	0
125		8	7.55	7.25	7.85	6.6	7.9	0.1268	0.3586	4.75%	0
25		8	7.488	7.094	7 881	6.5	8	0.1663	0.4704	6.28%	Ð
50		8	7.475	7.066	7.884	6.4	8	D.1729	0.4892	6.54%	0
:00		В	6.8	6.247	7.353	5.7	7.6	0.2338	0.6612	9.72%	Ū
Overal!		48	7.519			5.7	9.2				_ 0 (0%) _
Hardness (Ca	1CO3)-mg/L										
0-%	Control Type	Coun	t <u>Mean</u>		95% UCL	Min	Мах	Std Err	Ştd Dev_	CV%	QA Count
0	Negative Contr	8	92 13		95.57	8 8	97	1.457	4 121	4 47%	0
100		8	72	72		72	72	0	O .	0.0%	0 (88)
Overall		16	82.65			72	97				0 (0%)
pH-Units											
C-%	Control Type	Coun					Max	Std Err	\$td Dev	CV%	QA Coun
•	Negative Contr		8.025		8 247	7.6	8.3	0 09402	0.2659	3.31%	0
6.25		8	7.48B		7 722	7	7.9	0.09899	0.28 0.40 2 7	3.74% 3.86%	0
12.5		8	7. 5 5	7.389	7.711	7.2	7.8	0.05814	0.1927	2.55% 2.28%	0
25		8	7.586		7.732	7.3	7.6 7.7	0.06105 0.0565	0.1727 0.1698	2.28% 2.11%	0
50		8	7.553 7.5		7.696 7.641	7.3 ° 7.3	7 7 7.7	0.05976	0.1 598 0.169	2.11%	0
100		8	7.5	7.359	J.091	6		0.000	0.100	E 2010	~

Report Date: Test Code: 22 Jan-16 12 26 (p.2 of .2) VCF0116.019 | 01-1443-0841

Aquatic Bloassay & Consulting Labs, Inc. Fathead Minnow 7-d Larval Survival and Growth Test Temperature-*C 95% UCL Std Err SId Dev CV% QA Count 95% LCL МΙπ Max C.% Control Type Mean Count 0.01249 0.03531 0.15% Ó 24 1 24 01 23 98 24.04 24 ۵ Negativo Contr 8 0.2416 1.0% 0 23 91 24.31 24 24.7 0.08543 6.25 8 24.11 0.04199 0.49% 0 24 24.3 0.1188 8 24.0G 23.96 24.16 12.5 0 24.4 0.08547 0.18520.77% 25 8 24.1 23.95 24.25 24 Ū 0.08183 0.2315 8 24.13 23.93 24.32 24 24.5 0.95% 50 0.09051 0.256 1.06% O 23.92 24.35 24 24.6 100 8 24.14 0 (0%) 24 24.7 Overall 48 24.09 Alkalinity (CaCO3)-mg/L 8 5 6 7 Control Type 1 3 C-% 60 68 63 63 63 60 Negative Confr 68 **68** Ô 53 53 53 53 53 53 53 53 ŁüÖ Conductivity-umhos 6 6 7 8 2 Control Type 1 3 323 328 330 326 329 331 32B 332 ũ Negative Contr 316 312 315 6.25 308 311 310 312 315 310 299 303 300 300 300 305 307 12.5 285 283 285 268 25 275 278 272 275 219 220 236 238 240 224 230 217 50 122 125 133 142 143 117 123 121 100 Dissolved Oxygen-mg/L 5 7 8 3 4 Б C-% Control Type 1 2 7.9 8.1 92 7.7 0 Negative Confr 7.8 84 7.B 7.9 8 θ1 7.5 7.7 7.8 6 7.7 6.8 6 25 7.9 7.5 76 7.8 78 7.3 6.8 125 17 7.6 7.2 6.5 7.5 8 7.7 25 7.9 15 74 7.5 8 7.3 6.4 7.7 78 7.7 50 5.7 63 (00) 7.3 6.3 67 7.1 7.6 7.4 Hardness (CaCO3)-mg/L 3 6 7 8 Control Type 2 C-% 88 97 90 90 90 88 0 Negative Contr 97 97 72 72 72 72 72 100 72 72 72 pH-Units 4 5 5 7 8 2 3 C-% Control Type 76 83 7.9 7.7 8.3 8.1 B.Z 0· Negative Contr 6.1 76 7 7.5 7.7 7.9 73 7.6 6.25 7.3 7.7 7.8 76 7.2 7.5 12.5 7.5 7.4 7.7 7.3 7.4 78 7.7 7.7 77 25 7.6 75 7.7 7.3 7.4 7.5 75 77 77 7.7 50 7.3 7.4 77 7.7 7.4 7.3 76 7.6 100 Yemperature-°C ₿ 6 6 7 2 3 Ç-% Control Type 24 24 24 24 1 24 24 24 0 Negative Contr 24 24 24.1 24.7 24 24 24 24.1 24 6.2524 24.3 24 24 24 24 24.2 24 12.5 24 24 24.4 24 24 24 24 24.4 25 24 24 24 24.5 24 24 24.5 24 50 24 24 24 24 24.5 24 24 24.6 100



Chain of Custody Record

Ventura County Watershed Protection District NPDES Stormwater Monitoring Program

Project: NPDES Stormwater Wet Season Toxicity - ABC Laboratories

Sampling Date: (**) > * \(\xi_1 \) \(\xi_2 \) (Wef) Project Number: \(\frac{2015/16-2}{2015} \) (Wef)										
Sampling Teams	<u> 12 M - W B C.</u>									
	DATE/TIME	Chrouic toxicity - topsmelt (Atherinops uffines)	Chronic toxicity - inland silvetside (Menidia heavillas)	Chronic toxicity - glant kelp (Macrocystis pyrifera)	Chronic toxicity - purple sea urchin (Strongylocentrous purpuratus)	Chronic toxicity - fathead minnow (Pimephales prometas)	Chronic toxicity - daphnid (Carindaphala dubia)	Chronic toxicity - green alga (Raphidocelis subcapitata)	Number of 5-Gallon Buckers	
-ME-SCR	COLLECTED	0 3	Ŷ.	<u> </u>	X X	02	0.4	S S	<u>Ζ</u> .	NOTES Note 1, Note 2, Note 3
MO OJA	100 16 14 55					X			2	Note 1, Note 2, Note 3
MO-MEI	practice of the					X			2	Note 1, Note 2, Note 3
	·									
										COM - MED
						٠.	<u> </u>		L	Fre was V
			<u> </u>						L	
							<u> </u>		Ľ	10.
					<u> </u>	l <u>-</u>				
Relinquished	Printed Name/	<u> </u>	<u> </u>	1/1						
		6 45 <u>1</u> 2	: ji	17.0%	<u> </u>					
	Affiliation (A)	`: <u>`</u>		_		Date/	Tim	j - Y	K,	<u> 12424.</u>
Received	Printed Name	NP	4040	r.U						
	Signature	ΔyV	_√ t√		1 .					
	Affiliation Pay	<i>?</i> %(Ç10	15/5	$\sqrt{\lambda}$	Date/	Tim	· /,"	4	9 (<u>)</u>
Other Notes:	Note 1: Dilutions - 6,25%	რ, 12.5°	%, 25%	, 50%,	100%	Note	2: Plea	se execu	ırı: '	FIE if mortality ≥ 50%
	Note 3: Notify District v	eirbin 2	4 hours	if sign	ficant t	oxicity	is obse	rved.		



