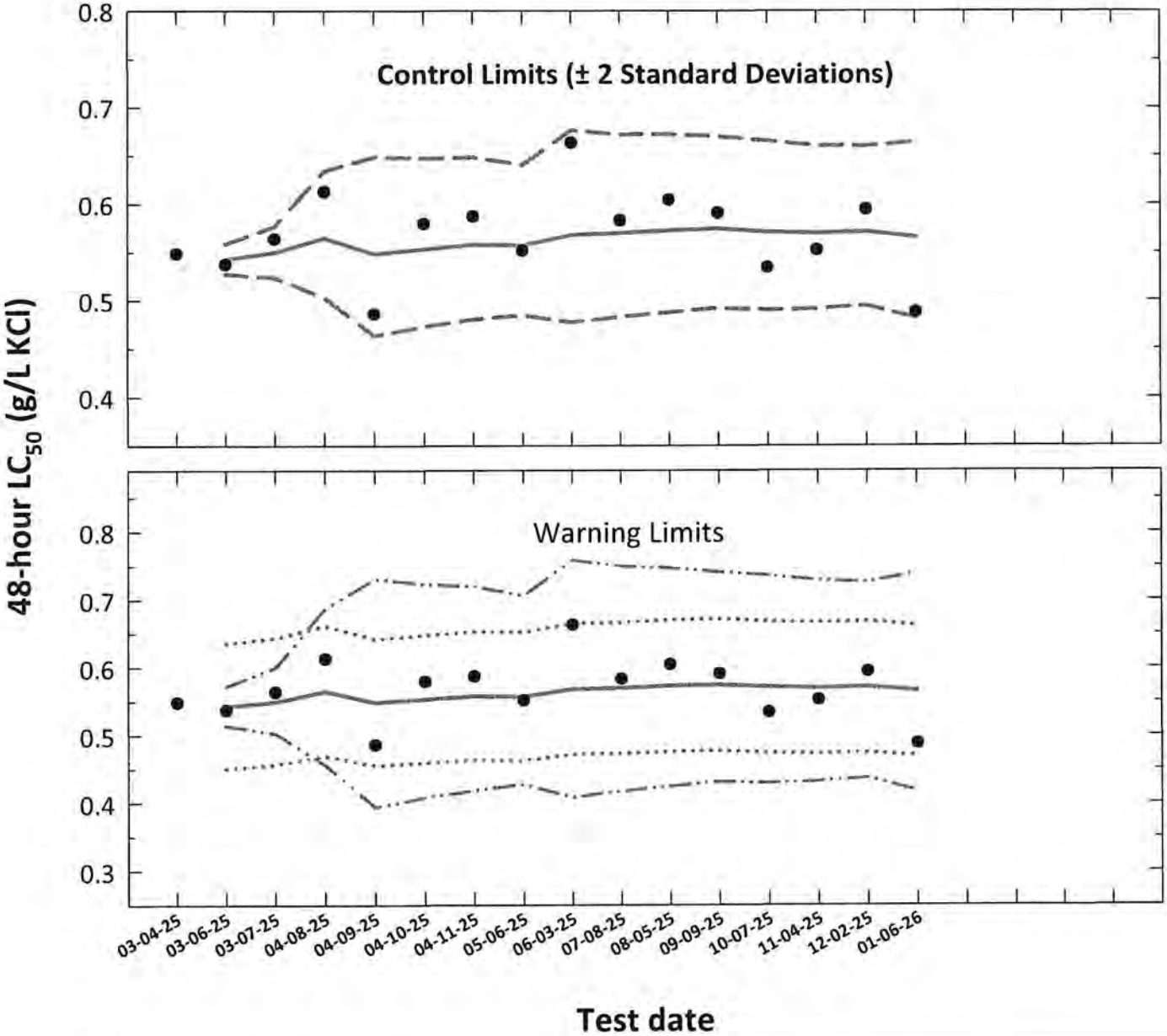
Americamysis (Mysidopsis) bahia
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- ● **48-hour LC_{50}** = median lethal concentration. An estimation of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic LC_{50} converted to anti-logarithmic values)
- – – – **Control Limits** (mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic LC_{50} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic $LC_{50} \pm S_{A.10}$ converted to anti-logarithmic values, $S_{A.10}$ = 10th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	48-hour LC_{50} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			48-hour LC_{50}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		10th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.10}$	CT + $S_{A.10}$
1	03-04-25	0.5485	-0.2608									
2	03-06-25	0.5374	-0.2697	-0.2652	0.0063	0.5430	0.5275	0.5588	0.5145	0.5722	0.4506	0.6353
3	03-07-25	0.5640	-0.2487	-0.2597	0.0105	0.5499	0.5239	0.5772	0.5026	0.5995	0.4564	0.6434
4	04-08-25	0.6129	-0.2126	-0.2480	0.0251	0.5650	0.5034	0.6342	0.4559	0.6874	0.4689	0.6610
5	04-09-25	0.4860	-0.3134	-0.2610	0.0364	0.5482	0.4635	0.6484	0.3937	0.7310	0.4550	0.6414
6	04-10-25	0.5796	-0.2369	-0.2570	0.0341	0.5533	0.4730	0.6473	0.4082	0.7231	0.4593	0.6474
7	04-11-25	0.5872	-0.2312	-0.2533	0.0326	0.5581	0.4803	0.6484	0.4187	0.7200	0.4632	0.6529
8	05-06-25	0.5517	-0.2583	-0.2539	0.0302	0.5573	0.4849	0.6405	0.4273	0.7066	0.4625	0.6520
9	06-03-25	0.6631	-0.1784	-0.2455	0.0379	0.5681	0.4772	0.6763	0.4082	0.7586	0.4716	0.6647
10	07-08-25	0.5828	-0.2345	-0.2444	0.0359	0.5696	0.4829	0.6719	0.4174	0.7492	0.4728	0.6664
11	08-05-25	0.6040	-0.2189	-0.2421	0.0349	0.5726	0.4877	0.6724	0.4242	0.7469	0.4753	0.6700
12	09-09-25	0.5904	-0.2289	-0.2410	0.0335	0.5741	0.4921	0.6698	0.4312	0.7408	0.4765	0.6717
13	10-07-25	0.5341	-0.2724	-0.2434	0.0332	0.5709	0.4899	0.6653	0.4291	0.7362	0.4739	0.6680
14	11-04-25	0.5523	-0.2578	-0.2445	0.0321	0.5696	0.4912	0.6604	0.4320	0.7291	0.4727	0.6664
15	12-02-25	0.5941	-0.2261	-0.2432	0.0313	0.5712	0.4944	0.6598	0.4368	0.7264	0.4741	0.6683
16	01-06-26	0.4877	-0.3118	-0.2475	0.0348	0.5656	0.4818	0.6638	0.4175	0.7393	0.4694	0.6617
17												
18												
19												
20												

Note: **48-hour LC_{50}** = 48-hour median lethal concentration. An estimate of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).

CT = Central tendency of the LC_{50} values.

S = Standard deviation of the LC_{50} values.

Control Limits = Mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic LC_{50} ± 2CV or $S_{A.10}$ converted to anti-logarithmic values.

$S_{A.10}$ = Standard deviation corresponding to the 10^{th} percentile of CVs reported nationally by USEPA. ($S_{A.10}$ = 0.17)

CV = Coefficient of variation.

Reviewed and Approved by Jim Summer

ETS

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKClAC # 17

Dilution Preparation:

Test concentrations (mg/L KCl)	150	300	450	600	750
mL Stock solution	3.0	6.0	9.0	12	15
mL Dilution water	997	994	991	988	985
Total volume (mL)	1000	1000	1000	1000	1000

A stock solution was prepared by diluting 100 g KCl into 2000 mL deionized water. This 50,000 mg/L KCl stock solution was used to prepare the concentrations evaluated for toxicity.

Stock solution INSS #: 2447

Chemical Analyses:

		Hours		
		0	24	48
Concentration	Analyst	XL	XL	XL
Control, SaltSW	pH (S.U.)	8.23	8.04	8.00
	Dissolved oxygen (mg/L)	8.4	8.1	7.9
	*Salinity (ppt)	25.0	25.5	26.2
	*Alkalinity (mg/L $CaCO_3$)	150		
	*Temperature (°C)	24.9	25.2	25.1
150 mg/L	pH (S.U.)	8.16	8.04	7.99
	Dissolved oxygen (mg/L)	8.4	8.1	7.9
	*Salinity (ppt)	25.2	25.6	25.8
	*Temperature (°C)	25.1	25.0	25.0
300 mg/L	pH (S.U.)	8.17	8.08	8.03
	Dissolved oxygen (mg/L)	8.4	8.1	8.0
	*Salinity (ppt)	25.4	25.7	26.2
	*Temperature (°C)	25.3	25.0	25.0
450 mg/L	pH (S.U.)	8.17	8.08	8.00
	Dissolved oxygen (mg/L)	8.4	8.0	7.9
	*Salinity (ppt)	25.4	25.7	26.3
	*Temperature (°C)	25.0	25.2	25.0
600 mg/L	pH (S.U.)	8.18	8.08	7.99
	Dissolved oxygen (mg/L)	8.4	8.0	7.9
	*Salinity (ppt)	25.5	25.9	26.2
	*Temperature (°C)	24.5	25.2	25.4
750 mg/L	pH (S.U.)	8.18	8.07	
	Dissolved oxygen (mg/L)	8.4	8.0	
	*Salinity (ppt)	25.7	26.2	
	*Temperature (°C)	25.1	25.4	

*Analyst identified for each day, performed pH and dissolved oxygen measurements only. Temperature and salinity performed at the time of test initiation or termination by the analyst performing the toxicity test. Alkalinity performed by the analyst identified on the test specific bench sheet and transcribed to this bench sheet.

Chemical analyses:

Parameter	Reporting limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved oxygen	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN25010005030
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1°C	SM 2550B-2010	Digital Thermometer	170664705

ETC

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKClAC # 17

Hours	Date	Feeding		Test Initiation or Termination		Location	Randomizing	SaltSW Batch
		Time	Analyst	Time	Analyst	Incubator/Shelf	Template	
0 Initiation	01-06-26	* 1045	JP	1328	JP	6C	Yellow	01-05-26A
24	01-07-26			1340	JP			
48 Termination	01-08-26			1340	JP			

*Test organisms were fed in holding 2 to 5 hours prior to test initiation. Test organisms were not fed during the test.

Test Organism Information:

Organism Source:	Aquatic Indicators, Inc.
Batch (AI Batch Ab):	01-05-26
Age (1 to 5 days old):	1-2 DAYS
Date organisms were born:	01-04-26 1200 TO 01-05-26 1130
Average transfer volume:	< 0.25 mL
Transfer bowl information:	pH (S.U.): 8.06
	Temperature (°C) 24.3°C

Survival Data **(number of living organisms):**

Hours	Control		150 mg/L		300 mg/L		450 mg/L		600 mg/L		750 mg/L	
	Replicate		Replicate		Replicate		Replicate		Replicate		Replicate	
	A	B	C	D	E	F	G	H	I	J	K	L
0 Initiation	10	10	10	10	10	10	10	10	10	10 @01-08-26	10	10
24	10	10	10	10	10	10	7 3d	6 4d	2 3d 3 7d	2 8d	0 10d	0 12d
48 Termination	10	10	10	10	10	10	7	6	3	0 2d	0	0
Mean Survival	100%		100%		100		65%		15%		0%	

Comment codes: d = dead, u = unhealthy, s = stressed

METHOD: PROBIT
LCL 444.2 g/L
UCL 526.9 g/L
48-hr LC_{50} = 487.7 g/L

Statistical Analyses

Acute Mysid Test-24 Hr Survival

Start Date:	1/6/2026	Test ID:	AbKCIAC	Sample ID:	REF-Ref Toxicant
End Date:	1/8/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	1.0000	1.0000
300	1.0000	1.0000
450	0.7000	0.6000
600	0.3000	0.2000
750	0.0000	0.0000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.1411	0	20
300	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.1411	0	20
*450	0.6500	0.6500	0.9386	0.8861	0.9912	7.916	2	9.565	2.850	0.1411	7	20
*600	0.2500	0.2500	0.5216	0.4636	0.5796	15.723	2	17.990	2.850	0.1411	15	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

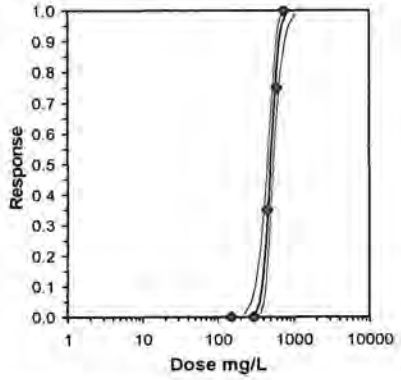
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	300	450	367.423		0.06224	0.06384	0.32245	0.00245	3.0E-05	4, 5
Treatments vs D-Control										

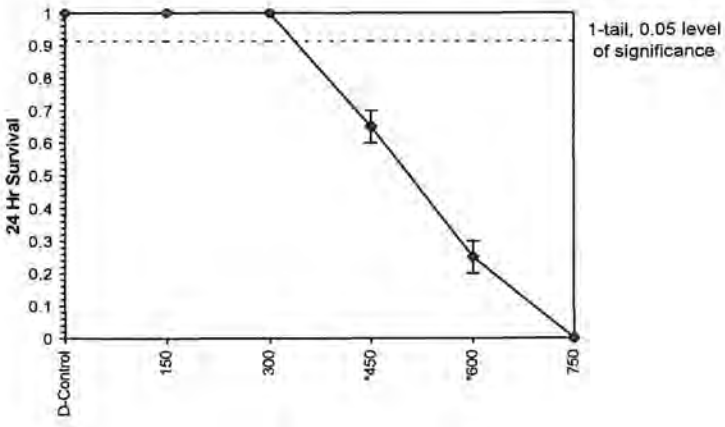
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	11.4135	2.23672	7.02952	15.7975	0	1.39893	7.81472	0.70579	2.69892	0.08762	5
Intercept	-25.804	6.08275	-37.726	-13.882							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	312.676	223.495	366.242
EC05	3.355	358.76	277.949	406.592
EC10	3.718	386.043	311.722	430.562
EC15	3.964	405.613	336.441	448.002
EC20	4.158	421.871	357.159	462.778
EC25	4.326	436.338	375.626	476.249
EC40	4.747	475.031	424.237	514.696
EC50	5.000	499.941	453.965	542.269
EC60	5.253	526.158	483.062	574.528
EC75	5.674	572.816	528.708	640.72
EC80	5.842	592.459	545.942	671.572
EC85	6.036	616.207	565.637	710.799
EC90	6.282	647.445	590.127	765.113
EC95	6.645	696.681	626.504	855.908
EC99	7.326	799.362	697.21	1061.88



Dose-Response Plot



Statistical Analyses

Acute Mysid Test-48 Hr Survival

Start Date:	1/6/2026	Test ID:	AbKClAC	Sample ID:	REF-Ref Toxicant
End Date:	1/8/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	1.0000	1.0000
300	1.0000	1.0000
450	0.7000	0.6000
600	0.3000	0.0000
750	0.0000	0.0000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.3909	0	20
300	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.3909	0	20
*450	0.6500	0.6500	0.9386	0.8861	0.9912	7.916	2	3.451	2.850	0.3909	7	20
*600	0.1500	0.1500	0.3692	0.1588	0.5796	80.603	2	7.602	2.850	0.3909	17	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

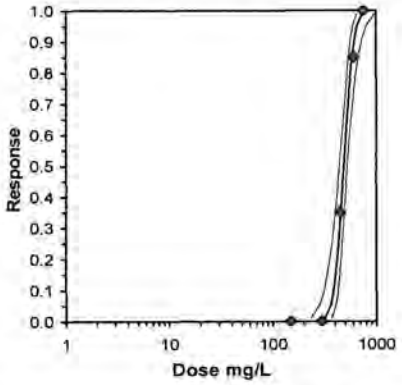
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	300	450	367.423		0.24796	0.25431	0.42589	0.01882	0.00211	4, 5
Treatments vs D-Control										

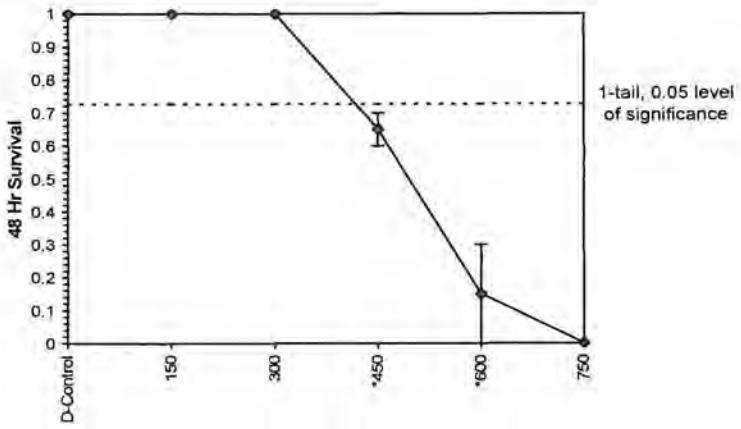
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	12.9297	2.69568	7.64619	18.2133	0	0.41819	7.81472	0.93646	2.68819	0.07734	4
Intercept	-29.758	7.2973	-44.06	-15.455							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	322.305	231.883	373.301
EC05	3.355	363.894	283.313	408.891
EC10	3.718	388.216	314.778	429.865
EC15	3.964	405.537	337.621	445.064
EC20	4.158	419.854	356.652	457.911
EC25	4.326	432.538	373.53	469.607
EC40	4.747	466.225	417.58	502.947
EC50	5.000	487.742	444.225	526.869
EC60	5.253	510.251	470.043	554.897
EC75	5.674	549.991	509.881	612.466
EC80	5.842	566.607	524.691	639.267
EC85	6.036	586.609	541.465	673.271
EC90	6.282	612.783	562.124	720.184
EC95	6.645	653.739	592.466	798.13
EC99	7.326	738.095	650.526	972.789



Dose-Response Plot



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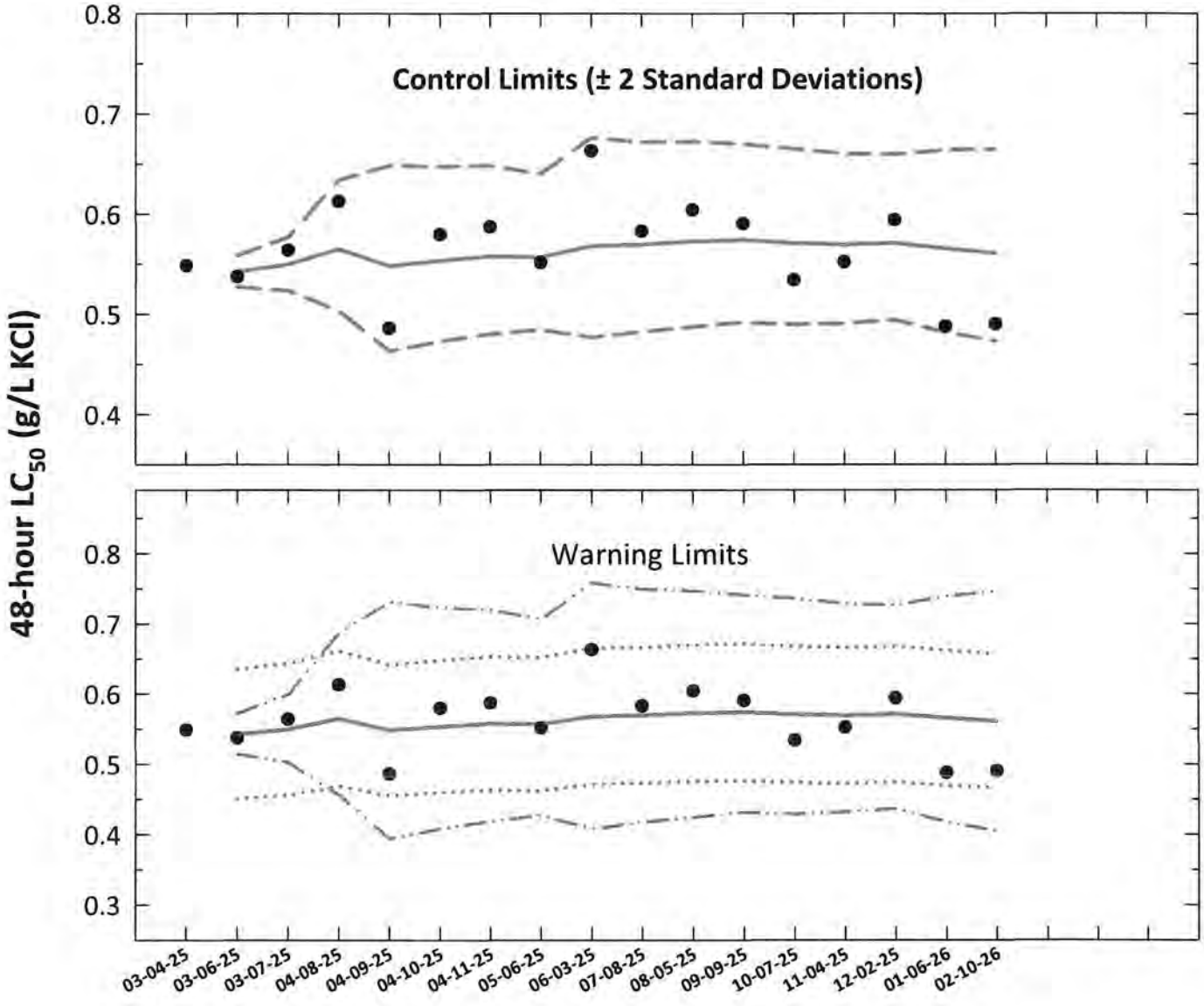

- ● **48-hour LC_{50}** = median lethal concentration. An estimation of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic LC_{50} converted to anti-logarithmic values)
- – – – **Control Limits** (mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic LC_{50} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic $LC_{50} \pm S_{A.10}$ converted to anti-logarithmic values, $S_{A.10}$ = 10th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

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Environmental Testing Solutions, Inc.

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Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	48-hour LC_{50} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			48-hour LC_{50}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		10th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.10}$	CT + $S_{A.10}$
1	03-04-25	0.5485	-0.2608									
2	03-06-25	0.5374	-0.2697	-0.2652	0.0063	0.5430	0.5275	0.5588	0.5145	0.5722	0.4506	0.6353
3	03-07-25	0.5640	-0.2487	-0.2597	0.0105	0.5499	0.5239	0.5772	0.5026	0.5995	0.4564	0.6434
4	04-08-25	0.6129	-0.2126	-0.2480	0.0251	0.5650	0.5034	0.6342	0.4559	0.6874	0.4689	0.6610
5	04-09-25	0.4860	-0.3134	-0.2610	0.0364	0.5482	0.4635	0.6484	0.3937	0.7310	0.4550	0.6414
6	04-10-25	0.5796	-0.2369	-0.2570	0.0341	0.5533	0.4730	0.6473	0.4082	0.7231	0.4593	0.6474
7	04-11-25	0.5872	-0.2312	-0.2533	0.0326	0.5581	0.4803	0.6484	0.4187	0.7200	0.4632	0.6529
8	05-06-25	0.5517	-0.2583	-0.2539	0.0302	0.5573	0.4849	0.6405	0.4273	0.7066	0.4625	0.6520
9	06-03-25	0.6631	-0.1784	-0.2455	0.0379	0.5681	0.4772	0.6763	0.4082	0.7586	0.4716	0.6647
10	07-08-25	0.5828	-0.2345	-0.2444	0.0359	0.5696	0.4829	0.6719	0.4174	0.7492	0.4728	0.6664
11	08-05-25	0.6040	-0.2189	-0.2421	0.0349	0.5726	0.4877	0.6724	0.4242	0.7469	0.4753	0.6700
12	09-09-25	0.5904	-0.2289	-0.2410	0.0335	0.5741	0.4921	0.6698	0.4312	0.7408	0.4765	0.6717
13	10-07-25	0.5341	-0.2724	-0.2434	0.0332	0.5709	0.4899	0.6653	0.4291	0.7362	0.4739	0.6680
14	11-04-25	0.5523	-0.2578	-0.2445	0.0321	0.5696	0.4912	0.6604	0.4320	0.7291	0.4727	0.6664
15	12-02-25	0.5941	-0.2261	-0.2432	0.0313	0.5712	0.4944	0.6598	0.4368	0.7264	0.4741	0.6683
16	01-06-26	0.4877	-0.3118	-0.2475	0.0348	0.5656	0.4818	0.6638	0.4175	0.7393	0.4694	0.6617
17	02-10-26	0.4901	-0.3098	-0.2512	0.0369	0.5608	0.4732	0.6647	0.4045	0.7461	0.4655	0.6562
18												
19												
20												

Note: **48-hour LC_{50}** = 48-hour median lethal concentration. An estimate of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).

CT = Central tendency of the LC_{50} values.

S = Standard deviation of the LC_{50} values.

Control Limits = Mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic LC_{50} ± 2CV or $S_{A.10}$ converted to anti-logarithmic values.

$S_{A.10}$ = Standard deviation corresponding to the 10th percentile of CVs reported nationally by USEPA. ($S_{A.10}$ = 0.17).

CV = Coefficient of variation.

Entered and Reviewed by Jon Sumner

ETC

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKCIAC # 18

Dilution Preparation:

Test concentrations (mg/L KCl)	150	300	450	600	750
mL Stock solution	3.0	6.0	9.0	12	15
mL Dilution water	997	994	991	988	985
Total volume (mL)	1000	1000	1000	1000	1000

A stock solution was prepared by diluting 100 g KCl into 2000 mL deionized water. This 50,000 mg/L KCl stock solution was used to prepare the concentrations evaluated for toxicity.

Stock solution INSS #: 2447

Chemical Analyses:

		Hours		
		0	24	48
Concentration	Analyst	XL	XL	XL
Control, SaltSW	pH (S.U.)	8.13	8.07	8.05
	Dissolved oxygen (mg/L)	8.5	8.0	8.0
	*Salinity (ppt)	25.0	25.1	25.5
	*Alkalinity (mg/L $CaCO_3$)	150		
	*Temperature (°C)	24.3	25.1	25.3
150 mg/L	pH (S.U.)	8.09	8.07	8.05
	Dissolved oxygen (mg/L)	8.6	8.0	8.0
	*Salinity (ppt)	25.2	25.1	25.8
	*Temperature (°C)	24.4	25.3	25.0
300 mg/L	pH (S.U.)	8.09	8.06	8.04
	Dissolved oxygen (mg/L)	8.6	8.0	8.1
	*Salinity (ppt)	25.1	25.4	26.0
	*Temperature (°C)	24.5	24.9	25.3
450 mg/L	pH (S.U.)	8.10	8.07	8.05
	Dissolved oxygen (mg/L)	8.5	8.0	8.1
	*Salinity (ppt)	25.2	25.4	25.7
	*Temperature (°C)	24.6	25.2	25.2
600 mg/L	pH (S.U.)	8.09	8.07	8.05
	Dissolved oxygen (mg/L)	8.5	8.0	8.1
	*Salinity (ppt)	25.3	25.5	25.9
	*Temperature (°C)	24.8	25.2	25.2
750 mg/L	pH (S.U.)	8.09	8.06	
	Dissolved oxygen (mg/L)	8.4	7.9	
	*Salinity (ppt)	25.3	25.6	
	*Temperature (°C)	24.9	25.0	

*Analyst identified for each day, performed pH and dissolved oxygen measurements only. Temperature and salinity performed at the time of test initiation or termination by the analyst performing the toxicity test. Alkalinity performed by the analyst identified on the test specific bench sheet and transcribed to this bench sheet.