February 11, 2016

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:

1/6/2016

ABC LAB, NO.:

VCF0116.036

CHRONIC SEA URCHIN FERTILIZATION BIOASSAY

NOEC = 100.00 %

TUc = 1.00

IC25 :: >100.00 %

IC50 = >100.00 %

Yours bery truly,

f : Æcott Johnson

Laboratory Director

CETIS Summary Report

Report Date:

11 Feb-16 12:34 (p 1 of 1)

Test Code:

VCI/0116 036urcf | 11-8550-7660

Aquatic Bioassay & Col	isulting Labs, Inc
------------------------	--------------------

Purple Sea Ur	chin Sparm Ceil	Fertilizat	ion Test						Aquatic Bi	ioassay & C	onsulting	Labs, Inc
Batch ID: Start Date: Ending Date: Duration:	09-8764-3343 06 Jan-16 14:11 06 Jan-16 14:51 40m	Pro Spe	it Type: itocol: ecies: urcs:	Fertilization EPA/600/R-95/ Strongylocentro Day.d Gutoff		lus		Analys Diluen Brino: Age:	it: Labo	Freas tratory Seaw App!icable	valer	
Şample ID:	11-1840-3425	Co	de:	VCF0116.036u	f			Client				
-	06 Jan-16 08:49		terlal:	Sample Water				Projec	it: 2015	V16-2 (We1)		
	: 06 Jan-15 10:35	So:	ntce:	Вюassay Repo	rt							
Şample Age:	5h (8.4 °C)	Sta	tion:	ME-SCR								
Comparison S	Summary											
Analysis 10	Endpoint		NOEL	. LÖEL	TOEL	PMSD	ŢŲ		Method			
01-9970-4501	Fertilization Rat	e	100	>100	NA	4.96%	1		Dunnett M	utiple Comp	arison Te	st
Point Estim al	e Summary											
Analysis ID _	Endpoint		Level		95% LCL	95% UCL	_		Method	1 -2		
01-0517-6341	Fertilization Rat	е	EC5	>100	N/A	N/A	<1		Linear Inte	rpolation (IC	PIN)	
			EC10		N/A	N/A	<1					
			EC15		N/A	N/A	<1					
			EÇ20		N/A	N/A	<1					
			EC25		N/A	N/A	<1					
			EC40		N/A N/A	N/A N/A	<1 <1					
			E'050		N/A	1979						
Test Acceptat	•		Attrib	urlo.	Tech \$13)	TAC Lim	le a		Overlap	Decision		
Analysis ID	Endpoint Fertilization Rat			ol Resp	0.9375	0.7 - NL			Yes	Passes Ad	centability	Criteria
01-0517-6341 01-9970-4601	Fertilization Rat			ol Resp	0.9375	0.7 - NL			Yes	Passes A		
01-9970-4601			PMSI		Q.04958	NL - 0 25			No	Passes Ad		
Fertilization F	Rate Summary			_								
C-%	Control Type	Count	Mear	95% LCL	95% UCL	Min	Ma	x	Sld Err	Std Dav	cv%	%Effect
0	Negative Control	4	0.937	5 0.875	0.999	0.9	0.9	8	0.01931	0.03862	4.12%	0.0%
625		4	0.957	5 0.9303	0.9847	0.94	0.9		0 008539	0.01708	1.78%	-2.13%
12.5		4	0.947		0.9873	0.92	0.9		0.0125	0 025	2.64%	-1.07%
25		4	0 955		0.9881	0.93	0.9		0.01041	0.02082	2.18%	-1.87%
50		4	0 942		0.9577	0 93	0.9		0.004787	0.009574	1.02%	-0.53% 3.67%
100	. ———	4	0 962	9.9353	0.9897	0 94	Q 9		0.008539	0.01708	1 77%	-2.67% -
Fortilization F			_									
C-%	Control Type	Rep 1	Rep		Rep 4							
0	Negativo Contro		800	0.96	0.91							
6.25		0.98	0.95	0.96	0.94							
12.5		0.98	0.95	0.92	0.94							
25		0.95	0.93	0.96	86.0							
50		0.94	0.95	0.93	0.95							
100		0.96	0.94	0 97	0 98							
Fertilization F	Rate Binomials											
C-%	Control Type	Rep 1	Rep	2 Rep3	Rвр 4							
0	Negative Contro	90/100	98/10)() 96/1 0 D	91/100							
6.25		98/100	95/10	0 96/100	94/100							
12.5		98/100	95/10	x) 92/100	94/100							

96/100

93/100

97/100

93/100

95/100

94/100

95/100 94/100

96/100

98/100

95/100

98/100

Page DI - 186 CETIS " v1.8.7.11

25

50

100

11 Feb-15 12 34 (p.1 of 2)

Test Code:

VCF0116.036urcf | 11-8550-7660

Purple Sea Ur	chin Sparm Cell	Fertitizatio	on Test					Aquatic (Bloassay & C	consulting	Labs, inc
Analysis ID: Analyzed:	01-9970-4601 1) Feb:16 12:33			rtitization Rat trametric-Con		lments		S Version: lai Results		8.7	
Batch ID:	09-8764-3343		Type: Fe				Analy	ust: Joe	Freas		
Start Date:	06 Jan-16 14:11			A/800/R-95/1	126 /10041		Dilue	,	orefory Seaw	rator	
inding Date:	06 Jan-16 14:51			rongyloseni <i>t</i> o		lue	Brine		Applicable		
				rongylosenilo ivid Gutoff	ras parparai	ius		7. 140.	Аррисавіе		
Duration:	40m 	Sou	(CA: Da	- Caton			Age:				
Sampie ID:	11-1840-3425	Cod	e: VC	F0116.035u1	ſ		Clien	it: VC	WPD		
Sample Date:	06 Jan-16 08:45	Mate	arial: Sa	imple Water			Proje	ect: 201	5/16-2 (Wel)		
Receive Date:	06 Jan-15 10.35	\$au	гсе: Ви	oassay Repoi	rt						
Sample Age:	5h (8.4 °C)	\$tat	ion: Mi	E-SCR							
Data Transfor	m.	Zota	Alt Hyp	Triels	Seed		PMSD	NOEL	LOEL	TOEL	TU
Angular (Corre	cted)	NA	C>T	NA	NA		4.96%	100	>100	NA	1
Junnett Multi	pie Comparison	Test					_	-			
Control	vs C-%		Test Stat	Critical	MSD DF	P-Value	P-Type	Decision	(a:5%)		
Negative Coati	rol 625		-0.9823	2.407	0.094 6	0.9819	CDF	Nan-Sign	ificant Effect		
	12.5		-0.4357	2.407	0.094 &	0.9302	CDF	Nan-Şign	ificant Effect		
	25		-0.8524	2.407	0.094 6	0.9745	COF	Non-Sign	ificent Effect		
	50		-0.02202	2.407	0.094 6	0.8397	CDF	Non-Sign	ificant Effect		
	100		-1.311	2.407	0.094 6	0.9928	CDF	Non-Sign	ificant Effect		
Test Acceptat	ollity Criteria										
Attribute	Test Stat										
	163(3(at	TAC LIMIT	5	Overlap	Decision				 -		
Control Resp	0.9375	0.7 - NL	<u>s</u>	Yes	Passes Ac	ceptability			······ -		
Control Resp			ls .		Passes Ac	ceptability ceptability				-	
Control Resp PMSD	0.9375 0.04958	0.7 - NL	ls .	Yes	Passes Ac				 -	-	
Control Resp PMSD 	0.9375 0.04958	0.7 - NL NL - 0 25	S Mean Sq	Yes No	Passes Ac		Criteria . – – P-Value	Decision		-	
Control Resp PMSD 	0.9375 0.04958	0.7 - NL NL - 0 25		Yes No Juare	Passes Ac Passes Ac DF	ceptability	Criteria . – —		i(o:5%) ificant Effect	-	
Control Resp PMSD 	0.9375 0.04958 Sum Squa	0.7 - NL NL - 0 25	Mean Sq	Yes No Juare 829	Passes Ad Passes Ad DF 5	cceptability	Criteria . – – P-Value			-	
Control Resp PMSD ANOVA Table Source Setwaen Error	0.9375 0.04958 Sum Squa 0.0087691	0.7 - NL NL - 0 25 res	Mean Sq 0 001753	Yes No Juare 829	Passes Ac Passes Ac DF	cceptability	Criteria . – – P-Value			-	
Control Resp PMSD ANOVA Table Source Setwaen Error Total	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880	0.7 - NL NL - 0 25 res	Mean Sq 0 001753	Yes No Juare 829	Passes Ad Passes Ad DF 5	cceptability	Criteria . – – P-Value			-	
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880	0.7 - NL NL - 0 25 res	Mean Sq 0 001753	Yes No Juare 829	Passes Ad Passes Ad DF 5	cceptability	Criteria . – – P-Value	Non-Sign		-	
Control Resp PMSD	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests	0.7 - NL NL - 0 25 res	Mean Sq 0 001753 0.003051	Yes No Juare 1879 05	Passes Ac Passes Ac DF 5 18 23	F Stat 0.5748	P-Value	Non-Sign (a:1%)		-	
Control Resp PMSD ANOVA Table Source Setween Error Total Distributional Attribute Variances	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed	0.7 - NL NL - 0 25 res 46	Mean Sq 0 001753 0.003051	Yes No juare 829 05 Test Stat 4.867	Passes Ac Passes Ac DF 5 18 23	F Stat 0.5748 P-Value 0.4324 0.1975	P-Value 0.7186	Non-Sign (a:1%) ances		-	
Control Resp PMSD ANOVA Table Source Setween Error Total Distribute Variances Variances	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Barriett Ed Mod Leve	0.7 - NL NL - 0 25 res 46 5	Mean Sq 0 001753 0.003054 ariance of Variance	Yes No juare 829 05 Test Stat 4.867	Passes Ad Passes Ad DF 5 18 23 Critical 15.09	F Stat 0.5748 P-Value 0.4324	P-Value 0.7186 Decision(Equal Var	Non-Sign e:1%) ances ances			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Barriett Ed Mod Leve Levene E	0.7 - NL NL - 0 25 res 46 5 quality of Vanne Equality	Mean Sq 0 001753 0.003054 ariance of Variance	Yes No Juare 829 05 Test Stat 4.867 e 1.651	Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972	P-Value 0.7186 Decision(Equal Vari	o:1%) ances ances ances			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Variances Usciences Distribution	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Bardett Ed Mod Leve Levene El Shapiro-V	0.7 - NL NL - 0 25 res 46 5 quality of Va quality of Va quality of V	Mean Sq 0 001753 0.003054 ariance of Variance nality	Yes No Juare 1829 105 Test Stat 4.867 te 1.651 1.852	Passes Ad Passes Ad DF 5 18 23 Critical 15.09 4.248 4.248 0.884 0.2056	P-Value 0.4324 0.1975 0.1532 0.6062	P-Value 0.7186 Decision(Equal Var Equal Var Normal Or	Non-Sign a:1%) ances rances rances istribution istribution			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Useriances Distribution Distribution Distribution Distribution	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Bartlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin-	0.7 - NL NL - 0 25 res 46 5 46 5 46 Equality quality of V. filk W Norn ov-Smirnov o Skewnes:	Mean Sq 0 001753 0.003054 ariance of Variance nality D	Yes No Juare 8879 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648	Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326	P-Value 0.7186 Dacision(Equal Var Equal Var Normal Di Normal Di	o:1%) ances ances ances istribution istribution			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Useriances Distribution Distribution Distribution Distribution	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Bartlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin- D'Agostin-	0.7 - NL NL - 0 25 res 46 5 5 46 Equality quality of V. filk W Norn ov-Smirnov o Skewnes: o Kudosis	Mean Sq 0 001753 0.003054 ariance of Variance nality D	Yes No Juare 8879 05 Test Stat 4.867 e 1.651 1.852 0.96/1 0.113 0.7648 0.5545	Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792	P-Value 0.7186 Decision(Equal Var Equal Var Normal Di Normal Di Normal Di	Non-Sign ances ances ances istribution istribution istribution			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Variances Distribution Distribution Distribution Distribution	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Barriett Edit Edit Edit Edit Edit Edit Edit Ed	0.7 - NL NL - 0 25 res 46 5 46 5 7 8 9 Vilk W Norn ov-Smirnov o Skewnes: 0 Kurtosis o Pearson I	Mean Sq 0 001753 0.003054 ariance of Variance ariance nality D	Yes No Buare 8879 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5645 is 0.9234	Passes Ad Passes Ad DF 5 18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792 0.6302	P-Value 0.7186 Decision(Equal Var Equal Var Rormal Di Normal Di Normal Di Normal Di	Non-Sign (a:1%) (ances (ances (ances (ances (atribution) (atribution) (atribution)			
Control Resp PMSD ANOVA Table Source Setwaen Erroz Total Distributional Attribute Variances Variances Variances Obstribution Distribution Distribution Distribution Distribution	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Barriett Edit Edit Edit Edit Edit Edit Edit Ed	0.7 - NL NL - 0 25 res 46 5 5 46 Equality quality of V. filk W Norn ov-Smirnov o Skewnes: o Kudosis	Mean Sq 0 001753 0.003054 ariance of Variance ariance nality D	Yes No Juare 8879 05 Test Stat 4.867 e 1.651 1.852 0.96/1 0.113 0.7648 0.5545	Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792	P-Value 0.7186 Decision(Equal Var Equal Var Normal Di Normal Di Normal Di	Non-Sign (a:1%) (ances (ances (ances (ances (atribution) (atribution) (atribution)			
Control Resp PMSD	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0638880 Tests Test Barriett Edit Edit Edit Edit Edit Edit Edit Ed	0.7 - NL NL - 0 25 res 46 5 46 5 7 8 9 Vilk W Norn ov-Smirnov o Skewnes: 0 Kurtosis o Pearson I	Mean Sq 0 001753 0.003054 ariance of Variance ariance nality D	Yes No Buare 8879 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5645 is 0.9234	Passes Ad Passes Ad Passes Ad 18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792 0.6302	P-Value 0.7186 Decision(Equal Var Equal Var Rormal Di Normal Di Normal Di Normal Di	Non-Sign (a:1%) (ances (ances (ances (ances (atribution) (atribution) (atribution)			
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Variances Obstribution Distribution Distribution Distribution Distribution Distribution Error Fertilization R C-%	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson tate Summary Control Type	0.7 - NL NL - 0.25 res 46 5 quality of Value Equality of Vality	Mean Sq 0 001753 0.003054 ariance of Variance ariance nality D s K2 Omnibu Normality	Yes No Buare 8879 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939	Passes Ad Passes Ad Passes Ad 18 23 Critical 15.09 4.248 4.248 0.884 0.2056 2.576 2.576 9.21 3.878	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.5792 0.6305 Median	P-Value 0.7186 Decision(Equal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di	Non-Sign ances v	ificant Effect	CV%	
Control RespondSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Variances Ustribution Distribution Distribution Distribution Distribution Distribution Fertilization Fertilization Formal	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson	0.7 - NL NL - 0.25 res 46 5 quality of Value Equality of Vality	Mean Sq 0 001753 0.003054 ariance of Variance nality D s K2 Omnibu Normality Mean 0.9375	Yes No Juare 829 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939	Passes Ad Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.5792 0.6305 Median 0.935	P-Value 0.7186 Decision(Equal Var Equal Var Normal Di	o:1%) cances can	Std Err	CV% 4.12%	0.0%
Control Resp PMSD ANOVA Table Source Setwaen Error Total Distributional Attribute Variances Variances Variances Variances Distribution Distribution Distribution Distribution Distribution Fertilization F6-% 0 5.25	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson tate Summary Control Type	O.7 - NL NL - 0 25 res 46 5 46 5 Guality of Value Equality of Valu	Mean Sq 0.001753 0.003054 ariance of Variance nality D s K2 Omnibu Normality Mean 0.9375 0.9575	Yes No Juare 829 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939 95% LCL 0.876 0.9303	Passes Ad Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.5792 0.6305 Median 0.935 0.965	P-Value 0.7186 Decision(Equal Var Equal Var Normal Di 0.9	Non-Sign (c:1%) cances	Std Err 0 01931 0 008539	GV% 4.12% 1.78%	0.6% -2.13%
Control Resp PMSD	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson tate Summary Control Type	0.7 - NL NL - 0 25 res 46 5 46 5 Guality of Value Equality A2 Count Count	Mean Sq 0.001753 0.003054 ariance of Variance nality D s K2 Omnibu Normality Mean 0.9375 0.9575 0.9475	Yes No Juare 829 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939 95% LCL 0.876 0.9303 0.9077	Passes Ad Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792 0.6305 Median 0.935 0.945	P-Value 0.7186 Dacision(Equal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di 0.9 0.94 0.92	Non-Sign (c:1%) cances	Std Err 0 01931 0 008539 0 0125	CV% 4.12% 1.78% 2.64%	0.0% -2.13% -1.07%
Control Resp PMSD	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson tate Summary Control Type	0.7 - NL NL - 0 25 res 46 5 quality of Vi rilk W Norn ov-Smirnov o Skewnes: 0 Kurtosis 0 Pearson I Oarting A2 Count 4 4 4 4 4	Mean Sq 0.001753 0.003054 ariance of Variance nality D s K2 Omnibu Normality Mean 0.9375 0.9575 0.955	Yes No Juare 829 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939 95% LCL 0.876 0.9303 0.9077 0.9219	Passes Ad Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792 0.6305 Median 0.935 0.945 0.955	P-Value 0.7186 Dacision(Equal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di 0.9 0.94 0.92 0.93	Non-Sign (c:1%) ances l	Std Err 0 01931 0 008539 0 0125 0 01041	CV% 4.12% 1.78% 2.64% 2.18%	0.0% -2.13% -1.07% -1.87%
Control Resp PMSD	0.9375 0.04958 Sum Squa 0.0087691 0.0549189 0.0636880 Tests Test Banlett Ed Mod Leve Levene El Shapiro-V Kolmogor D'Agostin O'Agostin Anderson tate Summary Control Type	0.7 - NL NL - 0 25 res 46 5 quality of Variable of Variable Equality of Variable of Var	Mean Sq 0.001753 0.003054 ariance of Variance nality D s K2 Omnibu Normality Mean 0.9375 0.9575 0.9475	Yes No Juare 829 05 Test Stat 4.867 e 1.651 1.852 0.9671 0.113 0.7648 0.5545 is 0.9234 0.2939 95% LCL 0.876 0.9303 0.9077	Passes Ad Passes Ad Passes Ad DF 5 18 23 	P-Value 0.4324 0.1975 0.1532 0.5972 0.6062 0.4326 0.5792 0.6305 Median 0.935 0.945	P-Value 0.7186 Dacision(Equal Var Equal Var Normal Di Normal Di Normal Di Normal Di Normal Di Normal Di 0.9 0.94 0.92	Non-Sign (c:1%) cances	Std Err 0 01931 0 008539 0 0125	CV% 4.12% 1.78% 2.64%	