Chemical analyses:

Parameter	Reporting limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved oxygen	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN25010005030C
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1°C	SM 2550B-2010	Digital Thermometer	13066405

02-1126

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKClAC # 18

Hours	Date	Feeding		Test Initiation or Termination		Location	Randomizing	SaltSW Batch
		Time	Analyst	Time	Analyst	Incubator/Shelf	Template	
0 Initiation	02.10.26	* 1200	H	1425	JP	1D +B	~~WHITE ORANGE~~ 02.10.26	02.04.26A
24	02.11.26			1436	JP			
48 Termination	02.12.26			1437	JP			

*Test organisms were fed in holding 2 to 5 hours prior to test initiation. Test organisms were not fed during the test.

Test Organism Information:

Organism Source:	Aquatic Indicators, Inc.
Batch (AI Batch Ab):	02.09.26
Age (1 to 5 days old):	1-2 DAYS
Date organisms were born:	02.08.26 1700 TO 02.09.26 1130
Average transfer volume:	< 0.25 mL
Transfer bowl information:	pH (S.U.): 8.08
	Temperature (°C) 24.7°C

Survival Data (number of living organisms):

Hours	Control		150 mg/L		300 mg/L		450 mg/L		600 mg/L		750 mg/L	
	Replicate		Replicate		Replicate		Replicate		Replicate		Replicate	
	A	B	C	D	E	F	G	H	I	J	K	L
0 Initiation	10	10	10 2 MISSING	10	10	10	10	10	10	10	10	10
24	10	10	9	10	10	10	8 d2	10	1 d2	1 d2	0 d2	0 d2
48 Termination	10	10	9	10	10	10	8	8 d2	0 d2	1	0	0
Mean Survival	100%		95% ~~100%~~ 02.13.26		100%		80%		5%		0%	

Comment codes: d = dead, u = unhealthy, s = stressed

Statistics:

Method	~~Probit~~ TSK
Lower 95% confidence limit (mg KCl/L)	464.6 456.5
Upper 95% confidence limit (mg KCl/L)	531.0 526.1
48-hour LC_{50} (mg KCl/L)	~~496.0~~ (490.1) 02.13.26

Comments:

Test Reviewed by:

Statistical Analyses

Acute Mysid Test-24 Hr Survival

Start Date:	2/10/2026	Test ID:	AbKClAC	Sample ID:	REF-Ref Toxicant
End Date:	2/12/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	0.9000	1.0000
300	1.0000	1.0000
450	0.8000	1.0000
600	0.1000	0.1000
750	0.0000	0.0000

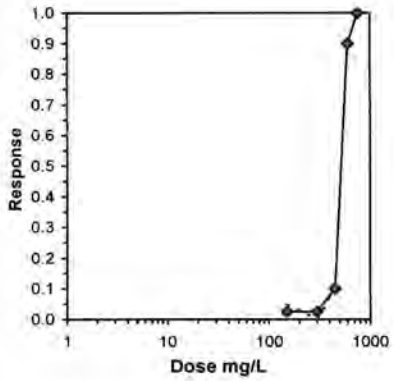
			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	0.745	2.850	0.3116	1	20
300	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.3116	0	20
450	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	1.394	2.850	0.3116	2	20
*600	0.1000	0.1000	0.3218	0.3218	0.3218	0.000	2	9.973	2.850	0.3116	18	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

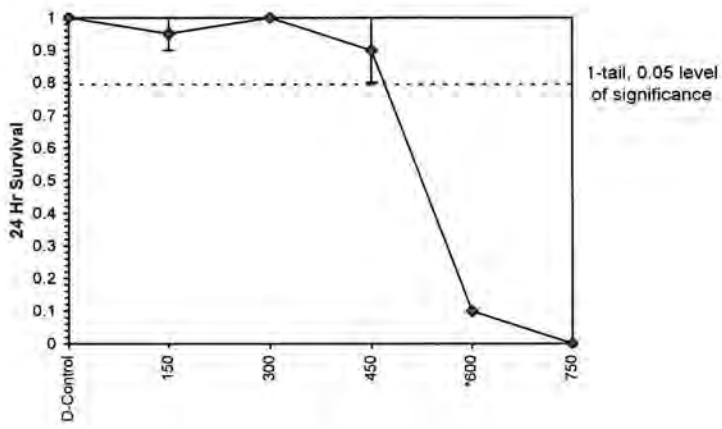
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	450	600	519.615		0.18038	0.185	0.43393	0.01195	6.9E-04	4, 5
Treatments vs D-Control										

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%			
5.0%	517.33	487.48	549.01
10.0%	519.62	502.19	537.65
20.0%	519.62	502.19	537.65
Auto-2.5%	514.75	483.79	547.70



Dose-Response Plot



Statistical Analyses

Acute Mysid Test-48 Hr Survival

Start Date:	2/10/2026	Test ID:	AbKClAC	Sample ID:	REF-Ref Toxicant
End Date:	2/12/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	0.9000	1.0000
300	1.0000	1.0000
450	0.8000	0.8000
600	0.0000	0.1000
750	0.0000	0.0000

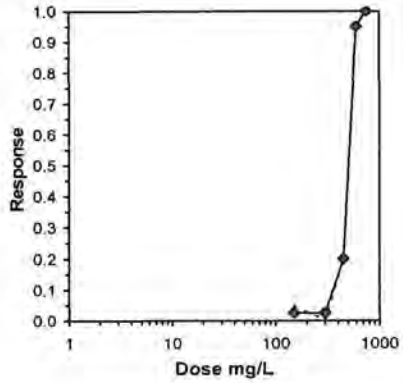
			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1.118	2.850	0.2077	1	20
300	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.2077	0	20
*450	0.8000	0.8000	1.1071	1.1071	1.1071	0.000	2	4.183	2.850	0.2077	4	20
*600	0.0500	0.0500	0.2403	0.1588	0.3218	47.963	2	16.077	2.850	0.2077	19	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

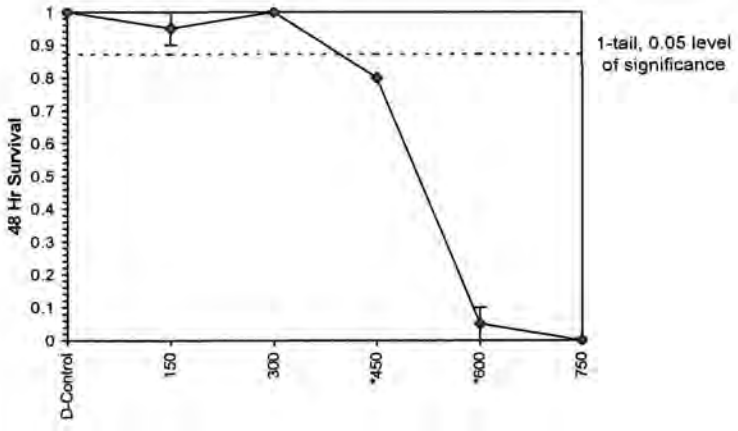
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	300	450	367.423		0.10341	0.10606	0.49352	0.00531	7.0E-05	4, 5
Treatments vs D-Control										

Trimmed Spearman-Karber

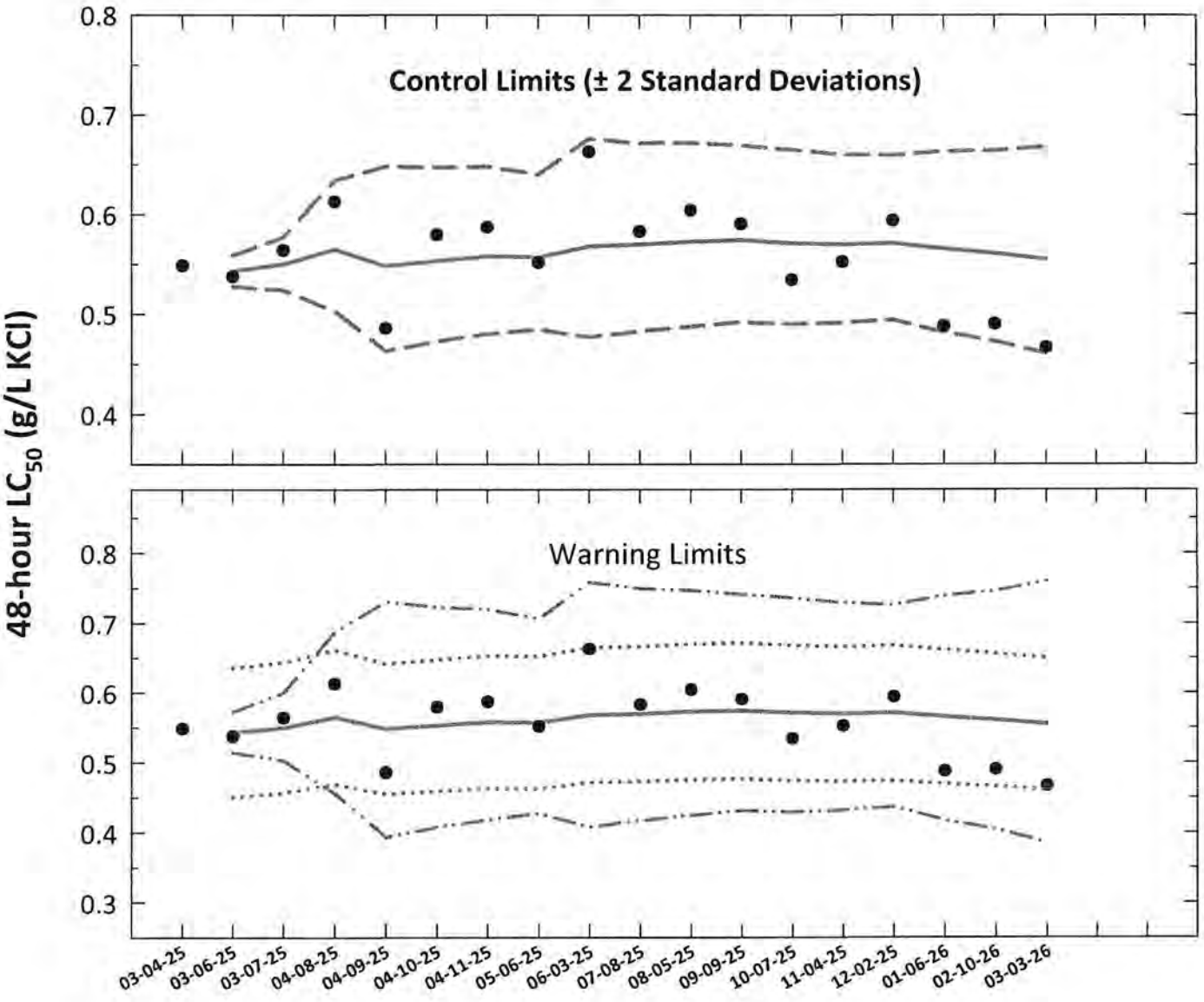
Trim Level	EC50	95% CL	
0.0%			
5.0%	492.82	458.43	529.81
10.0%	498.82	457.15	544.28
20.0%	504.88	483.24	527.49
Auto-2.5%	490.05	456.51	526.05



Dose-Response Plot



Americamysis (Mysidopsis) bahia
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- ● **48-hour LC_{50}** = median lethal concentration. An estimation of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic LC_{50} converted to anti-logarithmic values)
- — — — **Control Limits** (mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic LC_{50} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic LC_{50} ± $S_{A.10}$ converted to anti-logarithmic values, $S_{A.10}$ = 10th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	48-hour LC_{50} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			48-hour LC_{50}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		10th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.10}$	CT + $S_{A.10}$
1	**03-04-25**	**0.5485**	-0.2608									
2	**03-06-25**	**0.5374**	-0.2697	-0.2652	0.0063	0.5430	0.5275	0.5588	0.5145	0.5722	0.4506	0.6353
3	**03-07-25**	**0.5640**	-0.2487	-0.2597	0.0105	0.5499	0.5239	0.5772	0.5026	0.5995	0.4564	0.6434
4	**04-08-25**	**0.6129**	-0.2126	-0.2480	0.0251	0.5650	0.5034	0.6342	0.4559	0.6874	0.4689	0.6610
5	**04-09-25**	**0.4860**	-0.3134	-0.2610	0.0364	0.5482	0.4635	0.6484	0.3937	0.7310	0.4550	0.6414
6	**04-10-25**	**0.5796**	-0.2369	-0.2570	0.0341	0.5533	0.4730	0.6473	0.4082	0.7231	0.4593	0.6474
7	**04-11-25**	**0.5872**	-0.2312	-0.2533	0.0326	0.5581	0.4803	0.6484	0.4187	0.7200	0.4632	0.6529
8	**05-06-25**	**0.5517**	-0.2583	-0.2539	0.0302	0.5573	0.4849	0.6405	0.4273	0.7066	0.4625	0.6520
9	**06-03-25**	**0.6631**	-0.1784	-0.2455	0.0379	0.5681	0.4772	0.6763	0.4082	0.7586	0.4716	0.6647
10	**07-08-25**	**0.5828**	-0.2345	-0.2444	0.0359	0.5696	0.4829	0.6719	0.4174	0.7492	0.4728	0.6664
11	**08-05-25**	**0.6040**	-0.2189	-0.2421	0.0349	0.5726	0.4877	0.6724	0.4242	0.7469	0.4753	0.6700
12	**09-09-25**	**0.5904**	-0.2289	-0.2410	0.0335	0.5741	0.4921	0.6698	0.4312	0.7408	0.4765	0.6717
13	**10-07-25**	**0.5341**	-0.2724	-0.2434	0.0332	0.5709	0.4899	0.6653	0.4291	0.7362	0.4739	0.6680
14	**11-04-25**	**0.5523**	-0.2578	-0.2445	0.0321	0.5696	0.4912	0.6604	0.4320	0.7291	0.4727	0.6664
15	**12-02-25**	**0.5941**	-0.2261	-0.2432	0.0313	0.5712	0.4944	0.6598	0.4368	0.7264	0.4741	0.6683
16	**01-06-26**	**0.4877**	-0.3118	-0.2475	0.0348	0.5656	0.4818	0.6638	0.4175	0.7393	0.4694	0.6617
17	**02-10-26**	**0.4901**	-0.3098	-0.2512	0.0369	0.5608	0.4732	0.6647	0.4045	0.7461	0.4655	0.6562
18	**03-03-26**	**0.4667**	-0.3310	-0.2556	0.0404	0.5551	0.4608	0.6688	0.3852	0.7599	0.4607	0.6495
19												
20												

Note: **48-hour LC_{50}** = 48-hour median lethal concentration. An estimate of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).

CT = Central tendency of the LC_{50} values.

S = Standard deviation of the LC_{50} values.

Control Limits = Mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic LC_{50} ± 2CV or $S_{A.10}$ converted to anti-logarithmic values.

$S_{A.10}$ = Standard deviation corresponding to the 10^{th} percentile of CVs reported nationally by USEPA. ($S_{A.10}$ = 0.17).

CV = Coefficient of variation.

Entered and Reviewed by Jim Sumner

ETC

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKClAC # 19

Dilution Preparation:

Test concentrations (mg/L KCl)	150	300	450	600	750
mL Stock solution	3.0	6.0	9.0	12	15
mL Dilution water	997	994	991	988	985
Total volume (mL)	1000	1000	1000	1000	1000

A stock solution was prepared by diluting 100 g KCl into 2000 mL deionized water. This 50,000 mg/L KCl stock solution was used to prepare the concentrations evaluated for toxicity.

Stock solution INSS #: 2465

Chemical Analyses:

Concentration	Analyst	Hours 0	24	48
Control, SaltSW	pH (S.U.)	8.14	7.98	7.91
	Dissolved oxygen (mg/L)	8.1	8.0	7.9
	*Salinity (ppt)	25.1	25.0	25.1
	*Alkalinity (mg/L $CaCO_3$)	110		
	*Temperature (°C)	24.7	25.5	25.0
150 mg/L	pH (S.U.)	8.08	7.98	7.91
	Dissolved oxygen (mg/L)	8.2	8.0	7.9
	*Salinity (ppt)	25.1	25.1	25.2
	*Temperature (°C)	24.8	25.1	25.4
300 mg/L	pH (S.U.)	8.08	7.98	7.90
	Dissolved oxygen (mg/L)	8.2	8.0	7.9
	*Salinity (ppt)	25.2	25.1	25.2
	*Temperature (°C)	25.5	25.6	25.4
450 mg/L	pH (S.U.)	8.08	7.97	7.90
	Dissolved oxygen (mg/L)	8.2	8.0	7.9
	*Salinity (ppt)	25.3	25.3	25.3
	*Temperature (°C)	25.3	25.4	25.2
600 mg/L	pH (S.U.)	8.08	7.97	7.90
	Dissolved oxygen (mg/L)	8.2	7.9	7.8
	*Salinity (ppt)	25.3	25.3	25.3
	*Temperature (°C)	25.6	25.4	25.0
750 mg/L	pH (S.U.)	8.09	7.97	
	Dissolved oxygen (mg/L)	8.3	7.8	
	*Salinity (ppt)	25.4	25.5	
	*Temperature (°C)	25.5	25.6	

*Analyst identified for each day, performed pH and dissolved oxygen measurements only. Temperature and salinity performed at the time of test initiation or termination by the analys performing the toxicity test. Alkalinity performed by the analyst identified on the test specifi bench sheet and transcribed to this bench sheet.

Chemical analyses:

Parameter	Reporting limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved oxygen	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN2501000503
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1°C	SM 2550B-2010	Digital Thermometer	i 306647

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Americamysis bahia*
EPA-821-R-02-012, Method 2007.0

Americamysis bahia Potassium Chloride Acute Reference Toxicant Test

AbKClAC # 19

Hours	Date	Feeding		Test Initiation or Termination		Location	Randomizing	SaltSW Batch
		Time	Analyst	Time	Analyst	Incubator/Shelf	Template	
0 Initiation	03-03-26	* 1110	JP	1337	JP	6 E	light blue	02-25-26A
24	03-04-26			1142	JP			
48 Termination	03-05-26			1348	JP			

*Test organisms were fed in holding 2 to 5 hours prior to test initiation. Test organisms were not fed during the test.

Test Organism Information:

Organism Source:	Aquatic Indicators, Inc.
Batch (AI Batch Ab):	03-02-26
Age (1 to 5 days old):	1-2 DAYS
Date organisms were born:	03-01-26 1200 TO 03-02-26 1130
Average transfer volume:	< 0.25 mL
Transfer bowl information:	pH (S.U.): 8.00
	Temperature (°C) 24.3°C

Survival Data **(number of living organisms):**

Hours	Control		150 mg/L		300 mg/L		450 mg/L		600 mg/L		750 mg/L	
	Replicate		Replicate		Replicate		Replicate		Replicate		Replicate	
	A	B	C	D	E	F	G	H	I	J	K	L
0 Initiation	10	10	10	10	10	10	10	10	10	10	10	10
24	10	10	10	10	~~8~~ 2d (9u)	JP 03-05-26 10	9^{1d}	9^{1d}	6^{4d}	6^{4d}	0^{10d}	0^{10d}
48 Termination	10	10	10	10	~~8~~ JP 03-05-26 (9)	9^{1d}	7^{2d}	7^{2d}	3^{3d}	0^{6d}	0	0
Mean Survival	100%		100%		90% ~~85%~~ JP 03-05-26		70%		15%		0%	

Comment codes: d = dead, u = unhealthy, s = stressed

Statistics:

Method	Probit
Lower 95% confidence limit (mg KCl/L)	417.7
Upper 95% confidence limit (mg KCl/L)	513.4
48-hour LC_{50} (mg KCl/L)	466.7

Comments:

Test Reviewed by:

Statistical Analyses

Acute Mysid Test-24 Hr Survival

Start Date:	3/3/2026	Test ID:	AbKCIAC	Sample ID:	REF-Ref Toxicant
End Date:	3/5/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	1.0000	1.0000
300	0.9000	1.0000
450	0.9000	0.9000
600	0.6000	0.6000
750	0.0000	0.0000

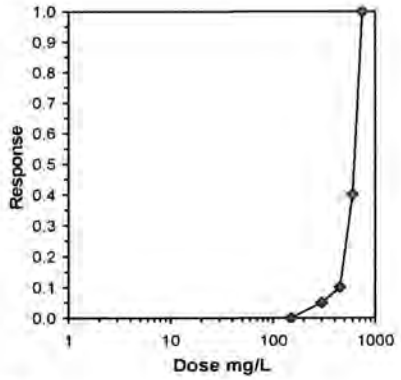
			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.1469	0	20
300	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1.581	2.850	0.1469	1	20
*450	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2	3.162	2.850	0.1469	2	20
*600	0.6000	0.6000	0.8861	0.8861	0.8861	0.000	2	10.205	2.850	0.1469	8	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

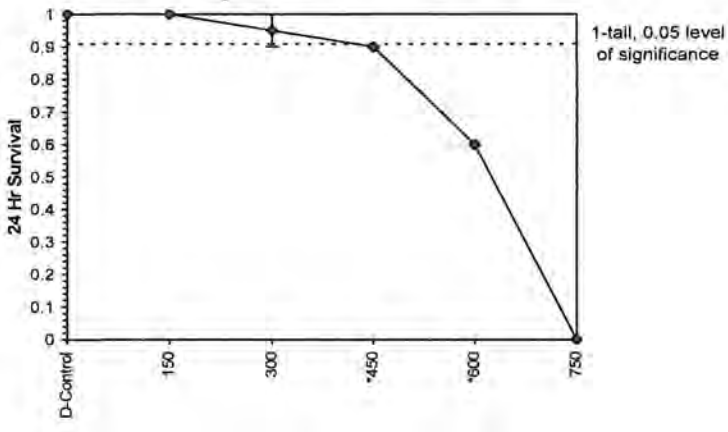
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	300	450	367.423		0.06555	0.06723	0.09555	0.00266	7.1E-04	4, 5
Treatments vs D-Control										

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	569.19	520.03	623.00
5.0%	592.43	544.90	644.11
10.0%	602.51	559.99	648.26
20.0%	610.67	554.97	671.96
Auto-0.0%	569.19	520.03	623.00



Dose-Response Plot



Statistical Analyses

Acute Mysid Test-48 Hr Survival

Start Date:	3/3/2026	Test ID:	AbKCIAC	Sample ID:	REF-Ref Toxicant
End Date:	3/5/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	DMR-Discharge Monitoring Report
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
150	1.0000	1.0000
300	0.9000	0.9000
450	0.7000	0.7000
600	0.3000	0.0000
750	0.0000	0.0000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
150	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0.000	2.850	0.3793	0	20
300	0.9000	0.9000	1.2490	1.2490	1.2490	0.000	2	1.225	2.850	0.3793	2	20
*450	0.7000	0.7000	0.9912	0.9912	0.9912	0.000	2	3.162	2.850	0.3793	6	20
*600	0.1500	0.1500	0.3692	0.1588	0.5796	80.603	2	7.835	2.850	0.3793	17	20
750	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

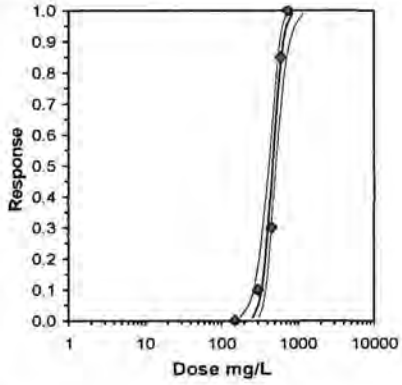
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	300	450	367.423		0.23764	0.24374	0.38097	0.01771	0.00238	4, 5
Treatments vs D-Control										

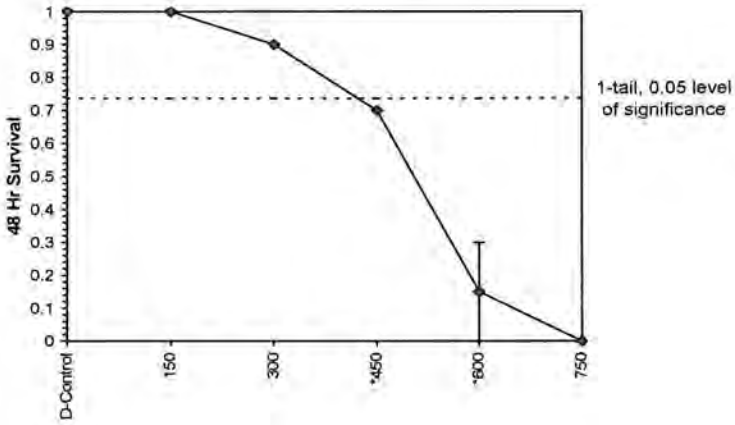
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	8.83732	1.588	5.72484	11.9498	0	3.85464	7.81472	0.27759	2.669	0.11316	4
Intercept	-18.587	4.28021	-26.976	-10.198							
TSCR											