CETIS Analytical Report

Report Date:

11 Feb-16 12:34 (p 2 of 2)

Test Code:

VCF0116.035urcf | 11-8650-7660

Purple Sea Urchin Sperm Cell Fertilization Test

Aquatic Bioassay & Consulting Labs, Inc.

Analysis ID:	01-9970-4601	Endpoint:	Fertilization Rate	CETIS Version:	CETISv1.8.7
Analyzed:	11 Feb-16 12:33	Analysis:	Parametric Control vs Treatments	Official Results:	Yes

Angular (Corrected) Transformed Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Median	Min	₩ax	Std Err	CV%	%Effect
Ō	Negative Contro	4	1.328	1.192	1 465	1.318	1 249	1,429	0.04278	6.44%	0.0%
6.25		4	1,367	1.294	1 439	1.357	1.323	1.429	0.02276	3.33%	-2.89%
12.5		4	1.345	1.248	1 443	1.334	1.284	1.429	0.03058	4 55%	-1.28%
25		4	1.362	1.278	1 445	1 357	1.303	1.429	0.02628	3 86%	-2.51%
50		4	1.329	1.297	1 362	1 334	1.303	1.345	0.01015	1 53%	-0.06%
100		4	1.38	1.308	1.451	1 383	1.323	1.429	0.02235	3 24%	-3.86%

Fertilization Rate Detail

Control Type	Rep 1	Rep 2	Rep 3	Rep 4	
Negative Control	0.9	0 98	0.96	0.91	
	89.0	0.95	0.96	0.94	
	0.98	0.95	092	0.94	
	0.95	0.93	0.96	0.98	
	0.94	0.95	0.93	0.95	
	0.96	0.94	0.97	0.98	
	· ·	Negative Control 0.9 0.98 0.98 0.95 0.94	Negative Control 0.9	Negative Control 0.9 0.98 0.96 0.98 0.95 0.96 0.95 0.92 0.95 0.95 0.96 0.95 0.96 0.95 0.93 0.96 0.94 0.95 0.93	Negative Control 0.9

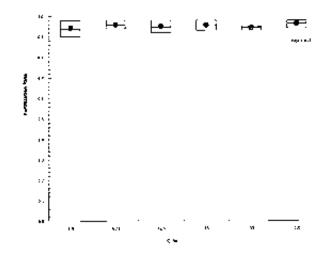
Angular (Corrected) Transformed Detail

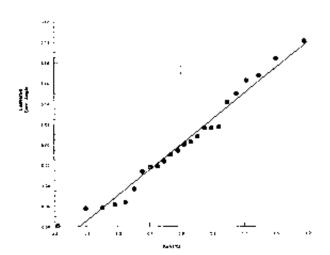
G-%	Control Type Rep 1	Rep 2	Rep 3	Rep 4
0	Negative Confrol 1 249	1.429	1.369	1.266
8.25	1 429	1.345	1.359	1.323
12.5	1 429	1.345	1.264	1.323
25	1 345	1.303	1.369	1.429
50	1 323	1.345	1.303	1.345
100	1 369	1.323	1.397	1.429

Fertilization Rate Binomials

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4		
ō	Negative Control	90/100	98/100	96/100	91/100		
6.25		98/100	95/100	96/100	94/100		
12.5		98/100	95/100	92/100	94/100		
25		95/100	93/100	96/100	98/100		
50		94/100	95/100	93/100	95/100		
100		96/100	94/100	97/100	98/100		

Graphics





11 Feb-16 12:34 (p.1 of 2)

Test Code:

VCF0116 036ure1 | 11-8559-7660

Purple Sea Urch							<u></u>	0 Manatan	CETISv1.	8.7	
	1-0517-6341 1 Feb-16 12 34		oolat: y s is:	Fertilization Rate Linear Interpolal)		S Version: iat Rosults —		o /	
Satch ID: 0	9-8764-3343	Test	Турв:	Fedilization		-	Analy		f'reas		
Start Date: 0	B Jan-16 14 11	Prot	ocol:	EPA/600/R-95/1	36 (1995)		Dilue		oratory Seav	vater	
inding Date: 0	8 Jan-16 14:51	Spec	ies:	Strongylacentra	lus purpurá	dus	Brine		Applicable		
Ouration: 4	0m	Sour	rce:	David Gutoff			Age:			. —	
	1-1840-3425	Cod		VCF0116.036uf			Clien		WPD		
ample Date: 0				Sample Water			Proje	ict: 201	5/16-2 (Wet)	,	
Receive Date: 0		Sour		Bioassay Repor	1						
	ከ (8.4 °C) 	Stali	ion:	ME-SCR 							
inear Interpola					d 640	A					
K Transform	Y Transform	See	1	Resamples	Exp 95%		ont Interp	atabian			
	Linear			280	Yes 	IWO-F	-one interp			·	
fest Acceptabili	-										
Attribute	Test Stat		s _	Overlap	Decision		*-i*i-		_		
Control Resp	0.9375	0.7 - NL		Yes	Passes A	.cceptability C	, rite r ia			. ——	
Point Estimates											
Level %	96% LCL		ŢU	95% LCL	85% UCL						
EC5 >100	N/A	N/A	<1	NA	NA						
EÇ10 >100	N/A	N/A	51	NA	NA						
EC15 >100	N/A	N/A	<1	NA	NA NA						
EC20 >100	N/A	N/A	<1	NA NA	NA NA						
EC25 >100	N/A	N/A	<1 <1	NA NA	NA.						
EC40 >100 EC50 >100	N/A N/A	N/A N/A	<1	NA NA	NA.						
Fertitization Rat	a Summar√				_ — Calc	ulated Varial	le(A/B)	_			
	ntrol Type	Соилт	Mear	n Min	Max	Std Err	Std Dev	CV%	%Effect	A	В
	gative Control	4	0.937	75 Q 9	0.98	0.01931	0.03852	4.12%	0.0%	375	400
6 25	,	4	0.957	5 094	89.0	0.008539	0.01708	1.78%	-2.13%	383	400
12.5		4	0.947	5 092	0.98	0.0125	0 025	2 64%	-1.07%	379	400
25		4	0.956	0.93	89.0	0.01041	0 02082	2 18%	-1.87%	382	400
50		4	0.942		0.95	0.004787	0.009574		-0.53%	377	400
100		4 _	0.862	25 0.94	Q.98 	0.008539	0.01708	1.77%	-2.67%	385 —— –	400
Fertilization Rel	e Detail										
	ntrol Type	Rep 1	Rep		Rep 4						
) Ne	gative Control	0.9	0.98	0.96	0.91						
5.25		0.98	0.95	0.96	0 94						
12.5		0.98	0.95	0.92	0.94						
25		0.95	0 93	0.96	0.98						
50		0.94	0.95	0.93	0.96						
100		0.96	0.94	0.97	0.98	_ —					
Fertilization Ra	te Binomials										
	ontrol Type	Rep 1	Rep		Rep 4		_				
	legativé Control		98/10		91/100						
6.25		98/100	95/10		94/100						
12.5		98/100	95/10		94/100						
25		95/100	93/10		98/100						
			00.00	0.0 0.040.0	95/100						
50		94/100	95/11 94 /11		98/100						

CETIS Analytical Report

Report Date:

11 Feb-16 12.34 (p.2 of 2)

Test Code:

VCF0116.036urcf | 11-8550-7660

Purple Sea Urchin Sparm Cell Fertilization Test

Aquatic Bloassay & Consulting Labs, Inc.

Analysis ID: Analyzed:

01-0517-6341

11 Feb-16 12:34

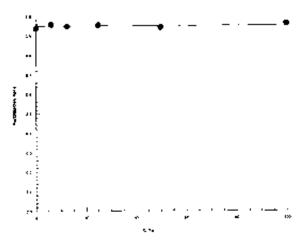
Endpoint: Fertilization Rate

Analysis: Linear Interpolation (ICPIN)

CETIS Version: Official Results: Yes

CETISV1 8.7

Graphics



CETIS Measurement Report

Report Date:

11 Feb-16 12.34 (p 1 of 2)

Test Code:

VCF0116.036urcf | 11-8550-7660

Purple Sea U									103(0000.				
	turple Sea Urchin Sperm Cell Fertilization Test							Aquat	ic Blosssay &	Gonsultin-	g Labs, Inc.		
Batch ID: Start Date: Ending Date: Duralion:	09-8764-3343 06 Jan-16 14.11 08 Jan-16 14.51 40m	1 1	Test Type: Protocol: Species: Source:		95/135 (1995) ntrotus purpura f	3108 	Dill	uent: l ne: i	Joe Freas Laboratory Sea Not Applicable	water			
•	11-1840-3425 : 08 Jan-16 08:45 : 05 Jan-15 10:35 5h (8 4 °C)	5	Code: Material: Source: Station:	VCF0116.0 Sample Wa Bioassay R ME-SCR	ter				VCWPD ?015/16-2 (We)			
Parameter Ac	ceptability Crite	rla	_		· <u>-</u>			•					
Parameter			Min	Max /	Acceptability I	Limits	Overlap	Decisio	n				
Salinity-pp1			34	34 3	32 - 36		Yes	Results	Within Limits				
Temperature-	°C		14 8	14.9	1 - 13		Yes .	Results	Above Limit				
Dissolved Ox	cygen-mg/L												
C-%	Control Type	Count	Mean	95% L0	EL 95% UCL	Min	Max	Sld En	r Std Dev	CV%	QA Count		
0	Negative Confro	2	6.4	3.859	8.941	6.2	6.6	0.2	0 2828	4.42%	٥		
6.25		2	6.5	2.688	10.31	62	6.8	03	0 4243	6.53%	0		
125		2	6 35	3.173	9.527	61	6.6	0.25	0.3536	5.57%	О		
25		2	6.7	4,159	9.241	65	69	0.2	0.2828	4.22%	0		
50		2	6.35	3.173	9.527	6.1	66	0.25	0.3636	5.57%	0		
100		2	5.4	3 859	8.941	6.2	66	0.2	0.2828	4.42%	_ 0		
Overall		12	6.45			6.1 —	6.9				0 (0%)		
pH-Units													
C-%	Control Type	Count	Mean	9 <u>5% L</u> C	CL 95% UCL	Min	Max	Std Er	.	cv%	QA Count		
0	Negative Contro	2	7.9	7.884	7.916	7.9	7.9	0	Ð	0.0%	0		
6.25		2	7.85	7.215	8 485	7.8	7.9	0.05	0.07071	0.9%	0		
12.5		2	7.8	7.787	7.813	7.8	7.8	0	Φ	0.0%	0		
25		2	7.7	7.698	7.702	77	7.7	0	0	0.0%	0		
50		2	7.7	7.698	7.702	7.7	7.7	0	0	0.0%	0		
100		2	7.65	7.015	8.285	7.6	77	0.05	0.07071	0.92%	0		
Overáll		12	7.767			7.6	7.9				0 (0%)		
Salinity-ppl													
C-%	Control Type	Count			CL_ 95% UCL		Max	Std Er		CV%	OA Count		
0	Negative Contro	2	34	34	34	34	34	0	0	0.0%	0		
6.25		2	34	34	34	34	34	٥	û o	0.0%	0		
12.5		2	34	34	34	34	34	٥	0	0.0%	0		
25		2	34	34	34	34	34	0	0	0.0%	0		
50		2	34	34	34	34	34	D	0	0.0%	0		
100		2	34	34	34	34	34		0	0.0%	0 (0%)		
Overall		12	34			34	34				0 (070)		
Temperature		_						0.45	SIJ D	must.	QA Coun		
C-%	Control Type	Count					Max	Std Er		0 48%	G G		
	Negative Contro		14 85		15.49	14.8	14 9	0.0500		0 48% 0 48%			
0		2	14.85		15.49 15.49	14.8 14.8	14.9 14.9	0.0500 0.0500		0.48%	0		
6.25			4 1		75.49	14 8	14.9	Q.QDDU	on auton/	LE 943 70	•		
6.25 12.5		2	14.85										
6.2 5 12.5 2 5		2	14.85	14.21	15 49	14.8	14.9	0.0500	0.07077	0.48%	O.		
6.2 5 12.5				14.21 14.21					04 0.07077 04 0.07077				

CETIS Measurement Report

Report Date:

11 Feb-16 12:34 (p.2 of 2)

Test Code:

VCF0116 036urcf | 11-8550-7660

				Tast Class. Ver of the Country 11-8000-1000
Purple Sea	Urchin Spenn Cel	l Fertiliza	ition Test	Aquatic Bloassay & Consulting Labs, Inc.
Dissolved	Охудел-mg/L			
C-%	Control Type	1	2	
0	Negative Contr	6.6	6.2	
6.25		6.6	6.2	
12.5		66	61	
25		6.9	6.5	
50		5.5	6.1	
100		6.6	6.2	
pH-Units				
C-%	Control Type	1	2	
D:	Negative Contr	7.9	7.9	
6 25		7.9	7.8	
12.5		7.8	7.8	
25		7.7	7.7	
50		7.7	7.7	
100		7.7	7.6	
Satinity-pp	r.			
C-%	Control Type	1	2	
0	Negative Contr	34	34	
6.25		34	34	
12.5		34	34	
25		34	34	
50		34	34	
100		34	34	
Temperatu	ıre-°C			
C-%	Control Type	1	2	<u></u>
0	Negative Contr	14.8	14.9	
6.25		14.8	14.9	
12.5		14.8	14.9	
25		14.8	14.9	
50		14.8	14.9	
100		14.8	14.9	



Chain of Custody Record

Ventura County Watershed Protection District

NPDES Stormwater Monitoring Program Project: NPDES Stormwater Wet Season

Toxicity - ABC Laboratories

Sampling Date: Sampling Team:	K.H, C	6 - M				_	Ρισμές	(Numl	ber: <u>20</u>	15/1	16-2 (Wei)	
SAMPLE ID	DATE/TU COLLECT	ME	Chronic toxicity - topsmelt (Atherinops affinis)	Chronic toxicity - inland silverside (Menidia benyilina)	Chronic toxicity · giant kelp (Macrocysus ppiikers)	Chronic toxicity · purple sea urchin (Strongyloventrotus purpuratus)	Chronic toxicity - fathead minnow (Pimephales prometas)	Chronic toxicity - daphnid (Ceriodaphnia dubia)	Chronic toxicity - green alga (Raphidocelis subeapitata)	Number of 5-Gallon Buckets	NOTES	
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Other Notes:	Note 1: Dilution	. 6.25%		′							THE if mortality > 50%	
	Note 3: Notify D									Carro	20070	

Appendix J. Dry-Weather Analytical Monitoring Results

	Site ID	Port Hueneme-3	Unincorporated-4	Camarillo-4	Fillmore-1
		DRY-HUE3	DRY-UNI4	DRY-CAM4	MO-FIL
	At Major Outfall?	No	No	No	Yes
	Location	Bubbling Springs @ RR xing	Arroyo Santa Rosa at Box Canyon confluence	West Tributary Somis Drain	North Fillmore Drain
	Date	08/18/16	08/17/16	08/17/16	08/16/16
	Time	930	1250	1150	1200
	Conveyence Type	Natural channel	Box culvert	Trapezoidal channel	Box culvert
Site Description	Dimensions	N/A	N/A	N/A	N/A
Description	Dominant Land Use	Commercial & residential	Residential & rural	Residential, industrial & commercial	Residential
	Site Elevation	10	250	150	430
	Weather	Clear	Clear	Clear	Clear
Weather	Wind Condtion	Calm	Moderate breeze	Slight breeze	Calm
	Air Temp. (⁰ C)	17.3	26.4	28.5	32.4
Trash	Trash (general area)	Light	None	None	Light
114511	Trash (stream banks)	Light	Light	Light	Light
	Water Clarity	Clear	Clear	Clear	Clear
	Water Color	Clear	Clear	Clear	Clear
	Odors	Other	None	None	None
	Floatables	None	None	None	None
	Foam	None	None	None	None
	Stains/ deposits	None	None	None	None
Observations	Structural condition	Natural channel	Concrete channel	Concrete channel	Rip rap with concrete bottom to natural bottom
	Vegetation Condition	Maintained grass/park	Live herbaceous growth downstream in natural bottom channel	Some grasses	Herbaceous plants
	Biology	Ducks in vicinity	NA	Snails	Aquatic snails
	Algae (suspended)	None	None	None	Green 80%
	Algae (substrate)	None	None	Green 40%	Green 50%
	Dissolved Oxygen (%)	22.0	64.3	234.4	129.8
	Dissolved Oxygen (mg/L)	2.07	5.62	16.24	11.17
	Conductivity (µS)	11410	1405	3482	1421
Water	Specific Conductance (µS)	12280	1487	2966	1496
Chemistry	Salinity (ppt)	7.0	0.7	1.5	0.8
(Field)	Water Temp. (⁰ C)	21.4	22.1	34.2	22.3
, ,	Water Temp. (⁰ F)	70.5	71.8	93.6	72.1
	pH	7.7	8.5	8.55	8.12
	Turbidity (NTU)	7.90	9.30	12.70	0.70
	Total Organic Carbon (mg/L)	7.0	14	50	1.4
	Total Hardness as CaCO ₃ (mg/L)	1,930	578	724	660
	Total Calcium (mg/L)	279	86.7	180	170
Water	Total Magnesium (mg/L)	300	87.8	66.8	57.1
Chemistry	Dissolved Copper (µg/L)	DNQ (0.48)	7.5	6.1	1.1
(Lab)	Dissolved Copper (µg/L)	DNQ (0.053)	DNQ (0.067)	DNQ (0.19)	ND (<0.031)
(200)	Dissolved Zinc (μg/L)	DNQ (0.033)	DNQ (4.2)	DNQ (4.5)	DNQ (1.6)
	Total Coliform (MPN/100 mL)	68,670	>2419600	193,500	3,654
	E. coli (MPN/100 mL)	8,164	24,196	20	309
	Flow Status	Ponded	Flowing	Flowing	Flowing
	Water Width (ft.)	20.0	3.0	8.0	12.0
Estimated	Water Depth (ft.)	1-3	0.01	0.02	0.20
Flow	Flow Velocity (ft/s)	0.00	0.50	0.02	0.20
	* ` '				
	Flow Rate (ft ³ /s)	0.00	< 0.01	< 0.01	0.10
	Comments	Odor: saltwater?			