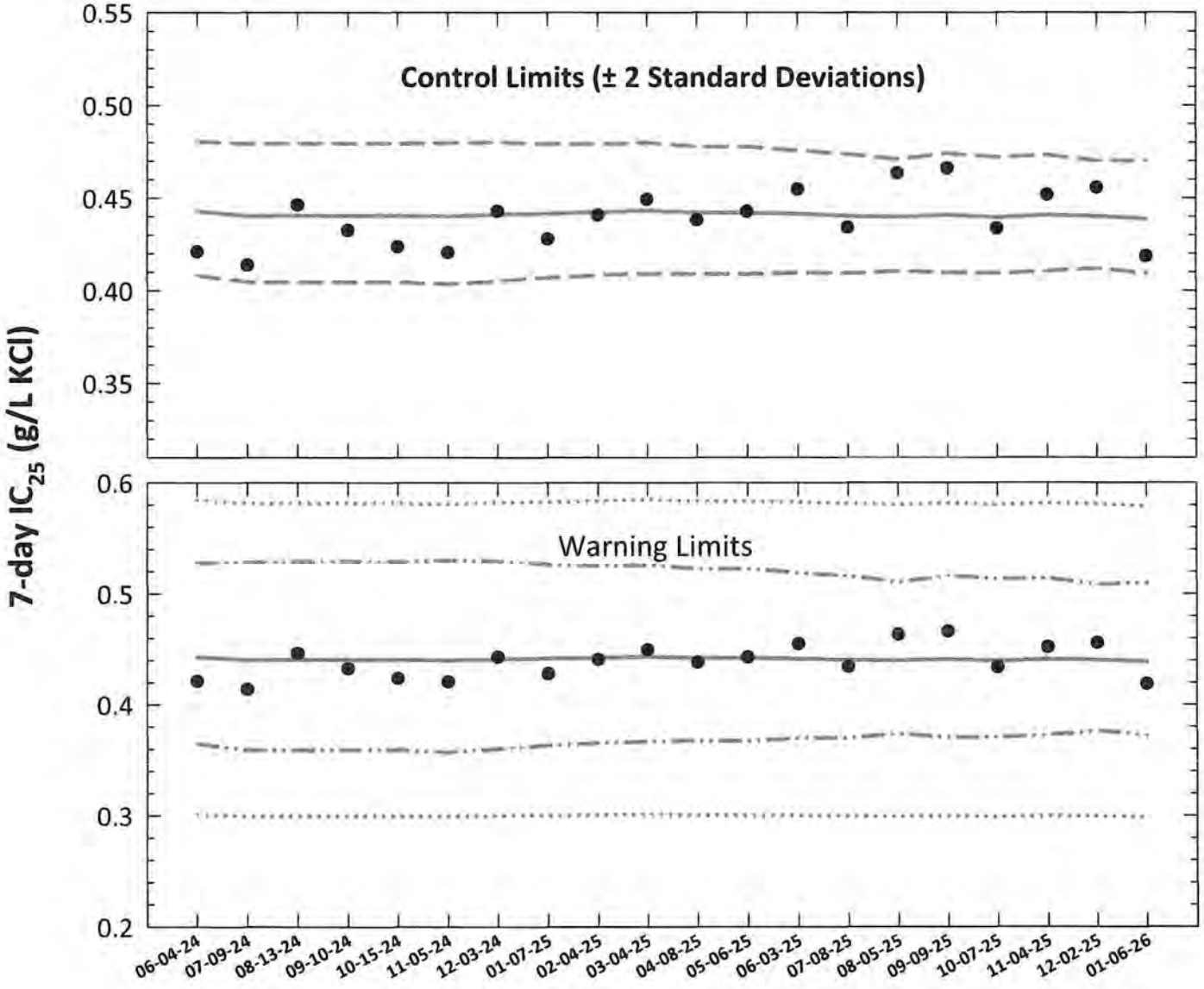
Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	254.54	174.445	307.998
EC05	3.355	303.999	228.06	353.369
EC10	3.718	334.181	262.601	380.929
EC15	3.964	356.22	288.456	401.227
EC20	4.158	374.768	310.482	418.566
EC25	4.326	391.448	330.383	434.473
EC40	4.747	436.847	383.978	480.265
EC50	5.000	466.657	417.66	513.357
EC60	5.253	498.5	451.383	552.271
EC75	5.674	556.314	506.022	632.899
EC80	5.842	581.075	527.238	670.931
EC85	6.036	611.331	551.865	719.752
EC90	6.282	651.648	583.021	788.244
EC95	6.645	716.347	630.287	905.044
EC99	7.326	855.537	725.109	1179.98



Dose-Response Plot



Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- ● **7-day IC_{25}** = 25% inhibition concentration. An estimation of the potassium chloride concentration which would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic IC_{25} converted to anti-logarithmic values)
- – – – **Control Limits** (mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic IC_{25} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic $IC_{25} \pm S_{A.75}$ converted to anti-logarithmic values, $S_{A.75}$ = 75th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	7-day IC_{25} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			7-day IC_{25}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		75th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.75}$	CT + $S_{A.75}$
1	06-04-24	0.4211	-0.3756	-0.3538	0.0177	0.4428	0.4082	0.4804	0.3645	0.5278	0.3011	0.5845
2	07-09-24	0.4139	-0.3832	-0.3561	0.0184	0.4405	0.4047	0.4794	0.3593	0.5288	0.2995	0.5814
3	08-13-24	0.4462	-0.3505	-0.3560	0.0184	0.4406	0.4048	0.4796	0.3593	0.5291	0.2996	0.5816
4	09-10-24	0.4325	-0.3640	-0.3561	0.0185	0.4405	0.4046	0.4796	0.3590	0.5292	0.2995	0.5814
5	10-15-24	0.4238	-0.3729	-0.3560	0.0184	0.4406	0.4048	0.4795	0.3594	0.5289	0.2996	0.5815
6	11-05-24	0.4206	-0.3761	-0.3565	0.0188	0.4401	0.4036	0.4798	0.3572	0.5304	0.2993	0.5809
7	12-03-24	0.4428	-0.3538	-0.3555	0.0184	0.4411	0.4053	0.4800	0.3600	0.5294	0.2999	0.5822
8	01-07-25	0.4280	-0.3686	-0.3549	0.0177	0.4417	0.4071	0.4792	0.3634	0.5266	0.3003	0.5830
9	02-04-25	0.4408	-0.3558	-0.3542	0.0173	0.4424	0.4085	0.4792	0.3657	0.5255	0.3008	0.5840
10	03-04-25	0.4493	-0.3474	-0.3534	0.0173	0.4432	0.4093	0.4799	0.3667	0.5260	0.3014	0.5850
11	04-08-25	0.4382	-0.3583	-0.3545	0.0169	0.4421	0.4091	0.4777	0.3674	0.5228	0.3006	0.5835
12	05-06-25	0.4428	-0.3538	-0.3545	0.0169	0.4421	0.4091	0.4778	0.3674	0.5228	0.3006	0.5836
13	06-03-25	0.4548	-0.3422	-0.3550	0.0162	0.4415	0.4098	0.4757	0.3696	0.5190	0.3002	0.5828
14	07-08-25	0.4342	-0.3624	-0.3562	0.0159	0.4404	0.4093	0.4738	0.3699	0.5162	0.2995	0.5813
15	08-05-25	0.4634	-0.3340	-0.3567	0.0149	0.4398	0.4107	0.4710	0.3736	0.5108	0.2991	0.5806
16	09-09-25	0.4660	-0.3316	-0.3559	0.0158	0.4407	0.4097	0.4740	0.3705	0.5162	0.2997	0.5817
17	10-07-25	0.4336	-0.3629	-0.3570	0.0155	0.4396	0.4093	0.4721	0.3708	0.5135	0.2989	0.5802
18	11-04-25	0.4518	-0.3451	-0.3557	0.0154	0.4408	0.4107	0.4732	0.3724	0.5143	0.2998	0.5819
19	12-02-25	0.4557	-0.3414	-0.3564	0.0143	0.4401	0.4121	0.4701	0.3764	0.5082	0.2993	0.5810
20	01-06-26	0.4187	-0.3781	-0.3579	0.0150	0.4387	0.4094	0.4700	0.3720	0.5100	0.2983	0.5790

Note:

7-day IC_{25} = 25% inhibition concentration. An estimation of the potassium chloride concentration that would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).

CT = Central tendency of the IC_{25} values.

S = Standard deviation of the IC_{25} values.

Control Limits = Mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic IC_{25} ± 2CV or $S_{A.75}$ converted to anti-logarithmic values.

$S_{A.75}$ = Standard deviation corresponding to the 75th percentile of CVs reported nationally by USEPA ($S_{A.75}$ = 0.32).

CV = Coefficient of variation.

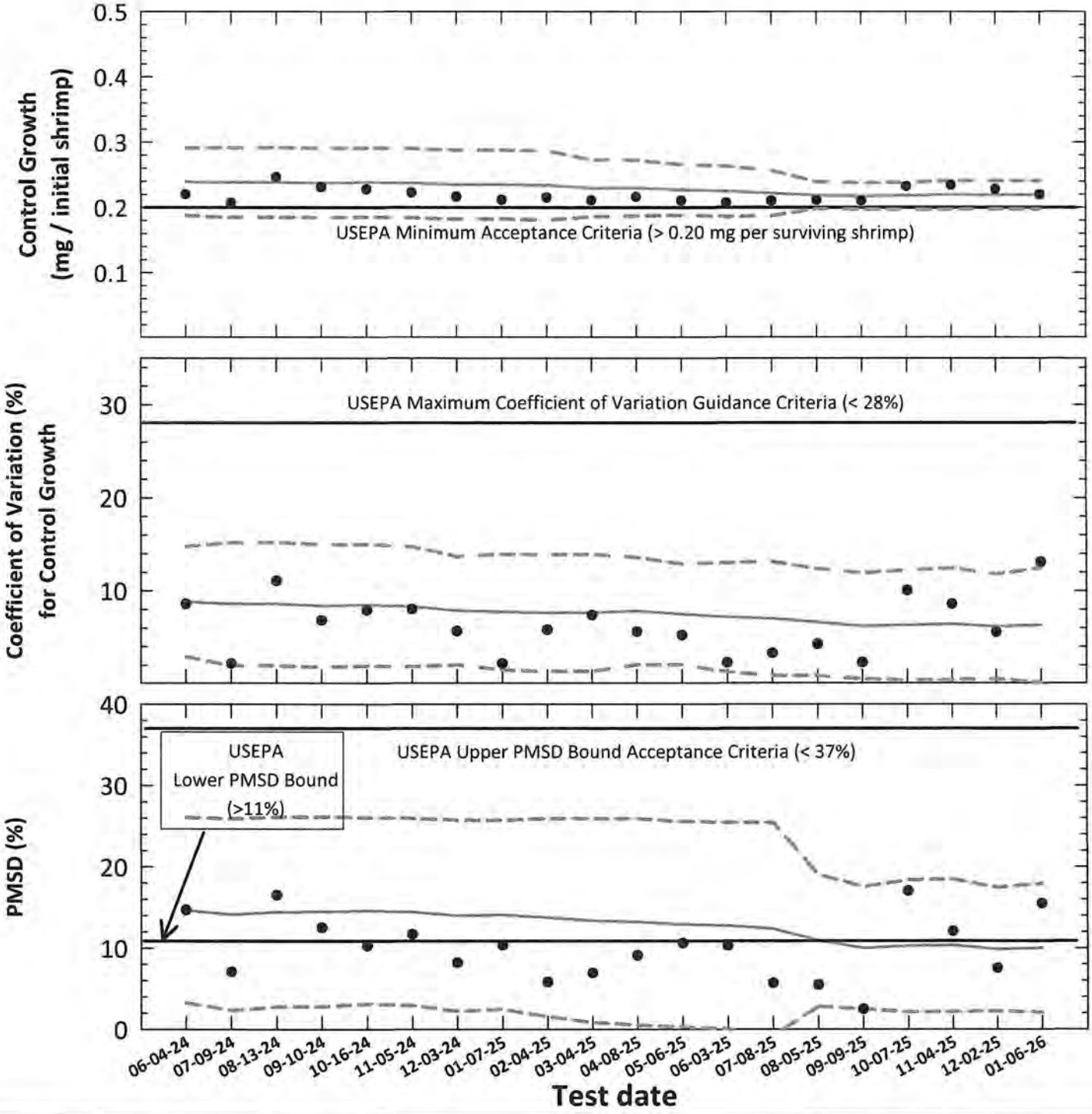
Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Organism Source: Aquatic Indicators, Inc.



- **Control Growth, Coefficient of Variation (CV) or Percent Minimum Significant Difference (PMSD)**
  PMSD is the percent minimum significant difference between the control and treatment that can be declared statistically significant. The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

——— **Central Tendency** (mean Control Growth, CV or PMSD)

– – – **95% Confidence Interval** (mean Control Growth, CV or PMSD ± 2 Standard Deviations)

Entered and Reviewed by Jim Sumner

ETS Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Source: Aquatic Indicators, Inc.

Test number	Test date	ToxCal Determination					Control Growth (mg/initial shrimp)			Control Growth CV (%)			Test PMSD (%)		
		Control Survival	Control Growth		Test			95% Confidence Interval			95% Confidence Interval			95% Confidence Interval	
		(%)	Mean (mg/initial shrimp)	CV (%)	MSD	PMSD (%)	CT	CT - 2S	CT + 2S	CT	CT - 2S	CT + 2S	CT	CT - 2S	CT + 2S
1	06-04-24	100	0.220	8.6	0.0323	14.7	0.239	0.188	0.291	8.8	2.9	14.8	14.7	3.3	26.1
2	07-09-24	100	0.207	2.2	0.0146	7.1	0.238	0.185	0.292	8.6	1.9	15.2	14.1	2.3	25.9
3	08-13-24	100	0.246	11.1	0.0406	16.5	0.238	0.185	0.292	8.6	1.9	15.2	14.4	2.7	26.1
4	09-10-24	100	0.231	6.8	0.0288	12.5	0.238	0.184	0.291	8.4	1.8	15.0	14.4	2.8	26.1
5	10-16-24	100	0.228	7.9	0.0233	10.2	0.238	0.185	0.291	8.5	1.9	15.0	14.6	3.1	26.0
6	11-05-24	100	0.223	8.0	0.0261	11.7	0.237	0.184	0.291	8.3	1.9	14.8	14.4	2.9	26.0
7	12-03-24	100	0.216	5.7	0.0177	8.2	0.235	0.182	0.288	7.9	2.0	13.7	14.0	2.2	25.8
8	01-07-25	100	0.212	2.2	0.0219	10.4	0.235	0.183	0.288	7.7	1.5	14.0	14.1	2.5	25.7
9	02-04-25	100	0.215	5.8	0.0125	5.8	0.234	0.181	0.287	7.6	1.3	13.9	13.7	1.5	25.9
10	03-04-25	100	0.211	7.4	0.0146	6.9	0.229	0.185	0.273	7.6	1.3	13.9	13.3	0.8	25.9
11	04-08-25	100	0.216	5.6	0.0196	9.1	0.230	0.187	0.273	7.8	2.1	13.6	13.2	0.5	25.9
12	05-06-25	100	0.210	5.2	0.0222	10.6	0.227	0.188	0.265	7.5	2.0	12.9	12.9	0.3	25.5
13	06-03-25	100	0.207	2.3	0.0213	10.3	0.225	0.186	0.264	7.2	1.3	13.1	12.8	0.1	25.4
14	07-08-25	100	0.210	3.3	0.0119	5.7	0.222	0.188	0.257	7.0	0.9	13.2	12.4	-0.7	25.5
15	08-05-25	100	0.211	4.3	0.0115	5.5	0.219	0.198	0.239	6.6	0.9	12.4	10.9	2.8	19.0
16	09-09-25	100	0.210	2.3	0.0052	2.5	0.218	0.198	0.237	6.2	0.5	11.9	10.0	2.5	17.5
17	10-07-25	100	0.232	10.0	0.0395	17.0	0.218	0.197	0.239	6.3	0.4	12.2	10.2	2.1	18.4
18	11-04-25	100	0.234	8.6	0.0282	12.1	0.219	0.197	0.241	6.4	0.4	12.4	10.3	2.1	18.4
19	12-02-25	100	0.228	5.6	0.0171	7.5	0.219	0.197	0.241	6.2	0.5	11.8	9.8	2.2	17.4
20	01-06-26	100	0.220	13.1	0.0339	15.4	0.219	0.198	0.241	6.3	0.1	12.5	10.0	2.0	17.9

Note:

Control Survival = USEPA minimum test acceptability criteria ≥ 80% survival.

Control Mean Growth = USEPA minimum test acceptability criteria ≥ 0.20 mg/surviving shrimp.

CV = Coefficient of variation for control growth.
USEPA maximum CV guidance criteria (90th percentile) < 28%

MSD = Minimum significant difference.

PMSD = Percent minimum significant difference.
PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.
Lower PMSD bound determined by USEPA (10th percentile) > 11%.
The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.
Upper PMSD bound acceptance criteria determined by USEPA (90th percentile) < 37%.

CT = Central tendency of the growth, CV or PMSD values.

S = Standard deviation of the growth, CV or PMSD values.

Entered and Reviewed By Jim Swanner

Environmental Testing Solutions, Inc.

Potassium Chloride Chronic Reference Toxicant Test (EPA-821-R-02-014, Method 1007.0)

Species: *Americamysis (Mysidopsis) bahia*

AbKClCR Test Number: **271**

Dilution preparation information:						***Comments:***
KCl Stock INSS number:		INSS 2447				
Stock preparation:		50 g KCl/L: Dissolve 50 g KCl in 1-L Deionized water				
Dilution prep (mg/L)	250	375	500	750	1000	
Stock volume (mL)	10	15	20	30	40	
Diluent volume (mL)	1990	1985	1980	1970	1960	
Total volume (mL)	2000	2000	2000	2000	2000	

Test organism information:		***Test information:***	
Organism age:	7-days old	Randomizing template:	Grey
Date and times organisms were born between:	12-30-25 1200 to 12-31-25 1130	Incubator number and shelf location:	5 B
Organism source:	AI Batch Ab: 12-31-25	*Artemia* CHM number:	CHM1385
		Drying information for weight determination:	
Transfer bowl information:	pH = 8.11 S.U. Temperature = 25.1 °C	Date / Time in oven:	01·13·26 1040
		*Initial oven temperature:	60·C
Average transfer volume:	< 0.25 mL	Date / Time out of oven:	01·14·26 1040
		*Final oven temperature:	60·C
		Total drying time:	24·HOURS

*60°C Oven, Thermometer SN: 14-985B5

Daily feeding and renewal information:

Day	Date	Morning feeding		Afternoon feeding		Test initiation, renewal, or termination		Salt SW batch used
		Time	Analyst	Time	Analyst	Time	Analyst	
0	01-06-26	1045	JH	1345	JH	1115	JH	01·05·26 A
1	01-07-26	0500	JH	1100	JH	0720	JH	↓
2	01-08-26	0500	JH	1130	JH	0800	JH	01·07·26
3	01-09-26	0500	JH	1100	JH	0720	JH	↓
4	01-10-26	0700	JH	1230	JH	0930	JH	01·08·26
5	01-11-26	0600	JH	1130	JH	0822	JH	01·09·26
6	01-12-26	0600	JH	1200	JH	0820	JH	↓
7	01-13-26					0915	JH	

Chemical analyses:

Parameter	Reporting Limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved Oxygen (D.O.)	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN250100050300
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1 °C	SM 2550B-2010	Digital Thermometer	130646685

Control information:		Acceptance criteria	***Summary of test endpoints:***	
% Mortality:	0%	≤ 20%	**7-day LC_{50}** (mg/L KCl)	498.4
Average weight per initial shrimp:	0.219		**NOEC** (mg/L KCl)	375
Average weight per surviving shrimp:	0.219	≥ 0.20 mg/shrimp	**LOEC** (mg/L KCl)	500
			ChV (mg/L KCl)	433.0
			IC_{25} (mg/L KCl)	418.7

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **271**

Survival and Growth Data

Day	CONTROL								250 mg KCl/L							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
3	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
4	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
6	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
7	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																1
*A = Pan weight (mg) Tray color code: Forest Green Analyst: XL Date: 12-17-25	13.29	11.19	9.97	10.25	10.53	14.36	12.90	12.99	11.93	12.78	10.51	13.77	12.65	9.71	10.47	14.0
*B = Pan + Shrimp weight (mg) Analyst: JH Date: 01-15-26	14.73	12.21	10.98	11.27	11.59	15.47	14.00	14.01	12.98	13.81	11.62	14.90	13.69	10.83	11.57	15.1
C = Shrimp weight (mg) = B – A Hand calculated Analyst: JH	1.44	1.02	1.01	1.02	1.06	1.11	1.10	1.02	1.05	1.03	1.11	1.13	1.04	1.12	1.10	1.06
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: JH	0.288	0.204	0.202	0.204	0.212	0.222	0.220	0.204	0.210	0.206	0.222	0.226	0.208	0.224	0.220	0.212
	Average weight per initial number of shrimp (mg) 0.214								Average weight per initial number of shrimp (mg) 0.216				Percent reduction from control (%) 1.67.			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **271**

Survival and Growth Data

Day	375 mg KCl/L								500 mg KCl/L							
	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	5	5	5	5	5	5	5	5	4 1d	4 1d	4 1d	4 1d	4 1d	4 1d	5	5
2	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4 1d	4 1
3	5	5	5	5	5	5	5	5	4	3 1d	4	3 1d	4	4	4	4
4	5	5	4 1d	5	5	5	5	5	3 1d	2 1d	4	2 1d	3 1d	2 1d	3 1d	4
5	5	5	4	5	5	5	5	5	3	2	4	2	3	3	3	4
6	5	5	4	5	5	5	5	5	3	2	4	2	3	3	3	4
7	5	5	4	5	5	5	5	5	3	2	2 2d	2	3	2 1d	3	3 1d
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																01-15-26
*A = Pan weight (mg) Tray color code: Forest Green Analyst: KL Date: 12-17-25	11.40	14.09	12.81	9.40	9.88	10.19	12.45	14.07	13.67	13.35	12.56	9.81	9.73	9.79	9.73	13.96
*B = Pan + Shrimp weight (mg) Analyst: KL Date: 01-15-26	12.43	15.18	13.48	10.51	10.98	11.31	13.46	15.09	14.28	13.71	12.83	10.29	10.21	10.32	10.31	14.8
C = Shrimp weight (mg) = B – A Hand calculated Analyst: KL	1.03	1.09	0.67	1.11	1.10	1.12	1.01	1.02	0.61	0.36	0.27	0.48	0.48	0.48 01-15-26 KL 0.53	0.58	0.84
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: KL	0.206	0.218	0.134	0.222	0.220	0.224	0.202	0.204	0.122	0.072	0.054	0.096	0.096	0.106	0.116	0.077
	Average weight per initial number of shrimp (mg) 0.204				Percent reduction from control (%) 01-15-26 KL 7.27.				Average weight per initial number of shrimp (mg) 0.092				Percent reduction from control (%) 58.27.			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **271**

Survival and Growth Data

Day	750 mg KCl/L								1000 mg KCl/L							
	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	TT	UU	VV
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol	0 sol
2																
3																
4																
5																
6																
7																
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																
*A = Pan weight (mg) Tray color code: _____ Analyst: _____ Date: _____																
*B = Pan + Shrimp weight (mg) Analyst: _____ Date: _____																
C = Shrimp weight (mg) = B – A Hand calculated Analyst: _____																11 01-07-21
Weight per initial number of shrimp (mg) = C / Initial number of shrimp Hand calculated Analyst: _____	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100%				Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100%			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

Americamysis bahia Chronic Reference Toxicant Test
EPA-821-R-02-014, Method 1007.0

Quality Control
Verification of Data Entry, Calculations, and Statistical Analyses

Test number: 2

Test dates: January 06-13, 20

Concentration (mg/L KCl)	Replicate	Initial number of larvae	Final number of larvae	A = Pan weight (mg)	B = Pan + Larvae weight (mg)	Larvae weight (mg) = B - A	Weight / Initial number of larvae (mg)	Mean survival (%)	Mean weight (mg)	Coefficient of variation (%)	Percent reduction fro control (%)
Control	A	5	5	13.29	14.73	1.44	0.288	100.0	0.219	13.1	Not applicable
	B	5	5	11.19	12.21	1.02	0.204				
	C	5	5	9.97	10.98	1.01	0.202				
	D	5	5	10.25	11.27	1.02	0.204				
	E	5	5	10.53	11.59	1.06	0.212				
	F	5	5	14.36	15.47	1.11	0.222				
	G	5	5	12.90	14.00	1.10	0.220				
	H	5	5	12.99	14.01	1.02	0.204				
250	I	5	5	11.93	12.98	1.05	0.210	100.0	0.216	3.6	1.6
	J	5	5	12.78	13.81	1.03	0.206				
	K	5	5	10.51	11.62	1.11	0.222				
	L	5	5	13.77	14.90	1.13	0.226				
	M	5	5	12.65	13.69	1.04	0.208				
	N	5	5	9.71	10.83	1.12	0.224				
	O	5	5	10.47	11.57	1.10	0.220				
	P	5	5	14.05	15.11	1.06	0.212				
375	Q	5	5	11.40	12.43	1.03	0.206	97.5	0.204	14.5	7.2
	R	5	5	14.09	15.18	1.09	0.218				
	S	5	4	12.81	13.48	0.67	0.134				
	T	5	5	9.40	10.51	1.11	0.222				
	U	5	5	9.88	10.98	1.10	0.220				
	V	5	5	10.19	11.31	1.12	0.224				
	W	5	5	12.45	13.46	1.01	0.202				
	X	5	5	14.07	15.09	1.02	0.204				
500	Y	5	3	13.67	14.28	0.61	0.122	50.0	0.092	25.9	58.2
	Z	5	2	13.35	13.71	0.36	0.072				
	AA	5	2	12.56	12.83	0.27	0.054				
	BB	5	2	9.81	10.29	0.48	0.096				
	CC	5	3	9.73	10.21	0.48	0.096				
	DD	5	2	9.79	10.32	0.53	0.106				
	EE	5	3	9.73	10.31	0.58	0.116				
	FF	5	3	13.96	14.32	0.36	0.072				
750	GG	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	HH	5	0	0.00	0.00	0.00	0.000				
	II	5	0	0.00	0.00	0.00	0.000				
	JJ	5	0	0.00	0.00	0.00	0.000				
	KK	5	0	0.00	0.00	0.00	0.000				
	LL	5	0	0.00	0.00	0.00	0.000				
	MM	5	0	0.00	0.00	0.00	0.000				
	NN	5	0	0.00	0.00	0.00	0.000				
1000	OO	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	PP	5	0	0.00	0.00	0.00	0.000				
	QQ	5	0	0.00	0.00	0.00	0.000				
	RR	5	0	0.00	0.00	0.00	0.000				
	SS	5	0	0.00	0.00	0.00	0.000				
	TT	5	0	0.00	0.00	0.00	0.000				
	UU	5	0	0.00	0.00	0.00	0.000				
	VV	5	0	0.00	0.00	0.00	0.000				

Dunnett's MSD value: 0.0339
PMSD: 15.4

MSD = Minimum Significant Difference
PMSD = Percent Minimum Significant Difference

PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.

Lower PMSD bound determined by USEPA (10th percentile) = 11%.
Upper PMSD bound determined by USEPA (90th percentile) = 37%.
Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b). The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

USEPA. 2001a, 2001b. Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods, Volumes 1 and 2-Appendix. EPA-821-B-01-004 and EPA-821-B-01-005. US Environmental Protection Agency, Cincinnati, OH.

ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Entered and Reviewed by Jim Sumner

Mysid Survival and Growth Test-7 Day Survival

Start Date:	1/6/2026	Test ID:	AbKCICR	Sample ID:	REF-Ref Toxicant
End Date:	1/13/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
250	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
375	1.0000	1.0000	0.8000	1.0000	1.0000	1.0000	1.0000	1.0000
500	0.6000	0.4000	0.4000	0.4000	0.6000	0.4000	0.6000	0.6000
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Resp	Number
D-Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8			0	40
250	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8	68.00	48.00	0	40
375	0.9750	0.9750	1.3155	1.1071	1.3453	6.400	8	64.00	48.00	1	40
*500	0.5000	0.5000	0.7854	0.6847	0.8861	13.704	8	36.00	48.00	20	40
750	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40
1000	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40

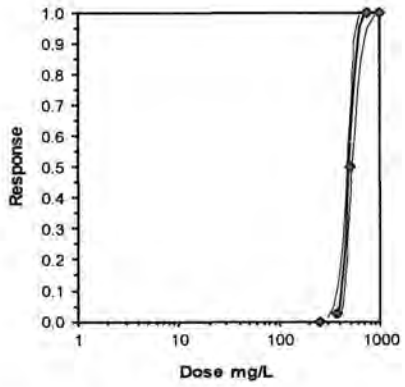
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.81455	0.904	-1.1137	2.66012
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	375	500	433.013	
Treatments vs D-Control				

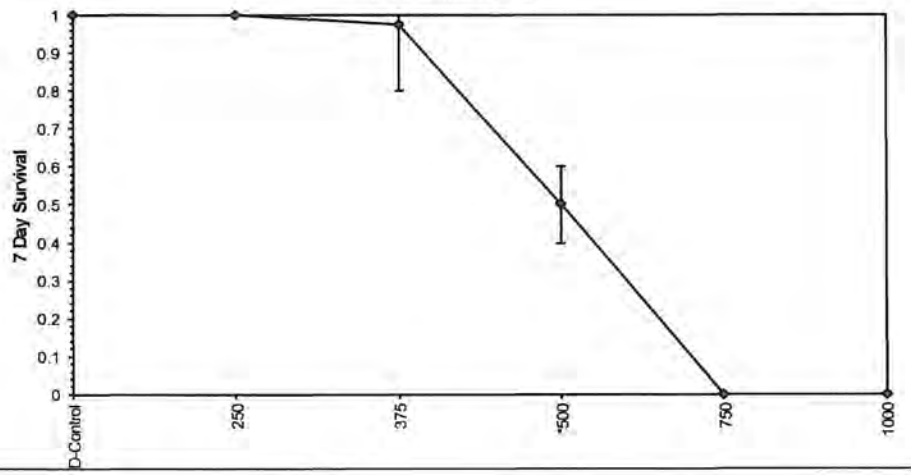
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	16.3619	3.25399	9.9841	22.7397	0	0.10855	7.81472	0.99079	2.6976	0.06112	3
Intercept	-39.138	8.73235	-56.253	-22.023							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	359.272	294.76	394.145
EC05	3.355	395.434	343.425	424.151
EC10	3.718	416.178	371.919	441.843
EC15	3.964	430.784	391.941	454.805
EC20	4.158	442.758	408.119	465.95
EC25	4.326	453.295	422.007	476.316
EC40	4.747	480.972	455.715	507.252
EC50	5.000	498.43	474.251	530.181
EC60	5.253	516.521	491.38	556.585
EC75	5.674	548.059	517.844	607.368
EC80	5.842	561.102	528.002	629.658
EC85	6.036	576.698	539.761	657.079
EC90	6.282	596.938	554.558	693.749
EC95	6.645	628.251	576.714	752.581
EC99	7.326	691.488	619.663	878.184



Dose-Response Plot



ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Reviewed and Reviewed by Jim Summer

Mysid Survival and Growth Test-Growth-Weight

Start Date:	1/6/2026	Test ID:	AbKCICR	Sample ID:	REF-Ref Toxicant
End Date:	1/13/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	0.2880	0.2040	0.2020	0.2040	0.2120	0.2220	0.2200	0.2040
250	0.2100	0.2060	0.2220	0.2260	0.2080	0.2240	0.2200	0.2120
375	0.2060	0.2180	0.1340	0.2220	0.2200	0.2240	0.2020	0.2040
500	0.1220	0.0720	0.0540	0.0960	0.0960	0.1060	0.1160	0.0720
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

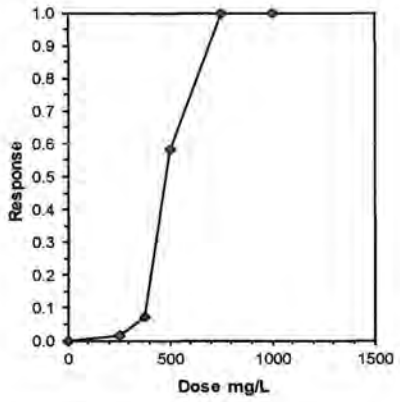
			Transform: Untransformed					Rank	1-Tailed	Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Mean	N-Mean
D-Control	0.2195	1.0000	0.2195	0.2020	0.2880	13.093	8			0.2195	1.0000
250	0.2160	0.9841	0.2160	0.2060	0.2260	3.637	8	77.50	43.00	0.2160	0.9841
375	0.2038	0.9282	0.2038	0.1340	0.2240	14.469	8	66.50	43.00	0.2038	0.9282
500	0.0918	0.4180	0.0918	0.0540	0.1220	25.882	8			0.0918	0.4180
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8			0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8			0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.84975	0.884	-0.051	5.72527
Bartlett's Test indicates unequal variances (p = 6.92E-03)	9.94785	9.21035		

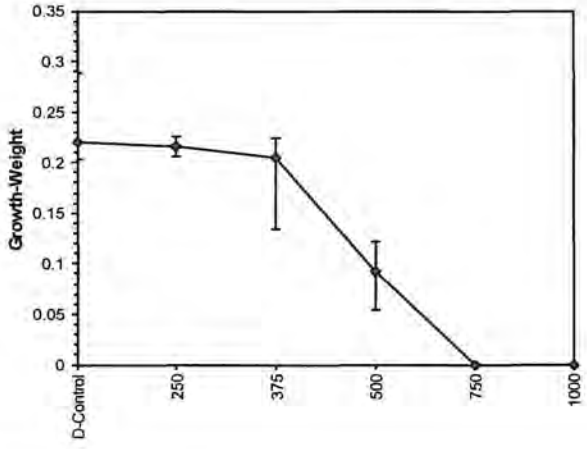
Hypothesis Test (1-tail, 0.01)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	375	>375		
Treatments vs D-Control				

Linear Interpolation (200 Resamples)

Point	mg/L	SD	95% CL		Skew
IC05	326.28	78.29	126.41	386.20	-0.9725
IC10	381.92	38.74	255.15	397.71	-2.2965
IC15	394.17	17.84	341.30	409.73	-3.3304
IC20	406.42	12.32	381.53	421.32	-2.6276
IC25	418.67	10.32	395.85	433.57	-1.0951
IC40	455.41	8.64	438.89	471.06	-0.3983
IC50	479.91	8.82	464.48	497.71	-0.0886



Dose-Response Plot



Environmental Testing Solutions, Inc.

AbKClCR Test Number: **271**

Daily Chemistry:

Temperatures performed at the time of test initiation, renewal or termination by the analyst identified in the Daily Renewal Information table located on Page 1. Alkalinity performed by the analyst identified on the bench sheet specific for this analysis and transcribed to this bench sheet.

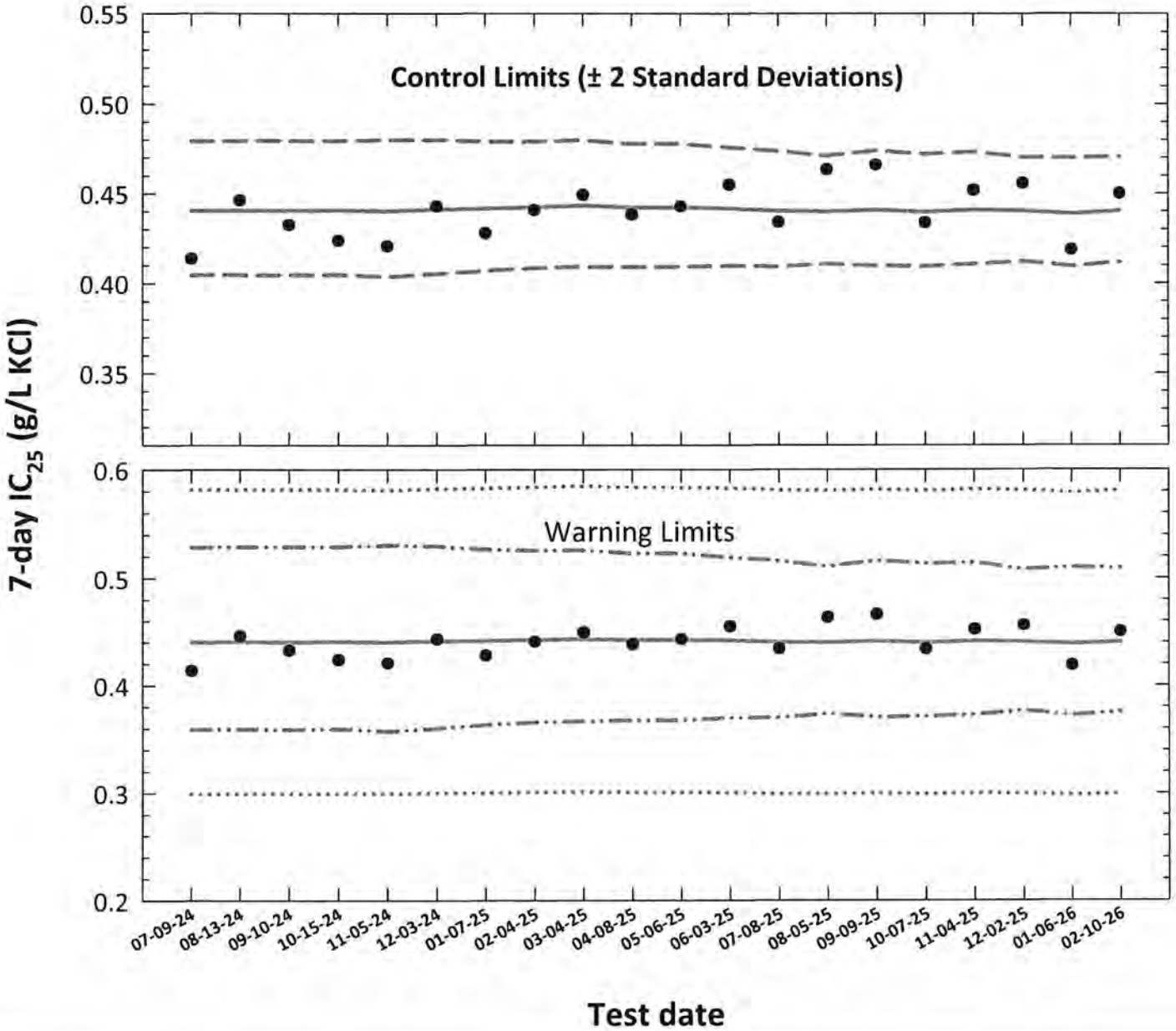
Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 0		1		2	
	Analyst	XL	XL	XL	XL	XL	XL
CONTROL, Salt SW	pH (S.U.)	8.23	7.99	8.11	7.97	8.09	7.94
	DO (mg/L)	8.4	7.8	8.1	7.9	8.3	7.9
	Salinity (ppt)	25.8	25.2	25.0	25.1	25.0	25.0
	Alkalinity (mg $CaCO_3$/L)	150		150		150	
	Temperature (°C)	25.2	25.9	25.2	26.2	25.2	26.3
250 mg KCl/L	pH (S.U.)	8.08	8.00	8.04	7.91	8.03	7.90
	DO (mg/L)	8.5	7.9	8.1	7.8	8.3	8.0
	Salinity (ppt)	25.1	25.3	25.1	25.4	25.2	25.3
	Temperature (°C)	25.5	26.0	25.2	26.0	25.1	26.0
375 mg KCl/L	pH (S.U.)	8.08	8.00	8.04	7.91	8.02	7.90
	DO (mg/L)	8.5	7.9	8.1	7.8	8.2	7.9
	Salinity (ppt)	25.4	25.7	25.3	25.6	25.6	25.7
	Temperature (°C)	25.5	26.2	25.2	26.0	25.3	26.0
500 mg KCl/L	pH (S.U.)	8.08	8.00	8.04	7.91	8.02	7.86
	DO (mg/L)	8.4	7.9	8.1	7.8	8.2	7.6
	Salinity (ppt)	25.4	25.9	25.4	25.9	25.6	26.2
	Temperature (°C)	25.5	26.0	25.2	25.8	25.3	26.2
750 mg KCl/L	pH (S.U.)	8.08	8.00				
	DO (mg/L)	8.4	7.9				
	Salinity (ppt)	25.6	25.9				
	Temperature (°C)	25.7	26.0				
1000 mg KCl/L	pH (S.U.)	8.08	7.98				
	DO (mg/L)	8.4	7.7				01-06-26
	Salinity (ppt)	25.8	26.2				
	Temperature (°C)	25.5	26.1				
		Initial	Final	Initial	Final	Initial	Final

Environmental Testing Solutions, Inc.

AbKClCR Test Number: 271

Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 3		4		5		6	
	Analyst	XL	BSL	BSL	BSL	BSL	XL	XL	VC
CONTROL, Salt SW	pH (S.U.)	8.01	7.92	8.06	8.01	8.16	7.81	8.09	7.60
	DO (mg/L)	8.2	7.8	8.3	7.7	8.0	7.4	8.3	5.4
	Salinity (ppt)	25.0	25.1	25.0	25.5	24.9	25.1	25.0	25.0
	Alkalinity (mg $CaCO_3$/L)	140		130		120		01.13.16	
	Temperature (°C)	25.2	26.3	25.2	25.6	25.2	26.1	25.2	26.2
250 mg KCl/L	pH (S.U.)	8.02	7.90	8.12	7.94	8.16	7.88	8.12	7.72
	DO (mg/L)	8.2	7.7	8.3	7.3	8.1	7.4	8.3	5.4
	Salinity (ppt)	25.1	25.3	25.1	25.4	25.2	25.4	25.3	25.3
	Temperature (°C)	25.2	26.4	25.2	25.6	25.3	26.0	25.3	26.2
375 mg KCl/L	pH (S.U.)	8.02	7.94	8.13	7.96	8.16	7.92	8.12	7.03
	DO (mg/L)	8.2	7.7	8.3	7.3	8.1	7.5	8.3	6.1
	Salinity (ppt)	25.2	25.4	25.5	25.6	25.2	25.6	25.7	25.7
	Temperature (°C)	25.1	26.1	25.2	25.6	25.1	26.0	25.3	26.2
500 mg KCl/L	pH (S.U.)	8.02	7.98	8.13	8.01	8.16	7.95	8.12	7.08
	DO (mg/L)	8.2	7.8	8.3	7.4	8.1	7.6	8.3	6.7
	Salinity (ppt)	25.3	26.0	25.5	25.9	25.4	25.8	25.7	25.9
	Temperature (°C)	25.1	26.1	25.2	25.9	25.3	26.2	25.3	26.0
750 mg KCl/L	pH (S.U.)								
	DO (mg/L)								
	Salinity (ppt)								
	Temperature (°C)								
1000 mg KCl/L	pH (S.U.)								
	DO (mg/L)								
	Salinity (ppt)						01.12.16		
	Temperature (°C)								
		Initial	Final	Initial	Final	Initial	Final	Initial	Final

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- ● **7-day IC_{25}** = 25% inhibition concentration. An estimation of the potassium chloride concentration which would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic IC_{25} converted to anti-logarithmic values)
- – – – **Control Limits** (mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic IC_{25} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic $IC_{25} \pm S_{A.75}$ converted to anti-logarithmic values, $S_{A.75}$ = 75th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	7-day IC_{25} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			7-day IC_{25}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		75th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.75}$	CT + $S_{A.75}$
1	07-09-24	0.4139	-0.3832	-0.3561	0.0184	0.4405	0.4047	0.4794	0.3593	0.5288	0.2995	0.5814
2	08-13-24	0.4462	-0.3505	-0.3560	0.0184	0.4406	0.4048	0.4796	0.3593	0.5291	0.2996	0.5816
3	09-10-24	0.4325	-0.3640	-0.3561	0.0185	0.4405	0.4046	0.4796	0.3590	0.5292	0.2995	0.5814
4	10-15-24	0.4238	-0.3729	-0.3560	0.0184	0.4406	0.4048	0.4795	0.3594	0.5289	0.2996	0.5815
5	11-05-24	0.4206	-0.3761	-0.3565	0.0188	0.4401	0.4036	0.4798	0.3572	0.5304	0.2993	0.5809
6	12-03-24	0.4428	-0.3538	-0.3555	0.0184	0.4411	0.4053	0.4800	0.3600	0.5294	0.2999	0.5822
7	01-07-25	0.4280	-0.3686	-0.3549	0.0177	0.4417	0.4071	0.4792	0.3634	0.5266	0.3003	0.5830
8	02-04-25	0.4408	-0.3558	-0.3542	0.0173	0.4424	0.4085	0.4792	0.3657	0.5255	0.3008	0.5840
9	03-04-25	0.4493	-0.3474	-0.3534	0.0173	0.4432	0.4093	0.4799	0.3667	0.5260	0.3014	0.5850
10	04-08-25	0.4382	-0.3583	-0.3545	0.0169	0.4421	0.4091	0.4777	0.3674	0.5228	0.3006	0.5835
11	05-06-25	0.4428	-0.3538	-0.3545	0.0169	0.4421	0.4091	0.4778	0.3674	0.5228	0.3006	0.5836
12	06-03-25	0.4548	-0.3422	-0.3550	0.0162	0.4415	0.4098	0.4757	0.3696	0.5190	0.3002	0.5828
13	07-08-25	0.4342	-0.3624	-0.3562	0.0159	0.4404	0.4093	0.4738	0.3699	0.5162	0.2995	0.5813
14	08-05-25	0.4634	-0.3340	-0.3567	0.0149	0.4398	0.4107	0.4710	0.3736	0.5108	0.2991	0.5806
15	09-09-25	0.4660	-0.3316	-0.3559	0.0158	0.4407	0.4097	0.4740	0.3705	0.5162	0.2997	0.5817
16	10-07-25	0.4336	-0.3629	-0.3570	0.0155	0.4396	0.4093	0.4721	0.3708	0.5135	0.2989	0.5802
17	11-04-25	0.4518	-0.3451	-0.3557	0.0154	0.4408	0.4107	0.4732	0.3724	0.5143	0.2998	0.5819
18	12-02-25	0.4557	-0.3414	-0.3564	0.0143	0.4401	0.4121	0.4701	0.3764	0.5082	0.2993	0.5810
19	01-06-26	0.4187	-0.3781	-0.3579	0.0150	0.4387	0.4094	0.4700	0.3720	0.5100	0.2983	0.5790
20	02-10-26	0.4500	-0.3468	-0.3564	0.0146	0.4401	0.4116	0.4706	0.3753	0.5094	0.2993	0.5809

Note:

7-day IC_{25} = 25% inhibition concentration. An estimation of the potassium chloride concentration that would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).

CT = Central tendency of the IC_{25} values.

S = Standard deviation of the IC_{25} values.

Control Limits = Mean logarithmic $IC_{25} \pm 2$ standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic $IC_{25} \pm 2CV$ or $S_{A.75}$ converted to anti-logarithmic values.

$S_{A.75}$ = Standard deviation corresponding to the 75th percentile of CVs reported nationally by USEPA ($S_{A.75} = 0.32$).

CV = Coefficient of variation.

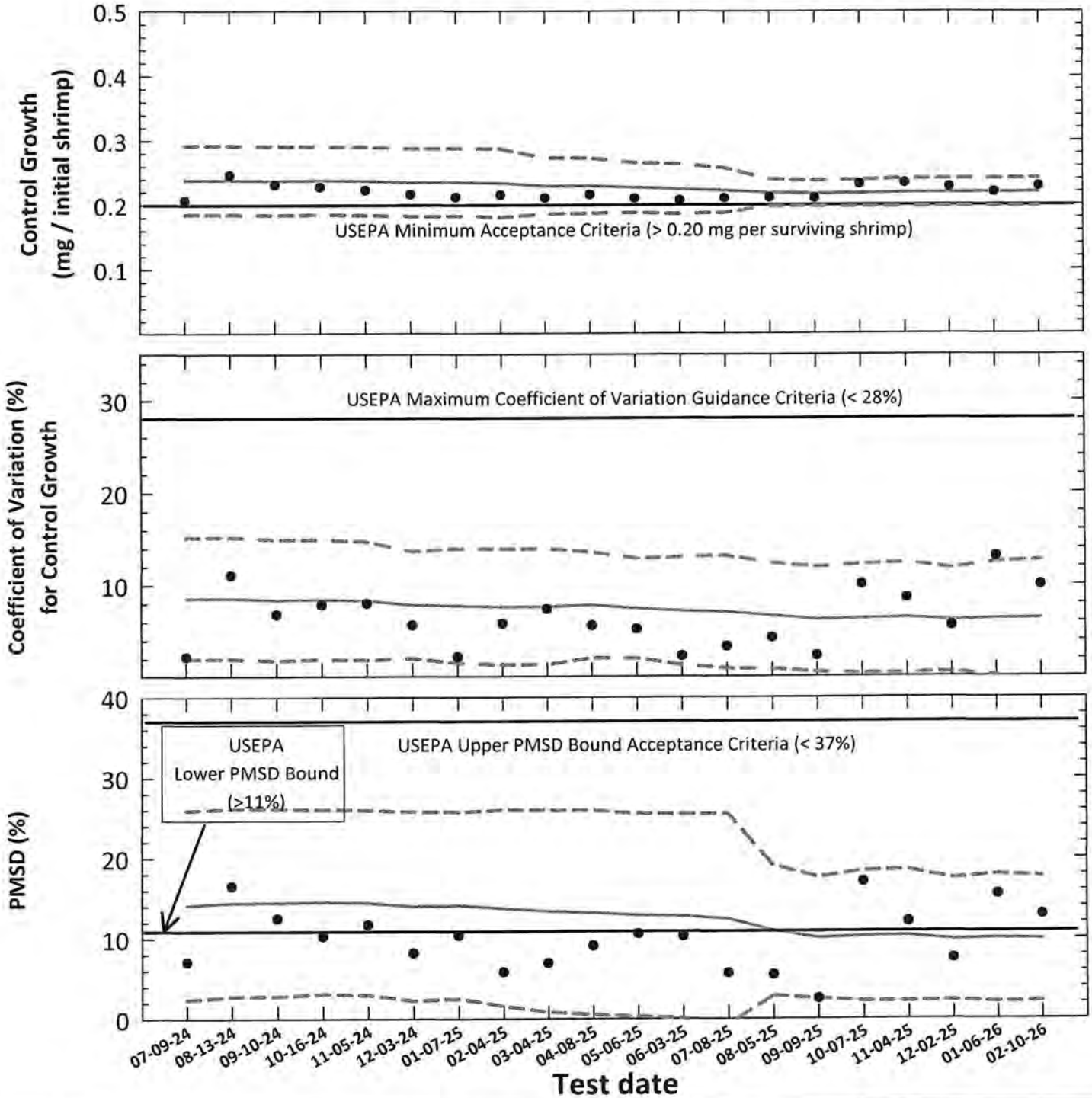
Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Organism Source: Aquatic Indicators, Inc.



- **Control Growth, Coefficient of Variation (CV) or Percent Minimum Significant Difference (PMSD)**
  PMSD is the percent minimum significant difference between the control and treatment that can be declared statistically significant. The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

——— **Central Tendency** (mean Control Growth, CV or PMSD)

– – – **95% Confidence Interval** (mean Control Growth, CV or PMSD ± 2 Standard Deviations)

Entered and Reviewed by Jim Sumner

ETS Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Testing, Test Acceptability Criteria
Source: Aquatic Indicators, Inc.

Test number	Test date	ToxCal Determination					Control Growth (mg/initial shrimp)			Control Growth CV (%)			Test PMSD (%)		
		Control Survival (%)	Control Growth Mean (mg/initial shrimp)	Control Growth CV (%)	Test MSD	Test PMSD (%)	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S
1	07-09-24	100	0.207	2.2	0.0146	7.1	0.238	0.185	0.292	8.6	1.9	15.2	14.1	2.3	25.9
2	08-13-24	100	0.246	11.1	0.0406	16.5	0.238	0.185	0.292	8.6	1.9	15.2	14.4	2.7	26.1
3	09-10-24	100	0.231	6.8	0.0288	12.5	0.238	0.184	0.291	8.4	1.8	15.0	14.4	2.8	26.1
4	10-16-24	100	0.228	7.9	0.0233	10.2	0.238	0.185	0.291	8.5	1.9	15.0	14.6	3.1	26.0
5	11-05-24	100	0.223	8.0	0.0261	11.7	0.237	0.184	0.291	8.3	1.9	14.8	14.4	2.9	26.0
6	12-03-24	100	0.216	5.7	0.0177	8.2	0.235	0.182	0.288	7.9	2.0	13.7	14.0	2.2	25.8
7	01-07-25	100	0.212	2.2	0.0219	10.4	0.235	0.183	0.288	7.7	1.5	14.0	14.1	2.5	25.7
8	02-04-25	100	0.215	5.8	0.0125	5.8	0.234	0.181	0.287	7.6	1.3	13.9	13.7	1.5	25.9
9	03-04-25	100	0.211	7.4	0.0146	6.9	0.229	0.185	0.273	7.6	1.3	13.9	13.3	0.8	25.9
10	04-08-25	100	0.216	5.6	0.0196	9.1	0.230	0.187	0.273	7.8	2.1	13.6	13.2	0.5	25.9
11	05-06-25	100	0.210	5.2	0.0222	10.6	0.227	0.188	0.265	7.5	2.0	12.9	12.9	0.3	25.5
12	06-03-25	100	0.207	2.3	0.0213	10.3	0.225	0.186	0.264	7.2	1.3	13.1	12.8	0.1	25.4
13	07-08-25	100	0.210	3.3	0.0119	5.7	0.222	0.188	0.257	7.0	0.9	13.2	12.4	-0.7	25.5
14	08-05-25	100	0.211	4.3	0.0115	5.5	0.219	0.198	0.239	6.6	0.9	12.4	10.9	2.8	19.0
15	09-09-25	100	0.210	2.3	0.0052	2.5	0.218	0.198	0.237	6.2	0.5	11.9	10.0	2.5	17.5
16	10-07-25	100	0.232	10.0	0.0395	17.0	0.218	0.197	0.239	6.3	0.4	12.2	10.2	2.1	18.4
17	11-04-25	100	0.234	8.6	0.0282	12.1	0.219	0.197	0.241	6.4	0.4	12.4	10.3	2.1	18.4
18	12-02-25	100	0.228	5.6	0.0171	7.5	0.219	0.197	0.241	6.2	0.5	11.8	9.8	2.2	17.4
19	01-06-26	100	0.220	13.1	0.0339	15.4	0.219	0.198	0.241	6.3	0.1	12.5	10.0	2.0	17.9
20	02-10-26	100	0.229	10.0	0.0296	12.9	0.220	0.198	0.242	6.4	0.0	12.7	9.9	2.1	17.6

Note:

Control Survival = USEPA minimum test acceptability criteria ≥ 80% survival.

Control Mean Growth = USEPA minimum test acceptability criteria ≥ 0.20 mg/surviving shrimp.

CV = Coefficient of variation for control growth.
USEPA maximum CV guidance criteria (90th percentile) < 28%

MSD = Minimum significant difference.

PMSD = Percent minimum significant difference.
PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.
Lower PMSD bound determined by USEPA (10th percentile) > 11%.
The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.
Upper PMSD bound acceptance criteria determined by USEPA (90th percentile) < 37%.

CT = Central tendency of the growth, CV or PMSD values.

S = Standard deviation of the growth, CV or PMSD values.

Entered and Reviewed by Jeb Sumner

Environmental Testing Solutions, Inc.