					Santa Paula-4
		DRY-MPK2	DRY-OJA6	DRY-OXN2	DRY-SPA4
	At Major Outfall?	No	No	No	No
	Location	Gabbert Drain	Tributary to Fox Barranca	Stroube Drain	Richmond Rd Drain
	Date	08/16/16	08/16/16	08/17/16	08/16/16
	Time	1325	930	1030	1120
	Conveyence Type	Box culvert	Natural channel	Natural channel	Epoxy coated metal pipe
Site Description	Dimensions	5' x 12'	N/A	N/A	1'6"
Description	Dominant Land Use	Commercial & residential	Residential	Commercial & residential	Residential
	Site Elevation	460	730	70	240
	Weather	Clear	Clear	Clear	Clear
Weather	Wind Condtion	Slight breeze	Calm	Slight breeze	Calm
	Air Temp. (⁰ C)	30.7	18.1	20.6	28.5
Trash	Trash (general area)	Light	Light	Light	None
114511	Trash (stream banks)	Moderate	Light	Moderate	None
	Water Clarity	Clear	Clear	Clear	Clear
	Water Color	Clear	Clear	Clear	Clear
	Odors	None	None	None	None
	Floatables	None	Other	None	None
	Foam	None	None	2% sparse, thin, white, scum-like	None
	Stains/ deposits	None	None	None	None
Observations	Structural condition	Concrete channel	Engineered channel	Concrete channel to rip rap	Pipe to concreted rip rap
	Vegetation Condition	None	Some vines including blackberry	Dead and alive aquatic plants in natural channel	Some grasses
	Biology	NA	NA	Some BMI	NA
	Algae (suspended)	None	None	None	None
	Algae (substrate)	None	Green 20%	Green 80%	Green 90%
	Dissolved Oxygen (%)	136.6	54.3	112.7	106.0
	Dissolved Oxygen (mg/L)	10.64	5.07	9.89	9.07
	Conductivity (µS)	1096	1318	1356	1251
Water	Specific Conductance (µS)	1039	1512	1430	1376
Chemistry	Salinity (ppt)	0.5	0.8	0.7	0.7
(Field)	Water Temp. (°C)	28.0	18.4	22.2	20.2
()	Water Temp. (°F)	82.4	65.1	72.0	68.4
	pH	10.24	7.47	8.35	7.63
	Turbidity (NTU)	11.30	25.00	5.00	0.70
	Total Organic Carbon (mg/L)	38	4.6	8.3	0.51
	Total Hardness as CaCO ₃ (mg/L)	135	726	488	544
	Total Calcium (mg/L)	50.8	194	129	145
Water	Total Magnesium (mg/L)	1.95	58.7	40.3	44.1
Chemistry	Dissolved Copper (µg/L)	1.95	DNQ (0.36)	3.2	DNQ (0.24)
(Lab)	Dissolved Copper (µg/L) Dissolved Lead (µg/L)	DNQ (0.19)	ND (<0.031)	ND (<0.031)	ND (<0.031)
(Lab)	3.0, 7	1 \ /		` ′	\ /
	Dissolved Zinc (µg/L) Total Coliform (MPN/100 mL)	DNQ (4.9)	DNQ (1.5)	5.2 61,310	DNQ (1.7) 1,616
	Total Coliform (MPN/100 mL) E. coli (MPN/100 mL)	30,760 20	2,247 301	1,529	<10
	Flow Status	Flowing	Flowing	Flowing	Flowing
Estimated	Water Width (ft.)	2.0	4.0	8.0	1.3
Flow	Water Depth (ft.)	0.02	0.15	0.15	0.20
	Flow Velocity (ft/s)	0.20	< 0.01	< 0.01	1.40
	Flow Rate (ft ³ /s)	< 0.01	< 0.01	< 0.01	0.35
	Comments		Floatables: pollen?		