Potassium Chloride Chronic Reference Toxicant Test (EPA-821-R-02-014, Method 1007.0)

Species: *Americamysis (Mysidopsis) bahia*

AbKClCR Test Number: **272**

Dilution preparation information:						***Comments:***
KCl Stock INSS number:		INSS 2447				
Stock preparation:		50 g KCl/L: Dissolve 50 g KCl in 1-L Deionized water				
Dilution prep (mg/L)	250	375	500	750	1000	
Stock volume (mL)	10	15	20	30	40	
Diluent volume (mL)	1990	1985	1980	1970	1960	
Total volume (mL)	2000	2000	2000	2000	2000	

Test organism information:		***Test information:***	
Organism age:	7-days old	Randomizing template:	ORANGE
Date and times organisms were born between:	02-03-26 1200 to 02-04-26 1130	Incubator number and shelf location:	6B
Organism source:	AI Batch Ab: 02-04-26	*Artemia* CHM number:	CHM 1365
		Drying information for weight determination:	
Transfer bowl information:	pH = 8.02 S.U. Temperature = 25.0 °C	Date / Time in oven:	02-17-26 1210
		*Initial oven temperature:	60 °C
Average transfer volume:	< 0.25 mL	Date / Time out of oven:	02-18-26 1210
		*Final oven temperature:	60 °C
		Total drying time:	24-HOURS

*60°C Oven, Thermometer SN: 14-985B5

Daily feeding and renewal information:

Day	Date	Morning feeding		Afternoon feeding		Test initiation, renewal, or termination		Salt SW batch used
		Time	Analyst	Time	Analyst	Time	Analyst	
0	02-10-26	1200	JH	1500	JH	1330	JH	02-09-26 A
1	02-11-26	0500	JH	1130	JH	0845	JH	↓
2	02-12-26	0500	JH	1130	JH	0930	JH	02-09-26 B
3	02-13-26	0500	JH	1100	JH	0830	JH	↓
4	02-14-26	0600	JH	1250	JH	0900	JH	02-11-26
5	02-15-26	0600	JH	1115	JH	0845	JH	↓
6	02-16-26	0500	JH	1100	JH	0835	JH	↓
7	02-17-26					1130	JH	

Chemical analyses:

Parameter	Reporting Limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved Oxygen (D.O.)	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN250100050300
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1 °C	SM 2550B-2010	Digital Thermometer	13066485

Control information:		Acceptance criteria
% Mortality:	0%	≤ 20%
Average weight per initial shrimp:	0.229	
Average weight per surviving shrimp:	0.229	≥ 0.20 mg/shrimp

Summary of test endpoints:	
7-day LC_{50} (mg/L KCl)	537.7
NOEC (mg/L KCl)	375
LOEC (mg/L KCl)	500
ChV (mg/L KCl)	433.0
IC_{25} (mg/L KCl)	444 (450.2)

JH 02-23-26

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **272**

Survival and Growth Data

Day	CONTROL								250 mg KCl/L							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																02-19-26
*A = Pan weight (mg) Tray color code: Gray Analyst: XE Date: 012126	15.10	13.18	13.79	14.34	14.46	13.62	13.97	12.33	14.45	13.64	13.98	13.86	13.54	12.39	13.39	13.8
*B = Pan + Shrimp weight (mg) Analyst: XE Date: 02-19-26	16.18	14.28	14.90	15.54	15.75	14.66	14.98	13.65	15.49	14.74	15.02	15.22	14.62	13.45	14.61	14.9
C = Shrimp weight (mg) = B – A Hand calculated Analyst: JP	1.08	1.10	1.11	1.20	1.29	1.04	1.01	1.32	1.04	1.10	1.04	1.36	1.08	1.06	1.22	1.04
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: JP	0.216	0.220	0.222	0.240	0.258	0.208	0.202	0.264	0.208	0.220	0.208	0.272	0.216	0.212	0.244	0.20
	Average weight per initial number of shrimp (mg) 0.229								Average weight per initial number of shrimp (mg) 0.224				Percent reduction from control (%) 2.3 %			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **272**

Survival and Growth Data

Day	375 mg KCl/L								500 mg KCl/L							
	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
3	5	5	5	5	5	5	5	5	5	5	4 dd	4 dd	4 dd	4 dd	5	5
4	5	5	5	5	5	5	5	5	5	5	4	3 dd	3 dd	3 dd	4 dd	5
5	5	5	5	5	5	5	5	5	5	4 dd	4	3	3	3	4	3 dd
6	5	5	5	5	5	5	5	5	5	4	4	3	3	3	4	3
7	5	5	5	5	5	5	5	5	3 dg	3 dd	4	3	3	3	3 dd	3
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																dd, dd
*A = Pan weight (mg) Tray color code: Green Analyst: XL Date: 03-21-26	13.93	15.27	13.70	14.01	13.99	14.57	12.53	13.64	12.16	13.80	13.06	14.42	14.05	13.05	14.20	12.64
*B = Pan + Shrimp weight (mg) Analyst: XL Date: 03-29-26	14.98	16.42	14.76	15.24	15.09	15.59	13.79	14.79	12.84	14.44	13.77	15.33	14.71	13.68	14.88	13.3
C = Shrimp weight (mg) = B – A Hand calculated Analyst: ZP	1.05	1.15	1.06	1.23	1.10	1.02	1.26	1.15	0.68	0.64	0.71	0.71	0.66	0.63	0.68	0.7
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: ZP	0.210	0.230	0.212	0.246	0.220	~~0.255~~ (0.204)	0.252 0.242	0.230	0.136	0.128	0.142	0.142	0.132	0.126	0.136	0.14
	Average weight per initial number of shrimp (mg) 0.226				Percent reduction from control (%) 1.4%				Average weight per initial number of shrimp (mg) 0.136				Percent reduction from control (%) 40.4%			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKCICR Test Number: **272**

Survival and Growth Data

Day	750 mg KCl/L								1000 mg KCl/L							
	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	TT	UU	VV
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol	0 Sol
2																
3																
4																
5																
6																
7																
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																
*A = Pan weight (mg) Tray color code: Analyst: Date:																
*B = Pan + Shrimp weight (mg) Analyst: Date:																
C = Shrimp weight (mg) = B – A Hand calculated Analyst:															02.11.26	
Weight per initial number of shrimp (mg) = C / Initial number of shrimp Hand calculated Analyst:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100%				Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100 %			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

ETS
Environmental Testing Solutions, Inc.

Americamysis bahia Chronic Reference Toxicant Test
EPA-821-R-02-014, Method 1007.0

Quality Control
Verification of Data Entry, Calculations, and Statistical Analyses

Test number: 27

Test dates: February 10-17, 202

Concentration (mg/L KCl)	Replicate	Initial number of larvae	Final number of larvae	A = Pan weight (mg)	B = Pan + Larvae weight (mg)	Larvae weight (mg) = B - A	Weight / Initial number of larvae (mg)	Mean survival (%)	Mean weight (mg)	Coefficient of variation (%)	Percent reduction from control (%)
Control	A	5	5	15.10	16.18	1.08	0.216	100.0	0.229	10.0	Not applicable
	B	5	5	13.18	14.28	1.10	0.220				
	C	5	5	13.79	14.90	1.11	0.222				
	D	5	5	14.34	15.54	1.20	0.240				
	E	5	5	14.46	15.75	1.29	0.258				
	F	5	5	13.62	14.66	1.04	0.208				
	G	5	5	13.97	14.98	1.01	0.202				
	H	5	5	12.33	13.65	1.32	0.264				
250	I	5	5	14.45	15.49	1.04	0.208	100.0	0.224	10.3	2.3
	J	5	5	13.64	14.74	1.10	0.220				
	K	5	5	13.98	15.02	1.04	0.208				
	L	5	5	13.86	15.22	1.36	0.272				
	M	5	5	13.54	14.62	1.08	0.216				
	N	5	5	12.39	13.45	1.06	0.212				
	O	5	5	13.39	14.61	1.22	0.244				
	P	5	5	13.88	14.92	1.04	0.208				
375	Q	5	5	13.93	14.98	1.05	0.210	100.0	0.226	7.6	1.4
	R	5	5	15.27	16.42	1.15	0.230				
	S	5	5	13.70	14.76	1.06	0.212				
	T	5	5	14.01	15.24	1.23	0.246				
	U	5	5	13.99	15.09	1.10	0.220				
	V	5	5	14.57	15.59	1.02	0.204				
	W	5	5	12.53	13.79	1.26	0.252				
	X	5	5	13.64	14.79	1.15	0.230				
500	Y	5	3	12.16	12.84	0.68	0.136	62.5	0.136	5.5	40.4
	Z	5	3	13.80	14.44	0.64	0.128				
	AA	5	4	13.06	13.77	0.71	0.142				
	BB	5	3	14.62	15.33	0.71	0.142				
	CC	5	3	14.05	14.71	0.66	0.132				
	DD	5	3	13.05	13.68	0.63	0.126				
	EE	5	3	14.20	14.88	0.68	0.136				
	FF	5	3	12.64	13.38	0.74	0.148				
750	GG	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	HH	5	0	0.00	0.00	0.00	0.000				
	II	5	0	0.00	0.00	0.00	0.000				
	JJ	5	0	0.00	0.00	0.00	0.000				
	KK	5	0	0.00	0.00	0.00	0.000				
	LL	5	0	0.00	0.00	0.00	0.000				
	MM	5	0	0.00	0.00	0.00	0.000				
	NN	5	0	0.00	0.00	0.00	0.000				
1000	OO	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	PP	5	0	0.00	0.00	0.00	0.000				
	QQ	5	0	0.00	0.00	0.00	0.000				
	RR	5	0	0.00	0.00	0.00	0.000				
	SS	5	0	0.00	0.00	0.00	0.000				
	TT	5	0	0.00	0.00	0.00	0.000				
	UU	5	0	0.00	0.00	0.00	0.000				
	VV	5	0	0.00	0.00	0.00	0.000				

Dunnett's MSD value: 0.0296

PMSD: 12.9

MSD = Minimum Significant Difference

PMSD = Percent Minimum Significant Difference

PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.

Lower PMSD bound determined by USEPA (10th percentile) = 11%.
Upper PMSD bound determined by USEPA (90th percentile) = 37%.
Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b). The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

USEPA. 2001a, 2001b. Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods, Volumes 1 and 2-Appendix. EPA-821-B-01-004 and EPA-821-B-01-005. US Environmental Protection Agency, Cincinnati, OH.

ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Ensured and Reviewed by

Mysid Survival and Growth Test-7 Day Survival

Start Date:	2/10/2026	Test ID:	AbKClCR	Sample ID:	REF-Ref Toxicant
End Date:	2/17/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
250	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
375	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
500	0.6000	0.6000	0.8000	0.6000	0.6000	0.6000	0.6000	0.6000
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

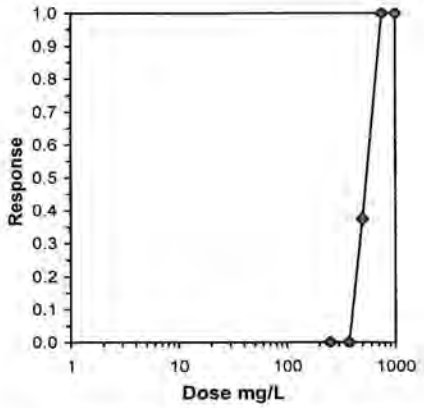
			Transform: Arcsin Square Root					Rank	1-Tailed	Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Resp	Number
D-Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8			0	40
250	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8	68.00	48.00	0	40
375	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8	68.00	48.00	0	40
*500	0.6250	0.6250	0.9137	0.8861	1.1071	8.554	8	36.00	48.00	15	40
750	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40
1000	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.37758	0.904	4.76175	25.5788
Equality of variance cannot be confirmed				

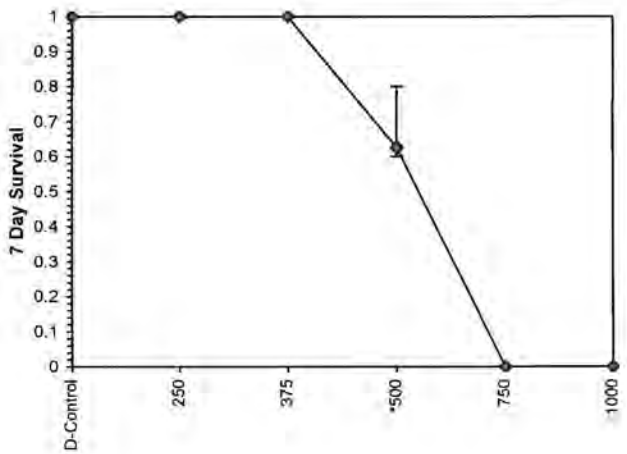
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	375	500	433.013	
Treatments vs D-Control				

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%	537.74	509.95	567.04
5.0%	538.48	507.54	571.30
10.0%	539.21	504.12	576.74
20.0%	540.60	492.31	593.63
Auto-0.0%	537.74	509.95	567.04



Dose-Response Plot



ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Ensured and reviewed by Jim Sumner

Mysid Survival and Growth Test-Growth-Weight

Start Date:	2/10/2026	Test ID:	AbKCICR	Sample ID:	REF-Ref Toxicant
End Date:	2/17/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	0.2160	0.2200	0.2220	0.2400	0.2580	0.2080	0.2020	0.2640
250	0.2080	0.2200	0.2080	0.2720	0.2160	0.2120	0.2440	0.2080
375	0.2100	0.2300	0.2120	0.2460	0.2200	0.2040	0.2520	0.2300
500	0.1360	0.1280	0.1420	0.1420	0.1320	0.1260	0.1360	0.1480
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

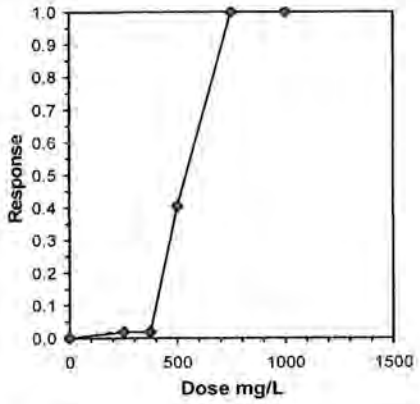
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.2288	1.0000	0.2288	0.2020	0.2640	9.990	8				0.2288	1.0000
250	0.2235	0.9770	0.2235	0.2080	0.2720	10.278	8	0.496	2.799	0.0296	0.2245	0.9814
375	0.2255	0.9858	0.2255	0.2040	0.2520	7.641	8	0.307	2.799	0.0296	0.2245	0.9814
500	0.1363	0.5956	0.1363	0.1260	0.1480	5.517	8				0.1363	0.5956
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8				0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8				0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89985	0.884	0.91325	-0.1067
Bartlett's Test indicates equal variances (p = 0.72)	0.66286	9.21035		

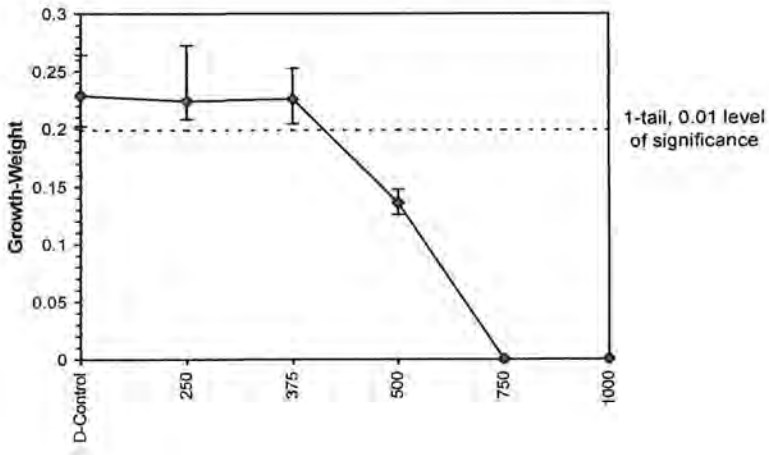
Hypothesis Test (1-tail, 0.01)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	375	>375			0.02965	0.12961	5.6E-05	0.00045	0.88305	2, 21
Treatments vs D-Control										

Linear Interpolation (200 Resamples)

Point	mg/L	SD	95% CL		Skew
IC05	385.18	77.44	151.37	391.63	-1.6836
IC10	401.38	18.68	379.18	408.26	-7.3150
IC15	417.58	8.00	397.74	424.95	-0.6159
IC20	433.78	7.44	416.18	441.86	-0.5119
IC25	449.98	6.97	434.27	459.02	-0.3747
IC40	498.58	6.65	486.09	511.49	0.2840
IC50	540.14	6.58	526.83	551.24	-0.0380



Dose-Response Plot



Environmental Testing Solutions, Inc.

AbKClCR Test Number: **272**

Daily Chemistry:

Temperatures performed at the time of test initiation, renewal or termination by the analyst identified in the Daily Renewal Information table located on Page 1. Alkalinity performed by the analyst identified on the bench sheet specific for this analysis and transcribed to this bench sheet.

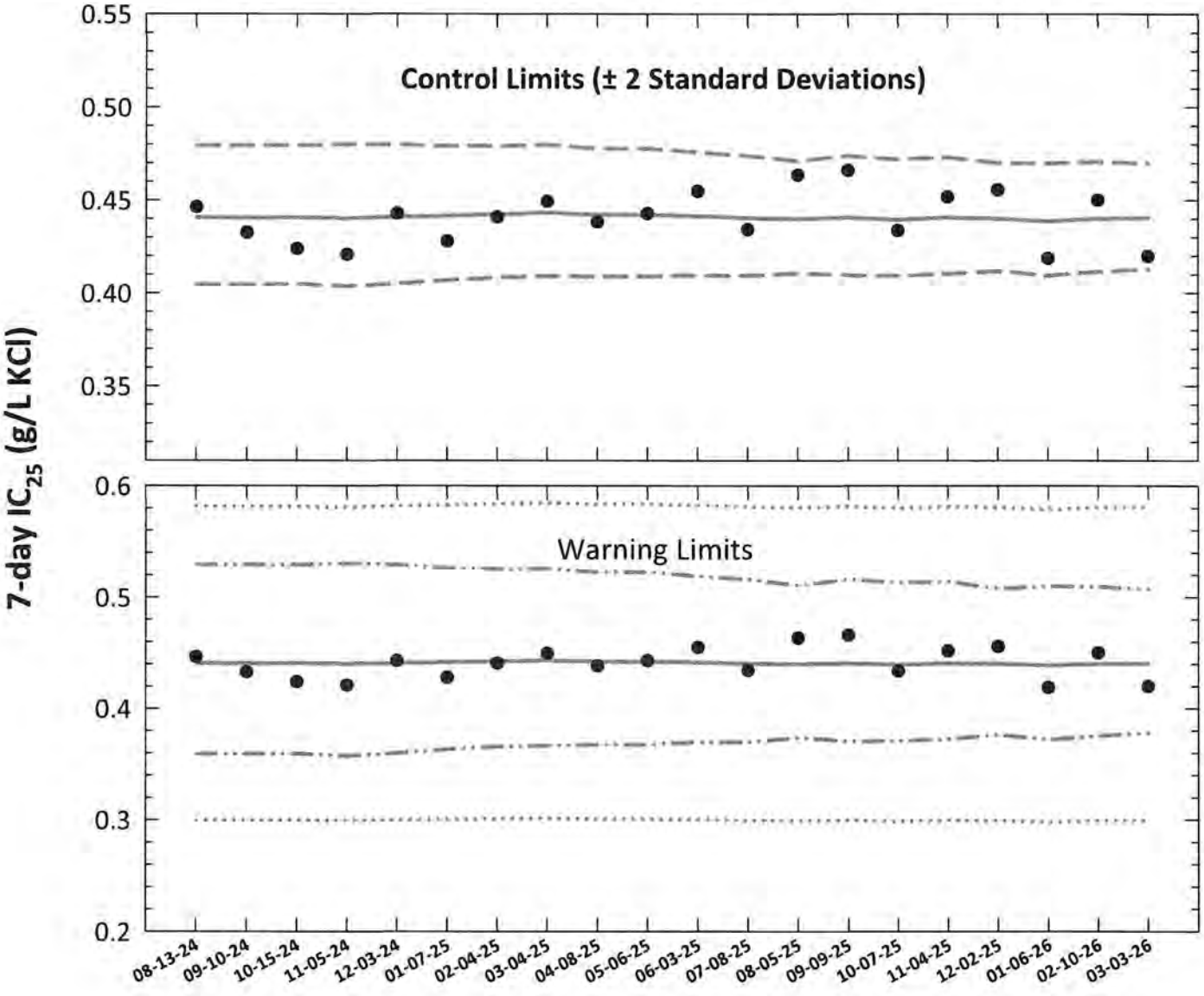
Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 0		1		2	
	Analyst	XL	XL	XL	XL	XL	XL
CONTROL, Salt SW	pH (S.U.)	8.13	8.02	8.16	8.09	8.04	8.05
	DO (mg/L)	8.5	7.9	8.1	8.2	8.3	8.0
	Salinity (ppt)	25.0	25.2	25.0	25.3	25.0	25.1
	Alkalinity (mg $CaCO_3$/L)	150				120	
	Temperature (°C)	25.2	25.6	25.2	25.7	25.2	25.2
250 mg KCl/L	pH (S.U.)	8.08	8.02	8.09	8.02	8.05	8.04
	DO (mg/L)	8.6	8.0	8.1	8.2	8.3	8.0
	Salinity (ppt)	25.1	25.4	25.3	25.6	25.2	25.3
	Temperature (°C)	25.2	25.6	25.2	25.7	25.2	25.2
375 mg KCl/L	pH (S.U.)	8.08	8.02	8.08	8.02	8.05	8.04
	DO (mg/L)	8.6	8.0	8.1	8.2	8.3	8.0
	Salinity (ppt)	25.2	25.5	25.3	25.8	25.5	25.6
	Temperature (°C)	25.1	25.6	25.2	25.8	25.2	25.1
500 mg KCl/L	pH (S.U.)	8.08	8.03	8.08	8.02	8.06	8.05
	DO (mg/L)	8.5	8.0	8.1	8.2	8.3	8.0
	Salinity (ppt)	25.3	25.8	25.5	25.8	25.5	25.6
	Temperature (°C)	25.1	25.5	25.2	25.6	25.2	25.2
750 mg KCl/L	pH (S.U.)	8.09	8.03				
	DO (mg/L)	8.5	7.9				
	Salinity (ppt)	25.3	25.8				
	Temperature (°C)	25.3	25.7				
1000 mg KCl/L	pH (S.U.)	8.09	8.02				
	DO (mg/L)	8.5	7.8				
	Salinity (ppt)	25.8	26.2				02.10.16
	Temperature (°C)	25.3	25.3				
		Initial	Final	Initial	Final	Initial	Final

Environmental Testing Solutions, Inc.

AbKClCR Test Number: 272

Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 3		4		5		6	
	Analyst	XL	BSL	BSL	BSL	BSL	XL	XL	K
CONTROL, Salt SW	pH (S.U.)	8.13	7.98	8.24	7.94	8.08	7.96	8.06	7.68
	DO (mg/L)	8.3	7.8	8.3	7.9	8.2	8.0	8.3	5.8
	Salinity (ppt)	25.0	25.2	25.0	25.0	25.0	25.3	25.2	25.5
	Alkalinity (mg $CaCO_3$/L)			110					
	Temperature (°C)	25.2	25.9	25.3	25.6	25.3	25.7	25.2	25.6
250 mg KCl/L	pH (S.U.)	8.11	8.03	8.13	7.99	8.09	7.95	8.05	7.71
	DO (mg/L)	8.3	7.8	8.3	7.9	8.4	8.0	8.2	5.9
	Salinity (ppt)	25.1	25.3	25.1	25.2	25.2	25.3	25.3	25.3
	Temperature (°C)	25.1	25.7	25.2	25.9	25.2	25.7	25.2	25.6
375 mg KCl/L	pH (S.U.)	8.11	7.99	8.13	7.98	8.10	7.97	8.05	7.70
	DO (mg/L)	8.3	7.8	8.3	7.9	8.4	8.0	8.2	5.7
	Salinity (ppt)	25.2	25.4	25.2	25.4	25.3	25.5	25.4	25.5
	Temperature (°C)	25.3	25.7	25.2	25.9	25.3	25.6	25.2	25.7
500 mg KCl/L	pH (S.U.)	8.11	8.02	8.13	8.00	8.10	7.96	8.05	7.78
	DO (mg/L)	8.2	7.8	8.3	7.9	8.4	7.9	8.2	6.3
	Salinity (ppt)	25.3	25.6	25.3	25.5	25.4	25.5	25.5	25.6
	Temperature (°C)	25.3	25.8	25.2	25.6	25.3	25.6	25.2	25.9
750 mg KCl/L	pH (S.U.)								
	DO (mg/L)								
	Salinity (ppt)								
	Temperature (°C)								
1000 mg KCl/L	pH (S.U.)								
	DO (mg/L)						JK		
	Salinity (ppt)						02-13		
	Temperature (°C)								
		Initial	Final	Initial	Final	Initial	Final	Initial	Final

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- ● **7-day IC_{25}** = 25% inhibition concentration. An estimation of the potassium chloride concentration which would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic IC_{25} converted to anti-logarithmic values)
- – – – **Control Limits** (mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values)
- —·—·— **Laboratory Warning Limits** (mean logarithmic IC_{25} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic IC_{25} ± $S_{A.75}$ converted to anti-logarithmic values, $S_{A.75}$ = 75th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	7-day IC_{25} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			7-day IC_{25}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		75th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.75}$	CT + $S_{A.75}$
1	08-13-24	0.4462	-0.3505	-0.3560	0.0184	0.4406	0.4048	0.4796	0.3593	0.5291	0.2996	0.5816
2	09-10-24	0.4325	-0.3640	-0.3561	0.0185	0.4405	0.4046	0.4796	0.3590	0.5292	0.2995	0.5814
3	10-15-24	0.4238	-0.3729	-0.3560	0.0184	0.4406	0.4048	0.4795	0.3594	0.5289	0.2996	0.5815
4	11-05-24	0.4206	-0.3761	-0.3565	0.0188	0.4401	0.4036	0.4798	0.3572	0.5304	0.2993	0.5809
5	12-03-24	0.4428	-0.3538	-0.3555	0.0184	0.4411	0.4053	0.4800	0.3600	0.5294	0.2999	0.5822
6	01-07-25	0.4280	-0.3686	-0.3549	0.0177	0.4417	0.4071	0.4792	0.3634	0.5266	0.3003	0.5830
7	02-04-25	0.4408	-0.3558	-0.3542	0.0173	0.4424	0.4085	0.4792	0.3657	0.5255	0.3008	0.5840
8	03-04-25	0.4493	-0.3474	-0.3534	0.0173	0.4432	0.4093	0.4799	0.3667	0.5260	0.3014	0.5850
9	04-08-25	0.4382	-0.3583	-0.3545	0.0169	0.4421	0.4091	0.4777	0.3674	0.5228	0.3006	0.5835
10	05-06-25	0.4428	-0.3538	-0.3545	0.0169	0.4421	0.4091	0.4778	0.3674	0.5228	0.3006	0.5836
11	06-03-25	0.4548	-0.3422	-0.3550	0.0162	0.4415	0.4098	0.4757	0.3696	0.5190	0.3002	0.5828
12	07-08-25	0.4342	-0.3624	-0.3562	0.0159	0.4404	0.4093	0.4738	0.3699	0.5162	0.2995	0.5813
13	08-05-25	0.4634	-0.3340	-0.3567	0.0149	0.4398	0.4107	0.4710	0.3736	0.5108	0.2991	0.5806
14	09-09-25	0.4660	-0.3316	-0.3559	0.0158	0.4407	0.4097	0.4740	0.3705	0.5162	0.2997	0.5817
15	10-07-25	0.4336	-0.3629	-0.3570	0.0155	0.4396	0.4093	0.4721	0.3708	0.5135	0.2989	0.5802
16	11-04-25	0.4518	-0.3451	-0.3557	0.0154	0.4408	0.4107	0.4732	0.3724	0.5143	0.2998	0.5819
17	12-02-25	0.4557	-0.3414	-0.3564	0.0143	0.4401	0.4121	0.4701	0.3764	0.5082	0.2993	0.5810
18	01-06-26	0.4187	-0.3781	-0.3579	0.0150	0.4387	0.4094	0.4700	0.3720	0.5100	0.2983	0.5790
19	02-10-26	0.4500	-0.3468	-0.3564	0.0146	0.4401	0.4116	0.4706	0.3753	0.5094	0.2993	0.5809
20	03-03-26	0.4198	-0.3770	-0.3561	0.0140	0.4404	0.4129	0.4698	0.3779	0.5071	0.2995	0.5814

Note:
7-day IC_{25} = 25% inhibition concentration. An estimation of the potassium chloride concentration that would cause a 25% reduction in *Americamysis* growth (calculated using ToxCalc).
CT = Central tendency of the IC_{25} values.
S = Standard deviation of the IC_{25} values.
Control Limits = Mean logarithmic $IC_{25} \pm 2$ standard deviations converted to anti-logarithmic values.
Warning Limits = Mean logarithmic $IC_{25} \pm 2CV$ or $S_{A.75}$ converted to anti-logarithmic values.
$S_{A.75}$ = Standard deviation corresponding to the 75th percentile of CVs reported nationally by USEPA ($S_{A.75} = 0.32$).
CV = Coefficient of variation.

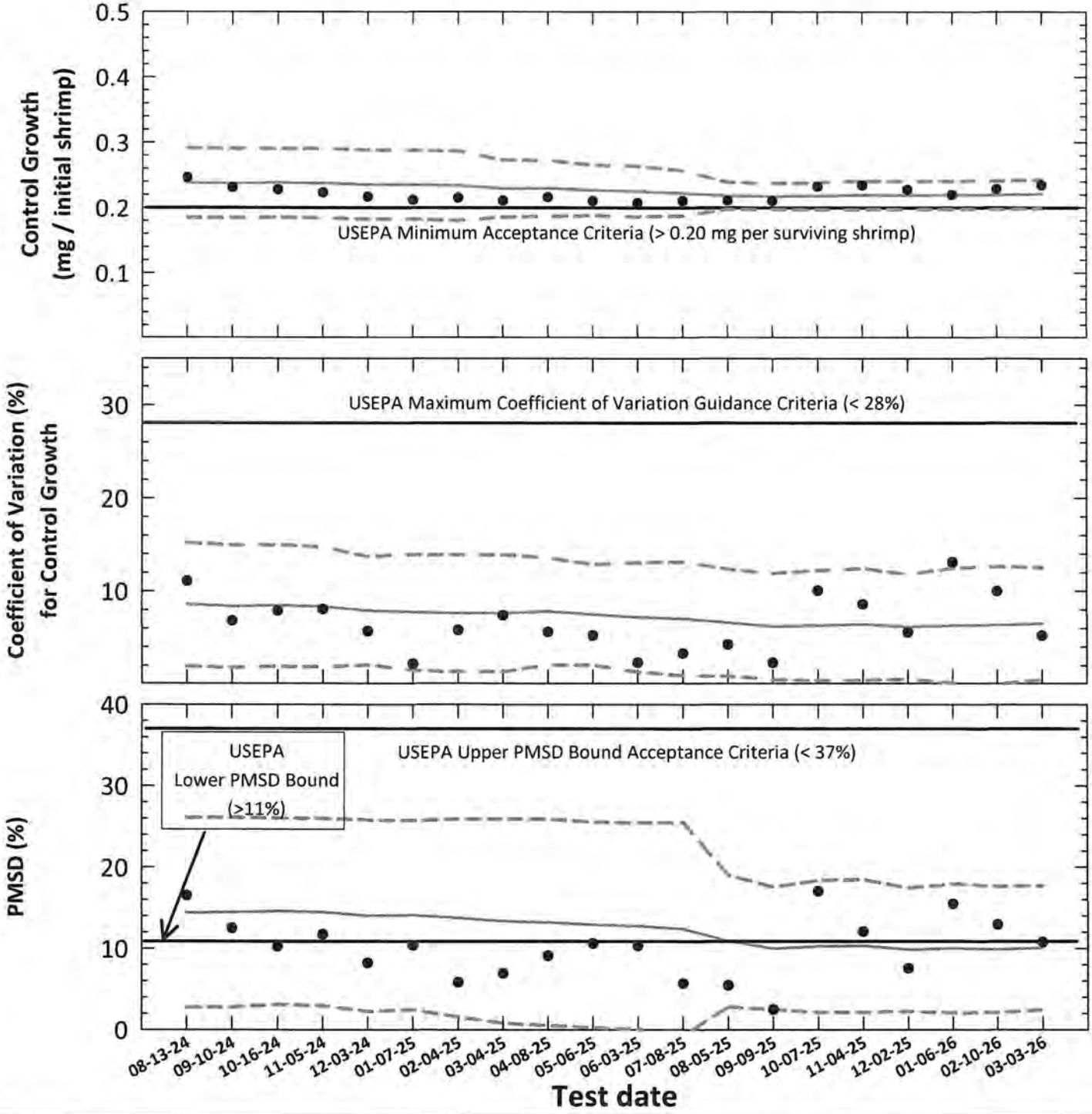
Entered and Reviewed by Jim Summer

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Organism Source: Aquatic Indicators, Inc.



- **Control Growth, Coefficient of Variation (CV) or Percent Minimum Significant Difference (PMSD)**
  PMSD is the percent minimum significant difference between the control and treatment that can be declared statistically significant. The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.
- **Central Tendency** (mean Control Growth, CV or PMSD)
- **95% Confidence Interval** (mean Control Growth, CV or PMSD ± 2 Standard Deviations)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Americamysis (Mysidopsis) bahia
Chronic Reference Toxicant Testing, Test Acceptability Criteria
Source: Aquatic Indicators, Inc.

Test number	Test date	ToxCal Determination					Control Growth (mg/initial shrimp)			Control Growth CV (%)			Test PMSD (%)		
		Control Survival	Control Growth		Test			95% Confidence Interval			95% Confidence Interval			95% Confidence Interval	
		(%)	Mean (mg/initial shrimp)	CV (%)	MSD	PMSD (%)	CT	CT - 2S	CT + 2S	CT	CT - 2S	CT + 2S	CT	CT - 2S	CT + 2S
1	08-13-24	100	0.246	11.1	0.0406	16.5	0.238	0.185	0.292	8.6	1.9	15.2	14.4	2.7	26.1
2	09-10-24	100	0.231	6.8	0.0288	12.5	0.238	0.184	0.291	8.4	1.8	15.0	14.4	2.8	26.1
3	10-16-24	100	0.228	7.9	0.0233	10.2	0.238	0.185	0.291	8.5	1.9	15.0	14.6	3.1	26.0
4	11-05-24	100	0.223	8.0	0.0261	11.7	0.237	0.184	0.291	8.3	1.9	14.8	14.4	2.9	26.0
5	12-03-24	100	0.216	5.7	0.0177	8.2	0.235	0.182	0.288	7.9	2.0	13.7	14.0	2.2	25.8
6	01-07-25	100	0.212	2.2	0.0219	10.4	0.235	0.183	0.288	7.7	1.5	14.0	14.1	2.5	25.7
7	02-04-25	100	0.215	5.8	0.0125	5.8	0.234	0.181	0.287	7.6	1.3	13.9	13.7	1.5	25.9
8	03-04-25	100	0.211	7.4	0.0146	6.9	0.229	0.185	0.273	7.6	1.3	13.9	13.3	0.8	25.9
9	04-08-25	100	0.216	5.6	0.0196	9.1	0.230	0.187	0.273	7.8	2.1	13.6	13.2	0.5	25.9
10	05-06-25	100	0.210	5.2	0.0222	10.6	0.227	0.188	0.265	7.5	2.0	12.9	12.9	0.3	25.5
11	06-03-25	100	0.207	2.3	0.0213	10.3	0.225	0.186	0.264	7.2	1.3	13.1	12.8	0.1	25.4
12	07-08-25	100	0.210	3.3	0.0119	5.7	0.222	0.188	0.257	7.0	0.9	13.2	12.4	-0.7	25.5
13	08-05-25	100	0.211	4.3	0.0115	5.5	0.219	0.198	0.239	6.6	0.9	12.4	10.9	2.8	19.0
14	09-09-25	100	0.210	2.3	0.0052	2.5	0.218	0.198	0.237	6.2	0.5	11.9	10.0	2.5	17.5
15	10-07-25	100	0.232	10.0	0.0395	17.0	0.218	0.197	0.239	6.3	0.4	12.2	10.2	2.1	18.4
16	11-04-25	100	0.234	8.6	0.0282	12.1	0.219	0.197	0.241	6.4	0.4	12.4	10.3	2.1	18.4
17	12-02-25	100	0.228	5.6	0.0171	7.5	0.219	0.197	0.241	6.2	0.5	11.8	9.8	2.2	17.4
18	01-06-26	100	0.220	13.1	0.0339	15.4	0.219	0.198	0.241	6.3	0.1	12.5	10.0	2.0	17.9
19	02-10-26	100	0.229	10.0	0.0296	12.9	0.220	0.198	0.242	6.4	0.0	12.7	9.9	2.1	17.6
20	03-03-26	100	0.234	5.2	0.0252	10.8	0.221	0.199	0.243	6.5	0.5	12.6	10.1	2.4	17.7

Note:

Control Survival = USEPA minimum test acceptability criteria ≥ 80% survival.

Control Mean Growth = USEPA minimum test acceptability criteria ≥ 0.20 mg/surviving shrimp.

CV = Coefficient of variation for control growth.

USEPA maximum CV guidance criteria (90th percentile) < 28%

MSD = Minimum significant difference.

PMSD = Percent minimum significant difference.

PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.

Lower PMSD bound determined by USEPA (10th percentile) > 11%.

The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

Upper PMSD bound acceptance criteria determined by USEPA (90th percentile) < 37%.

CT = Central tendency of the growth, CV or PMSD values.

S = Standard deviation of the growth, CV or PMSD values.

Entered and Reviewed by Jim Siemens

Environmental Testing Solutions, Inc.

Potassium Chloride Chronic Reference Toxicant Test (EPA-821-R-02-014, Method 1007.0)

Species: *Americamysis (Mysidopsis) bahia*

AbKClCR Test Number: 273

Dilution preparation information:						Comments:
KCl Stock INSS number:	INSS 2465					
Stock preparation:	50 g KCl/L: Dissolve 50 g KCl in 1-L Deionized water					
Dilution prep (mg/L)	250	375	500	750	1000	
Stock volume (mL)	10	15	20	30	40	
Diluent volume (mL)	1990	1985	1980	1970	1960	
Total volume (mL)	2000	2000	2000	2000	2000	

Test organism information:		Test information:	
Organism age:	7-days old	Randomizing template:	ORANGE
Date and times organisms were born between:	02-24-26 1200 to 02-25-26 1130	Incubator number and shelf location:	6B
Organism source:	AI Batch Ab: 02-25-26	*Artemia* CHM number:	CHM 1452
		Drying information for weight determination:	
Transfer bowl information:	pH = 8.01 S.U. Temperature = 25.0 °C	Date / Time in oven:	03-10-26 1115
		*Initial oven temperature:	60 °C
Average transfer volume:	< 0.25 mL	Date / Time out of oven:	03-11-26 1115
		*Final oven temperature:	60 °C
		Total drying time:	24-HOURS

*60°C Oven, Thermometer SN: 14-985B5

Daily feeding and renewal information:

Day	Date	Morning feeding		Afternoon feeding		Test initiation, renewal, or termination		Salt SW batch used
		Time	Analyst	Time	Analyst	Time	Analyst	
0	03-03-26	1110	JH	1350	JH	1245	JH	02-25-26A
1	03-04-26	0500	JH	1100	JH	0730	JH	↓
2	03-05-26	0500	JH	1300	JH	0730	JH	02-25-26B
3	03-06-26	0500	JH	1100	JH	0730	JH	↓
4	03-07-26	0655	JH	1230	JH	0905	JH	03-05-26
5	03-08-26	0610	JH	1200	JH	0920	JH	↓
6	03-09-26	0600	JH	1200	JH	0916	JH	↓
7	03-10-26					1049	JH	

Chemical analyses:

Parameter	Reporting Limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved Oxygen (D.O.)	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN250100050300
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1 °C	SM 2550B-2010	Digital Thermometer	130664685

Control information:		Acceptance criteria
% Mortality:	0%	≤ 20%
Average weight per initial shrimp:	0.234	
Average weight per surviving shrimp:	0.234	≥ 0.20 mg/shrimp

Summary of test endpoints:	
7-day LC_{50} (mg/L KCl)	518.6
NOEC (mg/L KCl)	375
LOEC (mg/L KCl)	500
ChV (mg/L KCl)	433.0
IC_{25} (mg/L KCl)	419.8

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **273**

Survival and Growth Data

Day	CONTROL								250 mg KCl/L							
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
3	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
4	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
5	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
6	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
7	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																
*A = Pan weight (mg) Tray color code: Green Analyst: XL Date: 02-20-26	10.26	9.87	13.74	14.16	14.94	12.43	13.91	15.66	12.38	13.51	12.56	10.94	13.18	15.20	14.25	11.62
*B = Pan + Shrimp weight (mg) Analyst: JL Date: 03-12-26	11.42	10.98	14.99	15.42	16.04	13.55	15.09	16.85	13.88	14.69	13.80	12.23	14.44	16.37	15.47	12.71
C = Shrimp weight (mg) = B – A Hand calculated Analyst: JL	1.16	1.11	1.25	1.26	1.10	1.12	1.18	1.19	1.50	1.18	1.24	1.29	1.26	1.17	1.22	1.10
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: JL	0.232	0.222	0.250	0.252	0.220	0.224	0.236	0.238	0.300	0.236	0.248	0.258	0.252	0.234	0.244	0.220
	Average weight per initial number of shrimp (mg) 0.234								Average weight per initial number of shrimp (mg) 0.249				Percent reduction from control (%) -6.37.			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **273**

Survival and Growth Data

Day	375 mg KCl/L								500 mg KCl/L							
	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	4 1d	S
3	S	S	S	S	S	S	S	S	4 1d	S	S	S	S	S	4	S
4	S	S	S	S	S	S	S	S	4	4 1d	S	S	4 1d	S	4	4 1d
5	S	S	S	S	S	S	S	S	4	3 1d	S	4 1d	4	S	4	4
6	S	S	S	S	S	4 1d	S	S	3 1d	3	4 1d	4	4	3 2d	4	2 2d
7	S	S	S	S	S	4	S	S	3	3	3 1d	4	4	3	3 1d	2
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																
*A = Pan weight (mg) Tray color code: Grey Analyst: YC Date: 02/20/26	12.26	14.16	14.49	15.00	10.81	13.10	12.67	12.84	13.46	12.29	13.17	14.08	14.93	12.53	12.54	13.16
*B = Pan + Shrimp weight (mg) Analyst: YC Date: 03/12/26	13.35	15.17	15.52	16.26	11.95	14.16	13.75	13.87	14.18	12.91	13.66	14.59	15.71	13.16	13.03	13.5
C = Shrimp weight (mg) = B – A Hand calculated Analyst: YC	1.09	1.01	1.03	1.26	1.14	1.06	1.08	1.03	0.72	0.62	0.49	0.51	0.78	0.63	0.49	0.4
Weight per initial number of shrimp (mg) = C / Initial number of shrimp Hand calculated Analyst: YC	0.218	0.202	0.206	0.252	0.228	0.212	0.216	0.206	0.144	0.124	0.098	0.102	0.156	0.126	0.098	0.08
	Average weight per initial number of shrimp (mg) 0.218				Percent reduction from control (%) 7.27.				Average weight per initial number of shrimp (mg) 0.116				Percent reduction from control (%) 50.47.			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

AbKClCR Test Number: **273**

Survival and Growth Data

Day	750 mg KCl/L								1000 mg KCl/L							
	GG	HH	II	JJ	KK	LL	MM	NN	OO	PP	QQ	RR	SS	TT	UU	VV
0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd	0 sd
2																
3																
4																
5																
6																
7																
# females with eggs in brood sac																
# females with developing ova in oviducts																
# immature females																
# males																
*A = Pan weight (mg) Tray color code: _____ Analyst: _____ Date: _____																
*B = Pan + Shrimp weight (mg) Analyst: _____ Date: _____																
C = Shrimp weight (mg) = B – A Hand calculated Analyst: _____																03-04 k
Weight per initial number of shrimp (mg) = C / initial number of shrimp Hand calculated Analyst: _____	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100%				Average weight per initial number of shrimp (mg) 0				Percent reduction from control (%) 100%			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

Americamysis bahia Chronic Reference Toxicant Test
EPA-821-R-02-014, Method 1007.0

Quality Control
Verification of Data Entry, Calculations, and Statistical Analyses

Test number: 27

Test dates: March 03-10, 202

Concentration (mg/L KCl)	Replicate	Initial number of larvae	Final number of larvae	A = Pan weight (mg)	B = Pan + Larvae weight (mg)	Larvae weight (mg) = B - A	Weight / initial number of larvae (mg)	Mean survival (%)	Mean weight (mg)	Coefficient of variation (%)	Percent reduction from control (%)
Control	A	5	5	10.26	11.42	1.16	0.232	100.0	0.234	5.2	Not applicable
	B	5	5	9.87	10.98	1.11	0.222				
	C	5	5	13.74	14.99	1.25	0.250				
	D	5	5	14.16	15.42	1.26	0.252				
	E	5	5	14.94	16.04	1.10	0.220				
	F	5	5	12.43	13.55	1.12	0.224				
	G	5	5	13.91	15.09	1.18	0.236				
	H	5	5	15.66	16.85	1.19	0.238				
250	I	5	5	12.38	13.88	1.50	0.300	100.0	0.249	9.5	-6.3
	J	5	5	13.51	14.69	1.18	0.236				
	K	5	5	12.56	13.80	1.24	0.248				
	L	5	5	10.94	12.23	1.29	0.258				
	M	5	5	13.18	14.44	1.26	0.252				
	N	5	5	15.20	16.37	1.17	0.234				
	O	5	5	14.25	15.47	1.22	0.244				
	P	5	5	11.62	12.72	1.10	0.220				
375	Q	5	5	12.26	13.35	1.09	0.218	97.5	0.218	7.5	7.2
	R	5	5	14.16	15.17	1.01	0.202				
	S	5	5	14.49	15.52	1.03	0.206				
	T	5	5	15.00	16.26	1.26	0.252				
	U	5	5	10.81	11.95	1.14	0.228				
	V	5	4	13.10	14.16	1.06	0.212				
	W	5	5	12.67	13.75	1.08	0.216				
	X	5	5	12.84	13.87	1.03	0.206				
500	Y	5	3	13.46	14.18	0.72	0.144	62.5	0.116	21.9	50.4
	Z	5	3	12.29	12.91	0.62	0.124				
	AA	5	3	13.17	13.66	0.49	0.098				
	BB	5	4	14.08	14.59	0.51	0.102				
	CC	5	4	14.93	15.71	0.78	0.156				
	DD	5	3	12.53	13.16	0.63	0.126				
	EE	5	3	12.54	13.03	0.49	0.098				
	FF	5	2	13.16	13.57	0.41	0.082				
750	GG	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	HH	5	0	0.00	0.00	0.00	0.000				
	II	5	0	0.00	0.00	0.00	0.000				
	JJ	5	0	0.00	0.00	0.00	0.000				
	KK	5	0	0.00	0.00	0.00	0.000				
	LL	5	0	0.00	0.00	0.00	0.000				
	MM	5	0	0.00	0.00	0.00	0.000				
	NN	5	0	0.00	0.00	0.00	0.000				
1000	OO	5	0	0.00	0.00	0.00	0.000	0.0	0.000	0.0	100.0
	PP	5	0	0.00	0.00	0.00	0.000				
	QQ	5	0	0.00	0.00	0.00	0.000				
	RR	5	0	0.00	0.00	0.00	0.000				
	SS	5	0	0.00	0.00	0.00	0.000				
	TT	5	0	0.00	0.00	0.00	0.000				
	UU	5	0	0.00	0.00	0.00	0.000				
	VV	5	0	0.00	0.00	0.00	0.000				

Dunnett's MSD value: 0.0252
PMSD: 10.8

MSD = Minimum Significant Difference
PMSD = Percent Minimum Significant Difference

PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.

Lower PMSD bound determined by USEPA (10th percentile) = 11%.
Upper PMSD bound determined by USEPA (90th percentile) = 37%.
Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b). The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

USEPA. 2001a, 2001b. Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods, Volumes 1 and 2-Appendix. EPA-821-B-01-004 and EPA-821-B-01-005. US Environmental Protection Agency, Cincinnati, OH.

ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Entered and Reviewed by Jim Sumner

Mysid Survival and Growth Test-7 Day Survival

Start Date:	3/3/2026	Test ID:	AbKCICR	Sample ID:	REF-Ref Toxicant
End Date:	3/10/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
250	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
375	1.0000	1.0000	1.0000	1.0000	1.0000	0.8000	1.0000	1.0000
500	0.6000	0.6000	0.6000	0.8000	0.8000	0.6000	0.6000	0.4000
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Resp	Number
D-Control	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8			0	40
250	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	8	68.00	48.00	0	40
375	0.9750	0.9750	1.3155	1.1071	1.3453	6.400	8	64.00	48.00	1	40
*500	0.6250	0.6250	0.9162	0.6847	1.1071	14.934	8	36.00	48.00	15	40
750	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40
1000	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	8			40	40

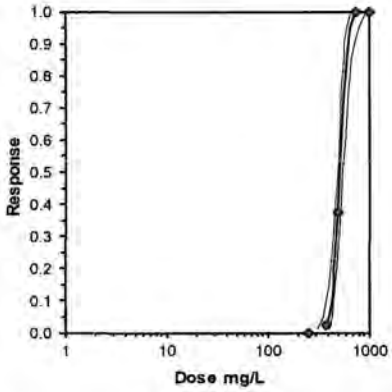
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.70552	0.904	-0.5776	5.24587
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	375	500	433.013	
Treatments vs D-Control				

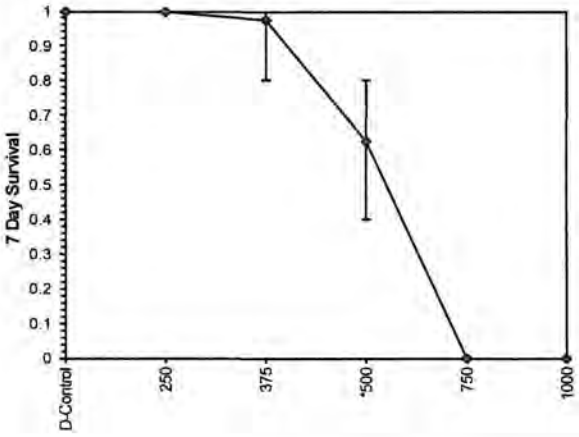
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	15.4618	2.83081	9.91342	21.0102	0	0.68812	7.81472	0.876	2.71485	0.06468	5
Intercept	-36.976	7.63241	-51.936	-22.017							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	366.769	306.03	402.051
EC05	3.355	405.946	356.647	435.499
EC10	3.718	428.514	386.174	455.389
EC15	3.964	444.445	406.845	470.033
EC20	4.158	457.528	423.495	482.651
EC25	4.326	469.058	437.761	494.377
EC40	4.747	499.418	472.525	528.929
EC50	5.000	518.621	492.029	553.919
EC60	5.253	538.561	510.471	582.21
EC75	5.674	573.42	539.664	635.995
EC80	5.842	587.871	551.024	659.51
EC85	6.036	605.176	564.242	688.414
EC90	6.282	627.675	580.95	727.058
EC95	6.645	662.57	606.083	789.069
EC99	7.326	733.344	655.087	921.571



Dose-Response Plot



ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Entered and Reviewed by Jim Sumner

Mysid Survival and Growth Test-Growth-Weight

Start Date:	3/3/2026	Test ID:	AbKCICR	Sample ID:	REF-Ref Toxicant
End Date:	3/10/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	AB-Americamysis bahia
Comments:					

Conc-mg/L	1	2	3	4	5	6	7	8
D-Control	0.2320	0.2220	0.2500	0.2520	0.2200	0.2240	0.2360	0.2380
250	0.3000	0.2360	0.2480	0.2580	0.2520	0.2340	0.2440	0.2200
375	0.2180	0.2020	0.2060	0.2520	0.2280	0.2120	0.2160	0.2060
500	0.1440	0.1240	0.0980	0.1020	0.1560	0.1260	0.0980	0.0820
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

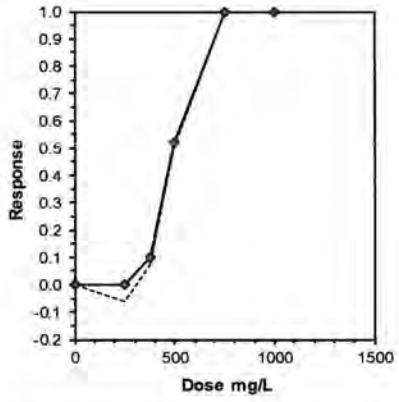
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	0.2343	1.0000	0.2343	0.2200	0.2520	5.212	8				0.2416	1.0000
250	0.2490	1.0630	0.2490	0.2200	0.3000	9.542	8	-1.635	2.799	0.0252	0.2416	1.0000
375	0.2175	0.9285	0.2175	0.2020	0.2520	7.450	8	1.857	2.799	0.0252	0.2175	0.9002
500	0.1163	0.4963	0.1163	0.0820	0.1560	21.925	8				0.1163	0.4811
750	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8				0.0000	0.0000
1000	0.0000	0.0000	0.0000	0.0000	0.0000	0.000	8				0.0000	0.0000

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.89979	0.884	1.31833	2.52462
Bartlett's Test indicates equal variances (p = 0.23)	2.92372	9.21035		

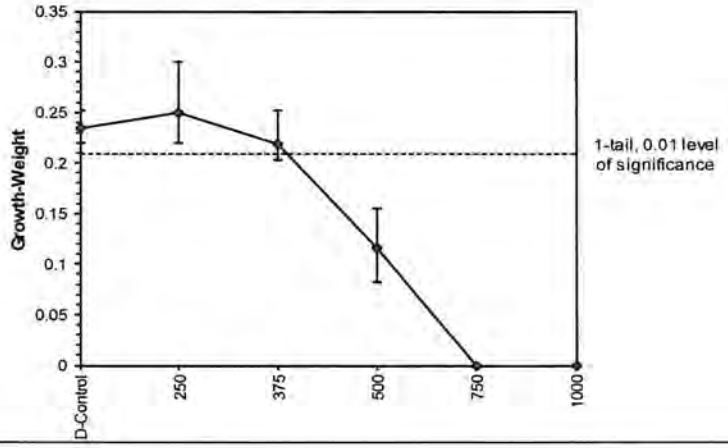
Hypothesis Test (1-tail, 0.01)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	375	>375			0.02524	0.10776	0.00199	0.00033	0.00812	2, 21

Linear Interpolation (200 Resamples)

Point	mg/L	SD	95% CL		Skew
IC05	312.60	18.21	292.91	366.60	1.3924
IC10	375.05	14.84	335.83	388.52	-0.7510
IC15	389.96	6.90	376.57	403.26	-0.2616
IC20	404.88	6.44	391.85	418.72	-0.0048
IC25	419.79	6.55	406.49	434.74	0.0612
IC40	464.54	8.90	449.63	488.84	0.4009
IC50	494.37	12.70	477.33	530.00	0.6546



Dose-Response Plot



Environmental Testing Solutions, Inc.