	Site ID	Simi Valley-1	Thousand Oaks-1	Ventura-5
		MO-SIM	MO-THO	DRY-VEN5
	At Major Outfall?	Yes	Yes	No
	Location	Bus Canyon Drain	North Fork Arroyo Conejo at Hill Canyon WWTP	Dent Drain
	Date	08/16/16	08/17/16	08/17/16
	Time	1410	1340	855
	Conveyence Type	Box culvert	Natural channel	Natural channel
Site Description	Dimensions	7' x 16'	N/A	7.5' x 20'(toe) x 35'(top)
Description	Dominant Land Use	Commercial & residential	Commercial, residential & rural	Residential & rural
	Site Elevation	760	280	60
****	Weather	Clear	Clear	Clear
Weather	Wind Condtion	Slight breeze	Slight breeze	Slight breeze
	Air Temp. (⁰ C)	31.3	26.7	17.8
Trash	Trash (general area)	None	None	Light
	Trash (stream banks)	Moderate	None	Light
	Water Clarity Water Color	Clear Clear	Clear	Clear Clear
	Odors	None	Clear None	None Clear
	Floatables	None	None	None
	Foam	None	None	None
	Stains/ deposits	None	None	None
Observations	Structural condition	Concrete channel	Rip-rap with natural	Flap gate RCP to natural
	Vegetation Condition	None	Cattails, willows, grasses	Abundant aquatic plants, some duckweed.
	Biology	NA	NA	Frog
	Algae (suspended)	None	Green 10%	None
	Algae (substrate)	Green 80%	Green 40%	None
	Dissolved Oxygen (%)	156.1	132.5	1.8
	Dissolved Oxygen (mg/L)	12.49	11.09	0.15
	Conductivity (µS)	2701	1995	769
Water	Specific Conductance (µS)	2638	2034	873
Chemistry	Salinity (ppt)	1.4	1.0	0.4
(Field)	Water Temp. (°C)	26.2	24.0	18.7
	Water Temp. (°F)	79.2	75.2	65.7
	pН	8.1	8.3	6.76
	Turbidity (NTU)	2.30	1.20	28.20
	Total Organic Carbon (mg/L)	2.3	2.9	11
	Total Hardness as CaCO ₃ (mg/L)	1,020	720	352
	Total Calcium (mg/L)	254	96.5	87.5
Water	Total Magnesium (mg/L)	94.1	116	32.5
Chemistry	Dissolved Copper (µg/L)	0.62	0.61	0.54
(Lab)	Dissolved Lead (µg/L)	ND (<0.031)	DNQ (0.041)	DNQ (0.044)
	Dissolved Zinc (µg/L)	DNQ (1.3)	DNQ (1.0)	DNQ (4.0)
	Total Coliform (MPN/100 mL)	54,750	48,840	11,199
	E. coli (MPN/100 mL)	75	228	408
	Flow Status	Flowing	Flowing	Ponded
Estimated	Water Width (ft.)	4.0	6.0	12.0
Flow	Water Depth (ft.)	0.05	0.15	1-2
1100	Flow Velocity (ft/s)	1.00	<0.2	0.00
	Flow Rate (ft ³ /s)	0.20	0.20	0.00
	Comments		Sampled at first upstream bridge to avoid backflow from WWTP outfall	Ventura drains very dry. Collected from pond below flapgate

Appendix K. Formulas for WQO determination

BASIN PLAN and CALIFORNIA TOXICS RULE OBJECTIVES: FORMULAS

AMMONIA (BASIN PLAN)

Basin Plan Ammonia Objective formula selection is based on wet or dry event, COLD/MIGR designation status, early life stages (ELS) status, and salinity.

See the flow charts below to determine which formula to use:

Basin Plan NH3-N Objectives for Wet Weather

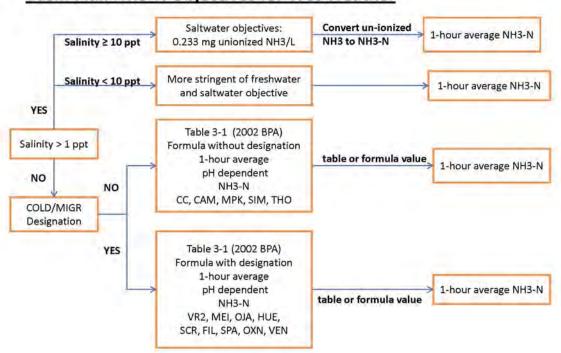


Table 3-1: One hour Average Objective for Ammonia-N for Freshwaters (mg N/L)

COLD and/or MIGR:

$$= \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

NOT COLD and/or MIGR:

$$= \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

Saltwater 1-hour objective for Ammonia-N

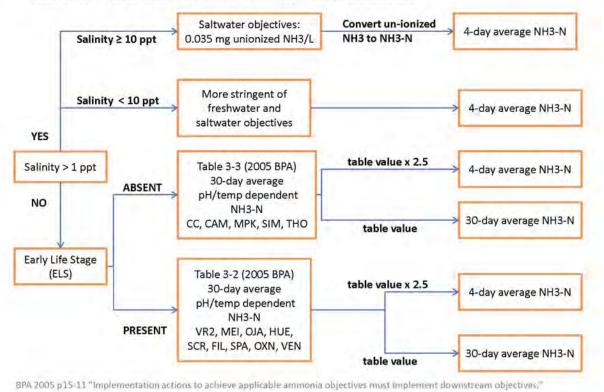
$$=0.233*(1+10^{\left[\left(9.245+0.116*\frac{19.9273*S}{1000-1.005109*S}\right)+0.0324(298-T)+\frac{(0.0415)P}{T}-pH\right]})$$

Where T= temperature expressed in $^{\circ}$ K (Note: Kelvin = Celsius + 273)

S = salinity (ppt)

P = pressure (assumed to be 1 atm)

Basin Plan NH3-N Objectives for Dry Weather



NH3-N = NH3 x 0.822 4 day average objective = 2,5 x 30-day average objective

<u>Table 3-2: 30-Day Average Objective for Ammonia-N for Freshwaters Applicable to</u> Waters Subject to the "Early Life Stage Present" Condition (mg N/L)

$$= \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}}\right) * MIN(2.85, 1.45 * 10^{0.028 * (25 - T)})$$

Where T= temperature expressed in °C.

Highest four-day average within the 30-day period shall not exceed 2.5 times the 30-day average objective as calculated above.

<u>Table 3-3: 30-Day Average Objective for Ammonia-N for Freshwaters Applicable to Waters Subject to the "Early Life Stage Absent" Condition (mg N/L)</u>

$$= \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+\ 10^{pH-7.688}}\right) * 1.45*10^{0.028*(25-MAX(T,7))}$$

Where T= temperature expressed in °C.

Highest four-day average within the 30-day period shall not exceed 2.5 times the 30-day average objective as calculated above.

Saltwater 4-day objective for Ammonia-N

$$=0.035*(1+10^{\left[\left(9.245+0.116*\frac{19.9273*S}{1000-1.005109*S}\right)+0.0324(298-T)+\frac{(0.0415)P}{T}-pH\right]})$$

Where T= temperature expressed in $^{\circ}$ K (Note: Kelvin = Celsius + 273)

S = salinity (ppt)

P = pressure (assumed to be 1 atm)

PENTACHLOROPHENOL (CTR)

$$CMC = \exp(1.005(pH) - 4.869)$$

 $CCC = \exp(1.005(pH) - 5.134)$

METALS (CTR)

[cadmium, chromium, copper, lead, nickel, silver, zinc]

$$CMC = WER * (Acute Conversion Factor) * (exp{m_A[1n(hardness)] + b_A})$$

 $CCC = WER * (Chronic Conversion Factor) * (exp{m_C[1n(hardness)] + b_C})$

Note1: CCC formula contains error in CTR (says "Acute" not "Chronic" for Conversion Factor). Note2: see note to Table 2 of Paragraph (b)(2) in the CTR, "The term conversion factor represents the recommended conversion factor for converting a metal criterion expressed as the total recoverable fraction in the water column to a criterion expressed as the dissolved fraction in the water column." Note3: Conversion factors (CF) are provided as values in a table for chromium, copper, nickel, silver, and zinc. CF for cadmium and lead are calculated based on hardness, i.e.

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Cadmium Acute CF = 1.136672 - [(\ln\{hardness\}) (0.041838)]

Cadmium Chronic CF = 1.101672 - [(\ln\{hardness\}) (0.041838)]

Lead Acute and Chronic CF = 1.46203 - [(\ln\{hardness\}) (0.145712)]
```

Note4: Only two WER in Ventura County and no stations discharge within the applicable reaches - Lower Calleguas Creek (Reach 2 which is Portrero Rd south to Mugu Lagoon) has a WER for copper of 3.69 and Mugu Lagoon copper WER is 1.51.