AbKClCR Test Number: **273**

Daily Chemistry:

Temperatures performed at the time of test initiation, renewal or termination by the analyst identified in the Daily Renewal Information table located on Page 1. Alkalinity performed by the analyst identified on the bench sheet specific for this analysis and transcribed to this bench sheet.

Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 0		1		2	
	Analyst	[illegible]	XL	XL	XL	XL	XL
CONTROL, Salt SW	pH (S.U.)	8.14	7.97	8.09	7.97	8.06	7.96
	DO (mg/L)	8.1	8.0	8.2	7.9	8.2	8.0
	Salinity (ppt)	25.1	25.1	25.0	25.1	25.0	25.2
	Alkalinity (mg $CaCO_3$/L)	110				120	
	Temperature (°C)	26.2	25.4	25.2	25.4	25.2	25.9
250 mg KCl/L	pH (S.U.)	8.10	7.97	8.04	7.94	8.00	7.94
	DO (mg/L)	8.2	8.0	8.2	7.9	8.2	8.0
	Salinity (ppt)	25.2	25.1	25.1	25.3	24.8	25.3
	Temperature (°C)	25.2	25.2	25.2	25.1	25.1	25.6
375 mg KCl/L	pH (S.U.)	8.08	7.98	8.04	7.93	8.00	7.95
	DO (mg/L)	8.2	8.0	8.2	7.9	8.2	8.0
	Salinity (ppt)	25.2	25.2	25.1	25.4	25.1	25.1
	Temperature (°C)	25.3	25.2	25.3	25.1	25.1	25.6
500 mg KCl/L	pH (S.U.)	8.08	7.98	8.03	7.93	8.00	7.94
	DO (mg/L)	8.3	8.0	8.2	7.9	8.1	7.8
	Salinity (ppt)	25.3	25.2	25.2	25.6	25.1	25.4
	Temperature (°C)	25.1	25.2	25.3	25.2	25.1	25.7
750 mg KCl/L	pH (S.U.)	8.08	7.97				
	DO (mg/L)	8.3	7.9				
	Salinity (ppt)	25.5	25.6				
	Temperature (°C)	25.1	25.2				
1000 mg KCl/L	pH (S.U.)	8.08	7.97			ok	
	DO (mg/L)	8.3	7.9			03.04	
	Salinity (ppt)	25.6	25.7				26
	Temperature (°C)	25.1	25.4				
		Initial	Final	Initial	Final	Initial	Final

Environmental Testing Solutions, Inc.

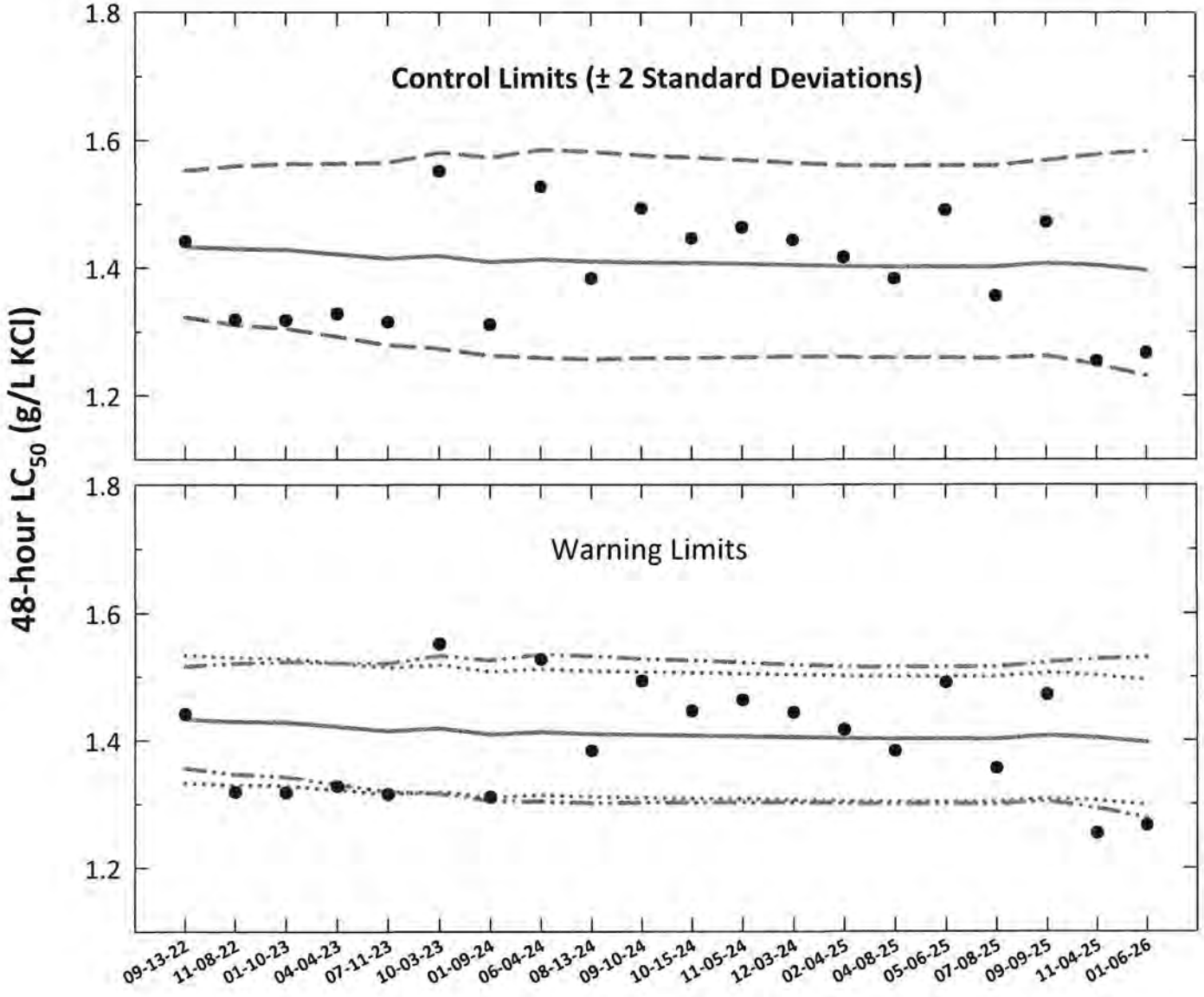
AbKClCR Test Number: 273

Conc.	Parameter	Day (Analyst identified for each day, performed pH, D.O. and salinity measurements only.) 3		4		5		6	
	Analyst	XL	BSL	BSL	BSL	BSL	XL	XL	[illegible]
CONTROL, Salt SW	pH (S.U.)	8.06	~~8.20~~ 7.98	8.20	7.85	8.12	7.97	8.11	7.83
	DO (mg/L)	8.3	* ~~8.4~~ 7.9	8.4	7.6	8.4	7.7	8.1	6.6
	Salinity (ppt)	25.0	25.2	25.2	25.0	25.1	25.0	25.0	25.4
	Alkalinity (mg $CaCO_3$/L)			140					
	Temperature (°C)	25.2	25.7	25.2	25.7	25.3	25.7	25.2	25.6
250 mg KCl/L	pH (S.U.)	8.04	~~8.13~~ 7.92	8.13	7.89	8.11	7.94	8.11	7.82
	DO (mg/L)	8.3	7.8	8.4	7.7	8.5	7.7	8.1	5.9
	Salinity (ppt)	25.2	25.3	25.4	25.2	25.3	25.1	25.3	25.3
	Temperature (°C)	25.1	25.5	25.3	25.5	25.1	25.6	25.3	25.7
375 mg KCl/L	pH (S.U.)	8.04	~~8.12~~ 7.94	8.12	7.88	8.12	7.98	8.11	7.83
	DO (mg/L)	8.2	7.8	8.4	7.7	8.5	7.8	8.1	6.1
	Salinity (ppt)	25.3	25.4	25.4	25.4	25.4	25.4	25.3	25.4
	Temperature (°C)	25.1	25.6	25.2	25.5	25.1	25.6	25.3	25.7
500 mg KCl/L	pH (S.U.)	8.04	~~8.12~~ 7.97	8.12	7.94	8.12	7.96	8.12	7.84
	DO (mg/L)	8.2	7.8	8.5	7.7	8.4	7.5	8.1	6.2
	Salinity (ppt)	25.4	25.5	25.4	25.6	25.3	25.5	25.5	25.6
	Temperature (°C)	25.2	25.8	25.3	25.6	25.2	25.6	25.2	25.7
750 mg KCl/L	pH (S.U.)								
	DO (mg/L)								
	Salinity (ppt)								
	Temperature (°C)								
1000 mg KCl/L	pH (S.U.)								
	DO (mg/L)								
	Salinity (ppt)								
	Temperature (°C)								
		Initial	Final	Initial	Final	Initial	Final	Initial	Final

* BSL 03.07.26 verified correct

ETS
Environmental Testing Solutions, Inc.

Menidia beryllina
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



- **48-hour LC_{50}** = median lethal concentration. An estimation of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).
- **Central Tendency** (mean logarithmic LC_{50} converted to anti-logarithmic values)
- **Control Limits** (mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values)
- **Laboratory Warning Limits** (mean logarithmic LC_{50} ± 2 coefficent of variations converted to anti-logarithmic values)
- **USEPA Warning Limits** (mean logarithmic $LC_{50} \pm S_{A.10}$ converted to anti-logarithmic values, $S_{A.10}$ = 10th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Menidia beryllina
Acute Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.

Test number	Test date	48-hour LC_{50} ToxCal Determination (g/L KCl)	Log_{10} Conversion			Anti-logarithmic Values (g/L KCl)						
			48-hour LC_{50}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		10th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.10}$	CT + $S_{A.10}$
1	09-13-22	1.4415	0.1588	0.1563	0.0174	1.4331	1.3231	1.5524	1.3563	1.5163	1.3328	1.5335
2	11-08-22	1.3190	0.1202	0.1552	0.0189	1.4297	1.3106	1.5596	1.3464	1.5205	1.3296	1.5298
3	01-10-23	1.3180	0.1199	0.1548	0.0196	1.4284	1.3053	1.5630	1.3422	1.5227	1.3284	1.5283
4	04-04-23	1.3283	0.1233	0.1528	0.0206	1.4216	1.2927	1.5634	1.3309	1.5213	1.3221	1.5211
5	07-11-23	1.3153	0.1190	0.1507	0.0219	1.4149	1.2793	1.5649	1.3190	1.5209	1.3158	1.5139
6	10-03-23	1.5515	0.1908	0.1520	0.0235	1.4190	1.2738	1.5809	1.3167	1.5331	1.3197	1.5184
7	01-09-24	1.3113	0.1177	0.1490	0.0239	1.4094	1.2627	1.5732	1.3053	1.5256	1.3107	1.5081
8	06-04-24	1.5271	0.1839	0.1502	0.0250	1.4131	1.2594	1.5854	1.3043	1.5351	1.3142	1.5120
9	08-13-24	1.3832	0.1409	0.1493	0.0250	1.4102	1.2569	1.5823	1.3015	1.5322	1.3115	1.5089
10	09-10-24	1.4930	0.1740	0.1488	0.0244	1.4087	1.2589	1.5763	1.3024	1.5277	1.3101	1.5073
11	10-15-24	1.4461	0.1602	0.1484	0.0242	1.4075	1.2593	1.5731	1.3022	1.5251	1.3090	1.5060
12	11-05-24	1.4632	0.1653	0.1480	0.0238	1.4062	1.2603	1.5689	1.3024	1.5219	1.3077	1.5046
13	12-03-24	1.4436	0.1594	0.1476	0.0235	1.4047	1.2609	1.5649	1.3023	1.5188	1.3064	1.5030
14	02-04-25	1.4168	0.1513	0.1470	0.0232	1.4029	1.2607	1.5611	1.3015	1.5156	1.3047	1.5011
15	04-08-25	1.3832	0.1409	0.1468	0.0232	1.4021	1.2597	1.5605	1.3006	1.5150	1.3039	1.5002
16	05-06-25	1.4906	0.1734	0.1468	0.0233	1.4022	1.2596	1.5610	1.3005	1.5154	1.3040	1.5004
17	07-08-25	1.3559	0.1322	0.1467	0.0234	1.4017	1.2587	1.5611	1.2997	1.5154	1.3036	1.4999
18	09-09-25	1.4716	0.1678	0.1484	0.0236	1.4073	1.2623	1.5690	1.3042	1.5222	1.3088	1.5058
19	11-04-25	1.2543	0.0984	0.1473	0.0254	1.4038	1.2488	1.5780	1.2934	1.5279	1.3055	1.5021
20	01-06-26	1.2670	0.1028	0.1450	0.0273	1.3964	1.2316	1.5833	1.2784	1.5303	1.2987	1.4942

Note: **48-hour LC_{50}** = 48-hour median lethal concentration. An estimate of the potassium chloride concentration which is lethal to 50% of the test organisms in 48-hours (calculated using ToxCalc).

CT = Central tendency of the LC_{50} values.

S = Standard deviation of the LC_{50} values.

Control Limits = Mean logarithmic LC_{50} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic LC_{50} ± 2CV or $S_{A.10}$ converted to anti-logarithmic values.

$S_{A.10}$ = Standard deviation corresponding to the 10^{th} percentile of CVs reported nationally by USEPA. ($S_{A.10}$ = 0.07)

CV = Coefficient of variation.

ETS

Acute LC_{50} Whole Effluent Toxicity Test, Species: *Menidia beryllina*
EPA-821-R-02-012, Method 2006.0

Menidia beryllina Potassium Chloride Acute Reference Toxicant Test

MbKClAC # 105

Dilution Preparation:

Test concentrations (mg/L KCl)	1000	1250	1500	1750	2000
mL Stock solution	20	25	30	35	40
mL Dilution water	980	975	970	965	960
Total volume (mL)	1000	1000	1000	1000	1000

A stock solution was prepared by diluting 100 g KCl into 2000 mL deionized water. This 50,000 mg/L KCl stock solution was used to prepare the concentrations evaluated for toxicity.

Stock solution INSS #: 2447

Chemical Analyses:

		Hours		
		0	24	48
Concentration	Analyst	XL	XL	XL
Control, SaltSW	pH (S.U.)	8.23	8.06	7.97
	Dissolved oxygen (mg/L)	8.4	8.0	8.0
	*Salinity (ppt)	25.0	25.3	26.1
	*Alkalinity (mg/L $CaCO_3$)	150		
	*Temperature (°C)	24.1	25.2	25.1
1000 mg/L	pH (S.U.)	8.17	8.05	7.96
	Dissolved oxygen (mg/L)	8.4	8.0	8.0
	*Salinity (ppt)	26.0	26.1	26.3
	*Temperature (°C)	24.8	25.2	25.0
1250 mg/L	pH (S.U.)	8.17	8.07	8.00
	Dissolved oxygen (mg/L)	8.4	8.0	8.0
	*Salinity (ppt)	25.9	26.1	26.4
	*Temperature (°C)	25.0	25.2	25.4
1500 mg/L	pH (S.U.)	8.17	8.06	7.94
	Dissolved oxygen (mg/L)	8.4	8.0	7.8
	*Salinity (ppt)	26.0	26.2	26.5
	*Temperature (°C)	25.2	25.4	25.0
1750 mg/L	pH (S.U.)	8.18	8.05	7.97
	Dissolved oxygen (mg/L)	8.4	8.0	7.8
	*Salinity (ppt)	26.2	26.4	27.5
	*Temperature (°C)	25.1	25.1	25.0
2000 mg/L	pH (S.U.)	8.17	8.06	
	Dissolved oxygen (mg/L)	8.4	8.0	
	*Salinity (ppt)	26.3	26.6	
	*Temperature (°C)	25.3	25.4	

all dead 96

*Analyst identified for each day, performed pH and dissolved oxygen measurements only. Temperat and salinity performed at the time of test initiation or termination by the analyst performing the toxi test. Alkalinity performed by the analyst identified on the test specific bench sheet and transcribed t this bench sheet.

Chemical analyses:

Parameter	Reporting limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved oxygen	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN250100050300
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1 °C	SM 2550B-2010	Digital Thermometer	13066405

ETC

Acute LC_{50} Whole Effluent Toxicity Test, Species: Menidia beryllina
EPA-821-R-02-012, Method 2006.0

Menidia beryllina Potassium Chloride Acute Reference Toxicant Test

MbKClAC # 105

Hours	Date	Feeding		Test Initiation or Termination		Location	Randomizing	SaltSW Batch
		Time	Analyst	Time	Analyst	Incubator/Shelf	Template	
0 Initiation	01-06-26	* 1045	JH	1356	JP	6D	right Green	01-05-26A
24	01-07-26			1355	JP			
48 Termination	01-08-26			1412	JP			

*Test organisms were fed in holding 2 to 5 hours prior to test initiation. Test organisms were not fed during the test.

Test Organism Information:

Organism Source:	Aquatic Indicators, Inc.
Batch (AI Batch Mb):	12-27-25
Age (9 to 14 days old):	9-10 DAYS
Date organisms were born:	12-26-25 1200 TO 12-27-25 1130
Average transfer volume:	< 0.25 mL
Transfer bowl information:	pH (S.U.): 7.71
	Temperature (°C) 24.2°C

Survival Data **(number of living organisms):**

Hours	Control		1000 mg/L		1250 mg/L		1500 mg/L		1750 mg/L		2000 mg/L	
	Replicate		Replicate		Replicate		Replicate		Replicate		Replicate	
	A	B	C	D	E	F	G	H	I	J	K	L
0 Initiation	10	10	10	10	10	10	10	10	10	10	10	10
24	10	10	10	9 d	9 d	5 sd	8 sd	5 sd	1 sd	0 ud	0 ud	0 ud
48 Termination	10	10	9 d	8 d	6 sd	4 d	3 sd	3 sd	1	0	0	0
Mean Survival	100%		85%		50%		30%		5%		0%	

Comment codes: d = dead, u = unhealthy, s = stressed

Statistics:

Method	Probit
Lower 95% confidence limit (mg KCl/L)	1165.8
Upper 95% confidence limit (mg KCl/L)	1356.3
48-hour LC_{50} (mg KCl/L)	1267.0

Comments:

Test Reviewed by:

ETS Environmental Testing Solutions, Inc.

Statistical Analyses

Acute Silverside Test-24 Hr Survival

Start Date:	1/6/2026	Test ID:	MbKClAC	Sample ID:	REF-Ref Toxicant
End Date:	1/8/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	MB-Menidia beryllina
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1000	1.0000	0.9000
1250	0.9000	0.5000
1500	0.8000	0.5000
1750	0.1000	0.0000
2000	0.0000	0.0000

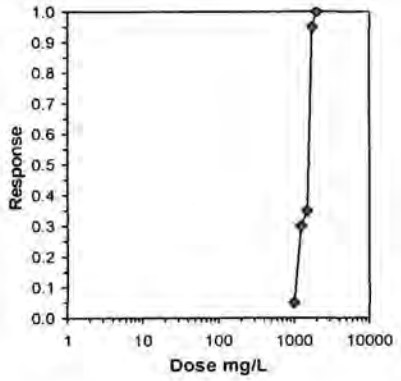
			Transform: Arcsin Square Root					1-Tailed			Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
1000	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	0.423	2.850	0.5494	1	20
1250	0.7000	0.7000	1.0172	0.7854	1.2490	32.230	2	2.048	2.850	0.5494	6	20
1500	0.6500	0.6500	0.9463	0.7854	1.1071	24.043	2	2.416	2.850	0.5494	7	20
*1750	0.0500	0.0500	0.2403	0.1588	0.3218	47.963	2	6.078	2.850	0.5494	19	20
2000	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

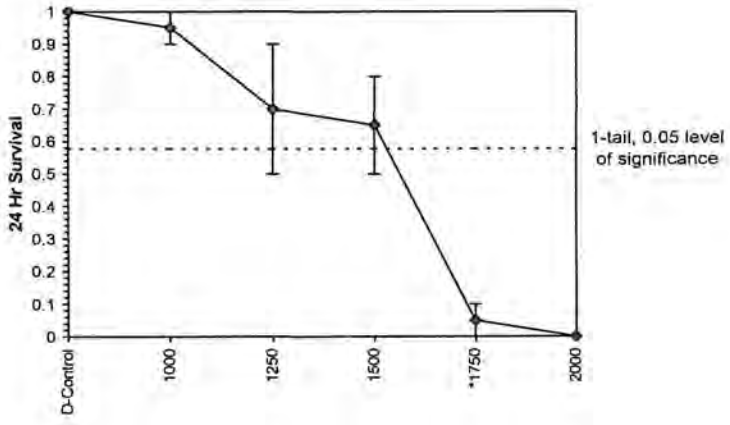
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	1500	1750	1620.19		0.39809	0.4083	0.42941	0.03716	0.00969	4, 5
Treatments vs D-Control										

Trimmed Spearman-Karber

Trim Level	EC50	95% CL	
0.0%			
5.0%	1447.95	1359.89	1541.71
10.0%	1462.94	1365.83	1566.94
20.0%	1496.9	1380.81	1622.75
Auto-5.0%	1447.95	1359.89	1541.71



Dose-Response Plot



ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Acute Silverside Test-48 Hr Survival

Start Date:	1/6/2026	Test ID:	MbKClAC	Sample ID:	REF-Ref Toxicant
End Date:	1/8/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	KCL-Potassium chloride
Sample Date:		Protocol:	ACUTE-EPA-821-R-02-012	Test Species:	MB-Menidia beryilina
Comments:					

Conc-mg/L	1	2
D-Control	1.0000	1.0000
1000	0.9000	0.8000
1250	0.6000	0.4000
1500	0.3000	0.3000
1750	0.1000	0.0000
2000	0.0000	0.0000

			Transform: Arcsin Square Root						1-Tailed		Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2				0	20
1000	0.8500	0.8500	1.1781	1.1071	1.2490	8.517	2	2.504	2.850	0.2662	3	20
*1250	0.5000	0.5000	0.7854	0.6847	0.8861	18.129	2	6.709	2.850	0.2662	10	20
*1500	0.3000	0.3000	0.5796	0.5796	0.5796	0.000	2	8.912	2.850	0.2662	14	20
*1750	0.0500	0.0500	0.2403	0.1588	0.3218	47.963	2	12.545	2.850	0.2662	19	20
2000	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2				20	20

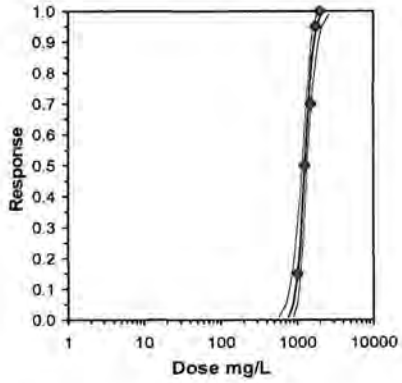
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Normality of the data set cannot be confirmed				
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	1000	1250	1118.03		0.14499	0.14871	0.43598	0.00872	3.2E-04	4, 5
Treatments vs D-Control										

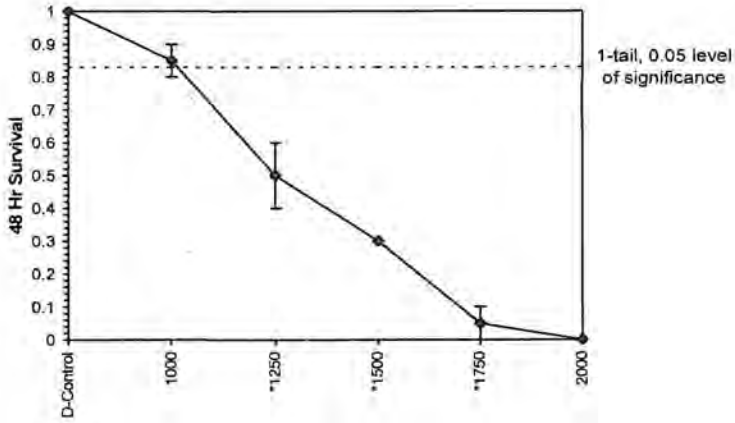
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	10.6867	1.8146	7.13006	14.2433	0	1.34056	7.81472	0.71953	3.10278	0.09357	3
Intercept	-28.158	5.68045	-39.292	-17.025							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	767.523	572.955	893.848
EC05	3.355	888.919	711.22	1001.86
EC10	3.718	961.298	797.159	1065.93
EC15	3.964	1013.43	860.251	1112.33
EC20	4.158	1056.88	913.321	1151.43
EC25	4.326	1095.63	960.823	1186.84
EC40	4.747	1199.7	1087.2	1286.35
EC50	5.000	1267.01	1165.81	1356.31
EC60	5.253	1338.09	1243.91	1437.2
EC75	5.674	1465.19	1368.48	1602.15
EC80	5.842	1518.91	1416.07	1678.92
EC85	6.036	1584.03	1470.81	1776.47
EC90	6.282	1669.93	1539.42	1911.38
EC95	6.645	1805.9	1642.38	2136.43
EC99	7.326	2091.53	1845.57	2645.2

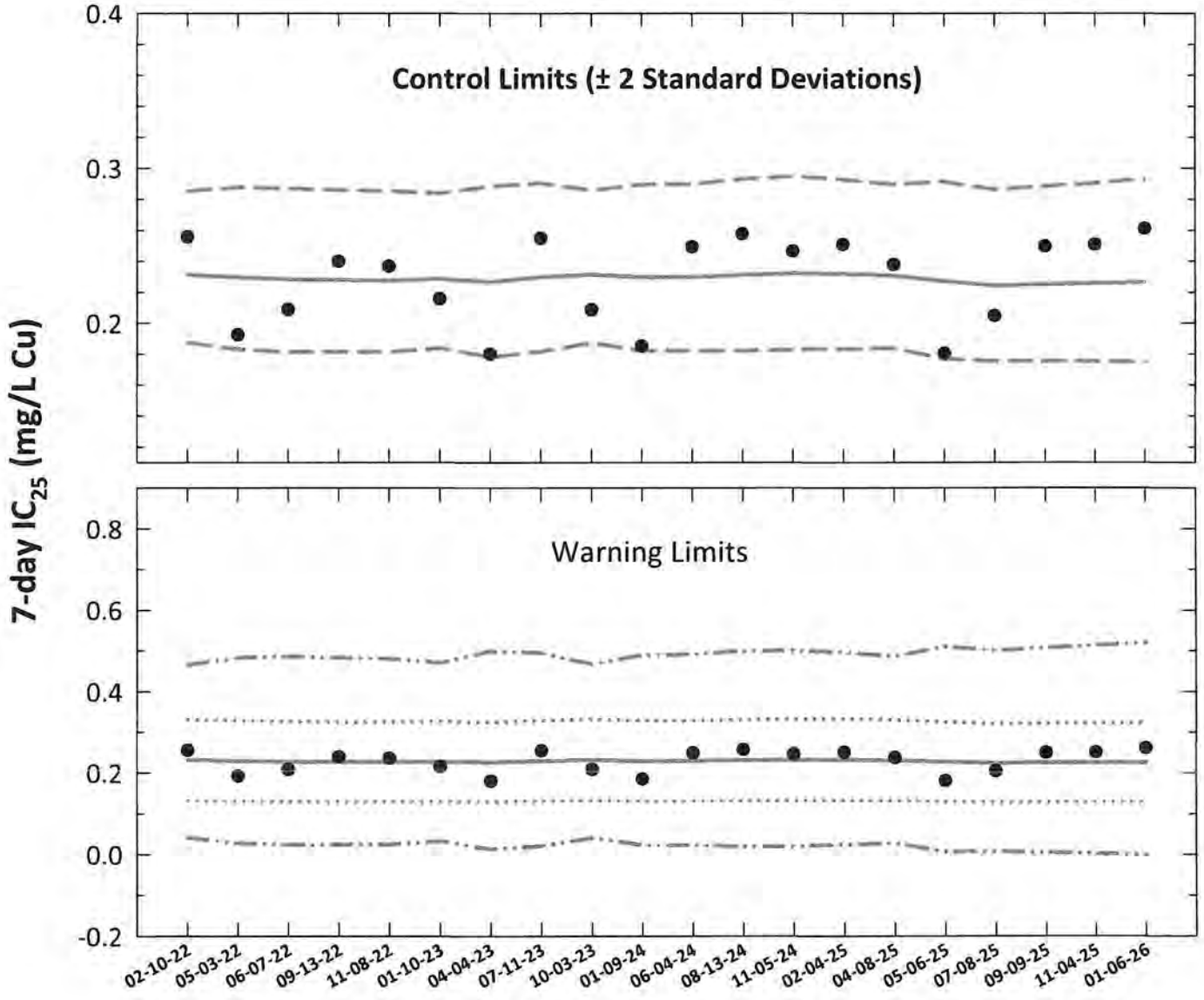


Dose-Response Plot



ETS
Environmental Testing Solutions, Inc.

Menidia beryllina
Chronic Reference Toxicant Control Chart
Source: Aquatic Indicators, Inc.



Test date

- ● **7-day IC_{25}** = 25% inhibition concentration. An estimation of the copper concentration which would cause a 25% reduction in *Menidia* growth (calculated using ToxCalc).
- ——— **Central Tendency** (mean logarithmic IC_{25} converted to anti-logarithmic values)
- — — — **Control Limits** (mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values)
- — · — · **Laboratory Warning Limits** (mean logarithmic IC_{25} ± 2 coefficent of variations converted to anti-logarithmic values)
- ····· **USEPA Warning Limits** (mean logarithmic $IC_{25} \pm S_{A.75}$ converted to anti-logarithmic values, $S_{A.75}$ = 75th percentile of CVs reported nationally by USEPA)

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Menidia beryllina

Chronic Reference Toxicant Control Chart

Source: Aquatic Indicators, Inc.

Test number	Test date	7-day IC_{25} ToxCal Determination (mg/L Cu)	Log_{10} Conversion			Anti-logarithmic Values (mg/L Cu)						
			7-day IC_{25}	CT	S	CT	Control Limits		Laboratory Calculated CV Warning Limits		75th Percentile CV Warning Limits	
							CT - 2S	CT + 2S	CT - 2CV	CT + 2CV	CT - $S_{A.75}$	CT + $S_{A.75}$
1	02-10-22	0.2557	-0.5923	-0.6359	0.0457	0.2313	0.1874	0.2855	0.0414	0.4656	0.1318	0.3307
2	05-03-22	0.1925	-0.7156	-0.6390	0.0490	0.2296	0.1832	0.2877	0.0276	0.4827	0.1309	0.3283
3	06-07-22	0.2088	-0.6803	-0.6415	0.0498	0.2283	0.1815	0.2872	0.0233	0.4861	0.1301	0.3265
4	09-13-22	0.2399	-0.6200	-0.6422	0.0494	0.2279	0.1816	0.2861	0.0246	0.4831	0.1299	0.3259
5	11-08-22	0.2368	-0.6256	-0.6428	0.0491	0.2276	0.1816	0.2853	0.0254	0.4811	0.1297	0.3255
6	01-10-23	0.2159	-0.6657	-0.6408	0.0471	0.2287	0.1841	0.2841	0.0337	0.4708	0.1304	0.3270
7	04-04-23	0.1799	-0.7450	-0.6447	0.0523	0.2266	0.1781	0.2884	0.0125	0.4991	0.1292	0.3241
8	07-11-23	0.2548	-0.5938	-0.6387	0.0509	0.2298	0.1818	0.2905	0.0208	0.4939	0.1310	0.3286
9	10-03-23	0.2086	-0.6807	-0.6356	0.0459	0.2314	0.1873	0.2859	0.0408	0.4669	0.1319	0.3309
10	01-09-24	0.1852	-0.7324	-0.6387	0.0502	0.2298	0.1824	0.2896	0.0233	0.4900	0.1310	0.3286
11	06-04-24	0.2493	-0.6033	-0.6383	0.0504	0.2300	0.1823	0.2901	0.0227	0.4914	0.1311	0.3288
12	08-13-24	0.2577	-0.5889	-0.6360	0.0516	0.2312	0.1823	0.2932	0.0196	0.4996	0.1318	0.3306
13	11-05-24	0.2466	-0.6080	-0.6338	0.0518	0.2324	0.1831	0.2950	0.0201	0.5019	0.1325	0.3323
14	02-04-25	0.2507	-0.6008	-0.6349	0.0507	0.2318	0.1835	0.2928	0.0234	0.4950	0.1321	0.3314
15	04-08-25	0.2377	-0.6240	-0.6369	0.0494	0.2307	0.1838	0.2896	0.0273	0.4861	0.1315	0.3299
16	05-06-25	0.1805	-0.7435	-0.6438	0.0542	0.2271	0.1769	0.2915	0.0062	0.5105	0.1294	0.3247
17	07-08-25	0.2047	-0.6889	-0.6492	0.0530	0.2243	0.1757	0.2863	0.0077	0.5007	0.1278	0.3207
18	09-09-25	0.2496	-0.6028	-0.6477	0.0539	0.2251	0.1756	0.2885	0.0052	0.5069	0.1283	0.3219
19	11-04-25	0.2509	-0.6005	-0.6462	0.0548	0.2259	0.1755	0.2907	0.0027	0.5131	0.1287	0.3230
20	01-06-26	0.2611	-0.5832	-0.6448	0.0561	0.2266	0.1750	0.2934	-0.0011	0.5215	0.1292	0.3240

Note:

7-day IC_{25} = 25% inhibition concentration. An estimation of the copper concentration that would cause a 25% reduction in *Menidia* growth (calculated using ToxCalc).

CT = Central tendency of the IC_{25} values.

S = Standard deviation of the IC_{25} values.

Control Limits = Mean logarithmic IC_{25} ± 2 standard deviations converted to anti-logarithmic values.

Warning Limits = Mean logarithmic IC_{25} ± 2CV or $S_{A.75}$ converted to anti-logarithmic values.

$S_{A.75}$ = Standard deviation corresponding to the 75th percentile of CVs reported nationally by USEPA ($S_{A.75}$ = 0.43).

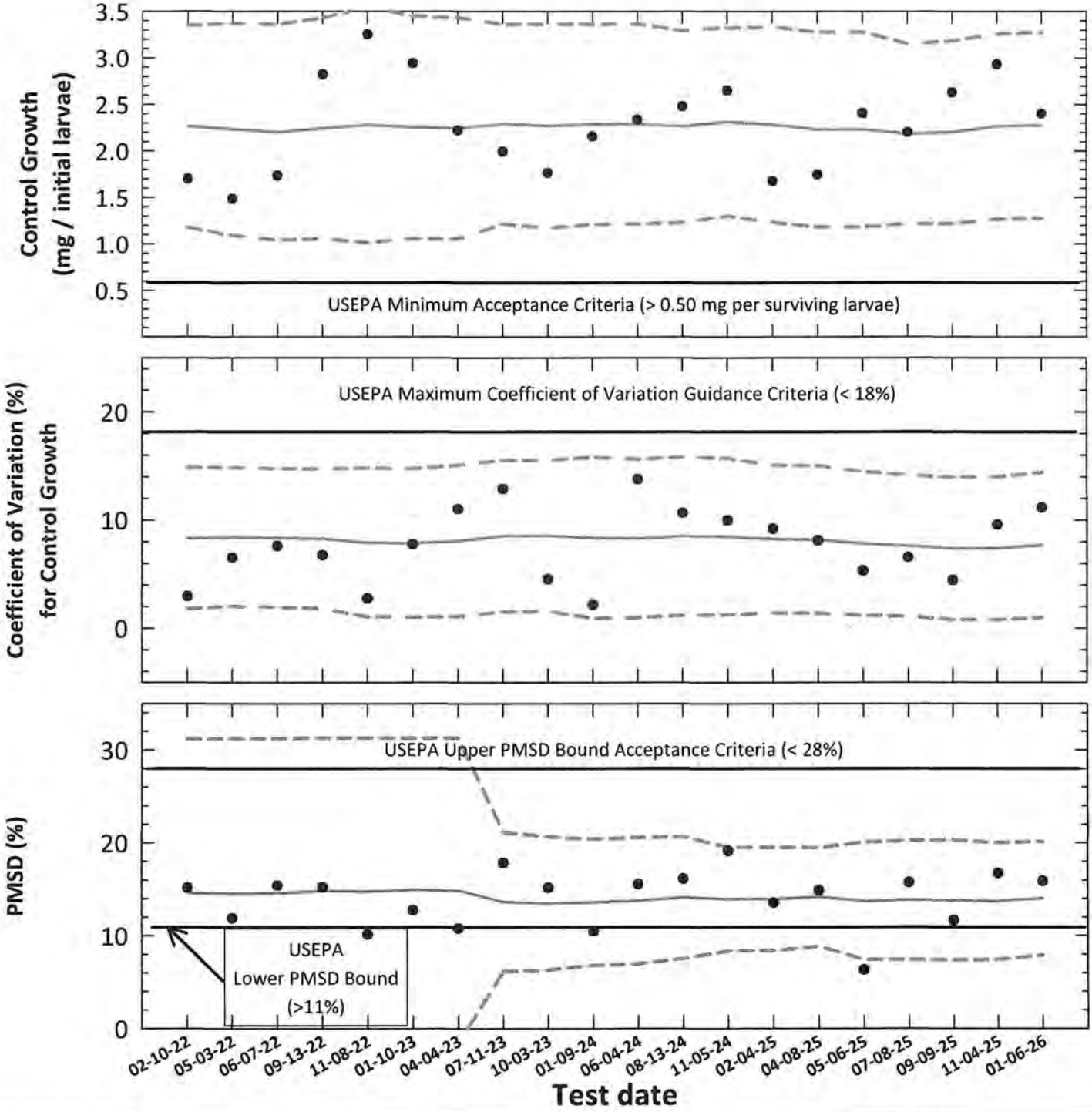
CV = Coefficient of variation.

ETS
Environmental Testing Solutions, Inc.

Menidia beryllina

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Organism Source: Aquatic Indicators, Inc.



- **Control Growth, Coefficient of Variation (CV) or Percent Minimum Significant Difference (PMSD)**
  PMSD is the percent minimum significant difference between the control and treatment that can be declared statistically significant. The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

——— **Central Tendency** (mean Control Growth, CV or PMSD)

– – – **95% Confidence Interval** (mean Control Growth, CV or PMSD ± 2 Standard Deviations)

Entered and Reviewed by Jim Sumner

Menidia beryllina

Chronic Reference Toxicant Testing, Test Acceptability Criteria

Source: Aquatic Indicators, Inc.

Test number	Test date	ToxCal Determination					Control Growth (mg/initial larvae)			Control Growth CV (%)			Test PMSD (%)		
		Control Survival (%)	Control Growth Mean (mg/initial larvae)	Control Growth CV (%)	Test MSD	Test PMSD (%)	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S	CT	95% Confidence Interval CT - 2S	95% Confidence Interval CT + 2S
1	02-10-22	100	1.701	3.0	0.2583	15.2	2.2658	1.180	3.351	8.4	1.8	14.9	14.6	-2.0	31.2
2	05-03-22	100	1.483	6.5	0.1756	11.8	2.232	1.092	3.372	8.4	2.0	14.9	14.5	-2.1	31.2
3	06-07-22	100	1.733	7.6	0.2665	15.4	2.201	1.041	3.361	8.3	1.9	14.8	14.6	-2.1	31.2
4	09-13-22	100	2.822	6.8	0.4290	15.2	2.243	1.057	3.430	8.3	1.8	14.7	14.8	-1.7	31.3
5	11-08-22	100	3.255	2.7	0.3294	10.1	2.280	1.014	3.545	7.9	1.0	14.8	14.8	-1.8	31.3
6	01-10-23	100	2.945	7.8	0.3755	12.8	2.257	1.062	3.453	7.9	1.0	14.8	15.0	-1.4	31.3
7	04-04-23	100	2.220	11.0	0.2389	10.8	2.243	1.053	3.433	8.1	1.1	15.1	14.9	-1.6	31.3
8	07-11-23	100	1.992	12.9	0.3549	17.8	2.287	1.213	3.360	8.5	1.5	15.6	13.6	6.2	21.1
9	10-03-23	100	1.763	4.5	0.2673	15.2	2.270	1.174	3.366	8.5	1.5	15.5	13.5	6.3	20.6
10	01-09-24	100	2.156	2.2	0.2257	10.5	2.287	1.211	3.364	8.4	0.9	15.8	13.6	6.8	20.4
11	06-04-24	100	2.339	13.8	0.3637	15.5	2.291	1.215	3.368	8.3	1.0	15.6	13.8	7.0	20.6
12	08-13-24	100	2.479	10.7	0.4001	16.1	2.266	1.235	3.297	8.5	1.2	15.9	14.1	7.6	20.7
13	11-05-24	100	2.648	10.0	0.5061	19.1	2.312	1.299	3.324	8.5	1.2	15.7	13.9	8.3	19.5
14	02-04-25	100	1.675	9.2	0.2268	13.5	2.283	1.232	3.335	8.2	1.4	15.1	13.9	8.4	19.5
15	04-08-25	100	1.747	8.1	0.2598	14.9	2.230	1.183	3.278	8.2	1.4	15.0	14.2	8.9	19.5
16	05-06-25	100	2.406	5.3	0.1521	6.3	2.233	1.184	3.281	7.9	1.2	14.5	13.7	7.4	20.1
17	07-08-25	100	2.201	6.6	0.3464	15.7	2.188	1.221	3.155	7.6	1.1	14.2	13.8	7.4	20.3
18	09-09-25	100	2.628	4.4	0.3054	11.6	2.201	1.217	3.185	7.4	0.8	14.0	13.8	7.3	20.3
19	11-04-25	100	2.930	9.6	0.4894	16.7	2.266	1.268	3.263	7.4	0.8	14.0	13.7	7.4	20.0
20	01-06-26	100	2.401	11.1	0.3809	15.9	2.276	1.278	3.274	7.7	1.0	14.4	14.0	7.9	20.1

Note:

Control Survival = USEPA minimum test acceptability criteria ≥ 80% survival.

Control Mean Growth = USEPA minimum test acceptability criteria ≥ 0.50 mg/surviving larvae.

CV = Coefficient of variation for control growth.
USEPA maximum CV guidance criteria (90th percentile) < 18%

MSD = Minimum significant difference.

PMSD = Percent minimum significant difference.
PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.
Lower PMSD bound determined by USEPA (10th percentile) > 11%.
The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.
Upper PMSD bound acceptance criteria determined by USEPA (90th percentile) < 28%.

CT = Central tendency of the growth, CV or PMSD values.

S = Standard deviation of the growth, CV or PMSD values.

Environmental Testing Solutions, Inc.

Copper Sulfate Chronic Reference Toxicant Test (EPA-821-R-02-014, Method 1006.0)

Species: *Menidia beryllina*

MbCuCR Test Number: **155**

Dilution preparation information:						***Comments:***
Cu Stock INSS number:		INSS 2461				
Stock preparation:		100 mg Cu/L: Dissolve 0.1965 g $CuSO_4$ in 500-mL deionized water				
Dilution prep (mg/L)	0.025	0.050	0.100	0.200	0.500	
Stock volume (mL)	0.5	1.0	2.0	4.0	10.0	
Diluent volume (mL)	1999.5	1999.0	1998.0	1996.0	1990.0	
Total volume (mL)	2000	2000	2000	2000	2000	

Test organism information:

Organism source:	Aquatic Indicators, Inc.
Age:	10-days old
Batch:	AI Mb 12-27-25
Hatch dates and times:	12-26-25 1200 to 12-27-25 1130
Transfer vessel information:	pH (S.U.) = 7.71 Temperature (°C) = 24.2
Average transfer volume (mL):	< 0.25 mL

Test information:

Randomizing template:	BLUE
Incubator number and shelf location:	01-06-26 B 7B-4 7C
Artemia CHM number:	CHM1385
Drying information for weight determination:	
Date / Time in oven:	01-13-26 1040
*Initial oven temperature:	60 °C
Date / Time out of oven:	01-14-26 1040
*Final oven temperature:	60°C
Total drying time:	24 HOURS

*60°C Oven, Thermometer SN: 14-985B5

Daily feeding and renewal information:

Day	Date	Morning feeding		Afternoon feeding		Test initiation, renewal, or termination		Sample number used	SaltSW batch used
		Time	Analyst	Time	Analyst	Time	Analyst		
0	01-06-26	1045	JH	1340	JH	1100	JH	NA	12-30-25 B
1	01-07-26	0500	JH	1100	JH	0710	JH	↓	01-05-26 A
2	01-08-26	0500	JH	1100	JH	0740	JH		01-05-26 B
3	01-09-26	0500	JH	1100	JH	0710	JH		01-07-26
4	01-10-26	0700	JH	1230	JH	0910	JH		01-06-26
5	01-11-26	0600	JH	1130	JH	0810	JH		01-09-26
6	01-12-26	0600	JH	1200	JH	0810	JH	↓	↓
7	01-13-26					0900	JH		

Chemical analyses:

Parameter	Reporting Limit	Method number	Meter	Serial number
pH	0.1 S.U.	SM 4500-H+ B-2021	Accumet AR20	93312452
Dissolved Oxygen (D.O.)	1.0 mg/L	SM 4500-O H-2021	HACH HQ430d Flexi	SN250100050300
Salinity	1.0 ppt	SM 2520 B-2021	YSI PRO30	18D104324
Alkalinity	5.0 mg $CaCO_3$/L	SM 2320 B-2021	Accumet AR20	93312452
Temperature	0.1 °C	SM 2550B-2010	Digital Thermometer	130664685

Control information:		Acceptance criteria
% Mortality:	0%	≤ 20%
Average weight per initial larvae:	2.401	
Average weight per surviving larvae:	2.401	≥ 0.25mg/larvae

Summary of test endpoints:	
7-day LC_{50} (mg/L Cu)	0.308
NOEC (mg/L Cu)	0.2
LOEC (mg/L Cu)	0.5
ChV (mg/L Cu)	0.316
IC_{25} (mg/L Cu)	0.261

Environmental Testing Solutions, Inc.

Species: ***Menidia beryllina*** MbCuCR Test Number: **155**

Survival and Growth Data

Day	CONTROL				0.025 mg/L				0.05 mg/L			
	A	B	C	D	E	F	G	H	I	J	K	L
0	10	10	10	10	10	10	10	10	10	10	10	10
1	10	10	10	10	10	10	10	10	10	10	10	10
2	10	10	10	10	10	10	10	10	10	10	10	10
3	10	10	10	10	10	10	10	10	10	10	10	10
4	10	10	10	10	10	10	10	10	10	10	10	10
5	10	10	10	10	10	10	10	10	10	10	10	10
6	10	10	10	10	10	10	10	10	10	10	10	10
7	10	10	10	10	10	10	10	10	10	10	10	10
*A = Pan weight (mg) Tray color code: NAVY Analyst: KL Date: 12-17-25	14.14	13.17	14.59	13.45	13.01	12.98	10.20	9.84	10.68	13.71	10.03	11.59
*B = Pan + Larvae weight (mg) Analyst: JP Date: 01-15-26	36.15	34.56	40.92	39.75	38.92	36.37	38.28	32.08	32.95	36.16	33.85	35.00
C = Larvae weight (mg) = B – A Analyst: JP	22.01	21.39	26.33	26.30	25.91	23.39	28.08	22.24	22.27	24.47	23.82	23.41
Weight per initial number of larvae (mg) = C / Initial number of larvae Analyst: JP	2.201	2.139	2.633	2.630	2.591	2.339	2.808	2.224	2.227	2.447	2.382	2.341
Average weight per initial number of larvae (mg) / Percent reduction from control (%)	2.401				2.491		-3.77.		2.349		2.17.	

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

Species: ***Menidia beryllina*** MbCuCR Test Number: **155**

Survival and Growth Data

Day	0.1 mg/L				0.2 mg/L				0.5 mg/L			
	M	N	O	P	Q	R	S	T	U	V	W	X
0	10	10	10	10	10	10	10	10	10	10	10	10
1	10	10	10	10	10	9 1d	10	9 1d	2 8d	3 7d	3 7d	3 7d
2	10	10	10	10	9 1d	8 1d	10	9	1 1d	1 2d	2 1d	0 3d
3	10	10	10	10	9	8	10	9	0 1d	1	2	0
4	10	10	10	10	9	8	10	9	0	1	2	0
5	10	10	10	10	9	8	10	9	0	1	2	0
6	10	10	10	10	9	8	10	9	0	1	2	0
7	10	10	10	10	9	8	10	9	0	1	2	0
*A = Pan weight (mg) Tray color code: Navy Analyst: XL Date: 12-17-25	15.25	12.52	10.13	12.57	15.33	13.88	10.21	14.04	11.70	10.34	13.90	13.54
*B = Pan + Larvae weight (mg) Analyst: JK Date: 01-15-26	~~01-15-26 JK 37.49~~ 40.32	33.48	36.08	35.22	36.81	33.62	34.37	39.13		13.71	17.00	
C = Larvae weight (mg) = B – A Analyst: JK	25.07	20.96	25.95	22.65	21.48	19.74	24.16	25.09	JK 01-15-26	3.37	3.10	JK 01-15-26
Weight per initial number of larvae (mg) = C / Initial number of larvae Analyst: JK	2.507	2.096	2.595	2.265	2.148	1.974	2.416	2.509	0	0.337	0.310	0
Average weight per initial number of larvae (mg)	2.366				2.262				0.162			
Percent reduction from control (%)	1.57.				5.87.				93.37.			

*Weight measurements performed using Cahn 28 Automatic Electrobalance, SN 41520.

Comment codes: c = clear, d = dead, fg = fungus, k = killed, m = missing, sk = sick, sm = unusually small, lg = unusually large, d&r = decanted and returned, w = wounded.

Comments:

Environmental Testing Solutions, Inc.

Menidia beryllina Chronic Whole Effluent Toxicity Test
EPA-821-R-02-014, Method 1006.0

Quality Control
Verification of Data Entry, Calculations, and Statistical Analyses

Test number: 155

							Not for Compliance Assessment, Internal Laboratory QC							
Concentration (mg/L Cu)	Replicate	Initial number of larvae	Final number of larvae	A = Pan weight (mg)	B = Pan + Larvae weight (mg)	Larvae weight (mg) = B - A	Weight / Surviving number of larvae (mg)	Mean weight/ Surviving number of larvae (mg)	Coefficient of variation (Mean weight per surviving number of larvae) (%)	Weight / Initial number of larvae (mg)	Mean survival (%)	Mean weight/ Initial number of larvae (mg)	Coefficient of variation (%)	Percent reduction from control (%)
Control	A	10	10	14.14	36.15	22.01	2.201	2.401	11.1	2.201	100.0	2.401	11.1	Not applicable
	B	10	10	13.17	34.56	21.39	2.139			2.139				
	C	10	10	14.59	40.92	26.33	2.633			2.633				
	D	10	10	13.45	39.75	26.30	2.630			2.630				
0.025	E	10	10	13.01	38.92	25.91	2.591	2.491	10.5	2.591	100.0	2.491	10.5	-3.7
	F	10	10	12.98	36.37	23.39	2.339			2.339				
	G	10	10	10.20	38.28	28.08	2.808			2.808				
	H	10	10	9.84	32.08	22.24	2.224			2.224				
0.050	I	10	10	10.68	32.95	22.27	2.227	2.349	3.9	2.227	100.0	2.349	3.9	2.1
	J	10	10	13.71	38.18	24.47	2.447			2.447				
	K	10	10	10.03	33.85	23.82	2.382			2.382				
	L	10	10	11.59	35.00	23.41	2.341			2.341				
0.100	M	10	10	15.25	40.32	25.07	2.507	2.366	9.6	2.507	100.0	2.366	9.6	1.5
	N	10	10	12.52	33.48	20.96	2.096			2.096				
	O	10	10	10.13	36.08	25.95	2.595			2.595				
	P	10	10	12.57	35.22	22.65	2.265			2.265				
0.200	Q	10	9	15.33	36.81	21.48	2.387	2.514	7.4	2.148	90.0	2.262	10.9	5.8
	R	10	8	13.88	33.62	19.74	2.468			1.974				
	S	10	10	10.21	34.37	24.16	2.416			2.416				
	T	10	9	14.04	39.13	25.09	2.788			2.509				
0.500	U	10	0	0.00	0.00	0.00	0.000	2.460	52.3	0.000	7.5	0.162	115.7	93.3
	V	10	1	10.34	13.71	3.37	3.370			0.337				
	W	10	2	13.90	17.00	3.10	1.550			0.310				
	X	10	0	0.00	0.00	0.00	0.000			0.000				

Dunnett's MSD value: 0.3809 MSD = Minimum Significant Difference
PMSD: 15.9 PMSD = Percent Minimum Significant Difference
PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test.

Lower PMSD bound determined by USEPA (10th percentile) = 11%.
Upper PMSD bound determined by USEPA (90th percentile) = 28%.
Lower and upper PMSD bounds were determined from the 10th and 90th percentile, respectively, of PMSD data from EPA's WET Interlaboratory Variability Study (USEPA, 2001a; USEPA, 2001b).
The lower PMSD bound represents a practical limit to the sensitivity of the test method and is not a minimum acceptance criteria.

USEPA. 2001a, 2001b. Final Report: Interlaboratory Variability Study of EPA Short-term Chronic and Acute Whole Effluent Toxicity Test Methods, Volumes 1 and 2-Appendix. EPA-821-B-01-004 and EPA-821-B-01-005. US Environmental Protection Agency, Cincinnati, OH.

Entered and Reviewed by Jim Sumner

ETS
Environmental Testing Solutions, Inc.

Statistical Analyses

Entered and Reviewed by Jim Sumner

Larval Fish Growth and Survival Test-7 Day Survival

Start Date:	1/6/2026	Test ID:	MbCuCR	Sample ID:	REF-Ref Toxicant
End Date:	1/13/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	CUSO4
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	MB-Menidia beryllina
Comments:					

Conc-mg/L	1	2	3	4
D-Control	1.0000	1.0000	1.0000	1.0000
0.025	1.0000	1.0000	1.0000	1.0000
0.05	1.0000	1.0000	1.0000	1.0000
0.1	1.0000	1.0000	1.0000	1.0000
0.2	0.9000	0.8000	1.0000	0.9000
0.5	0.0000	0.1000	0.2000	0.0000

			Transform: Arcsin Square Root					Rank	1-Tailed	Number	Total
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	Resp	Number
D-Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4			0	40
0.025	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4	18.00	10.00	0	40
0.05	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4	18.00	10.00	0	40
0.1	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4	18.00	10.00	0	40
0.2	0.9000	0.9000	1.2543	1.1071	1.4120	9.935	4	12.00	10.00	4	40
*0.5	0.0750	0.0750	0.2757	0.1588	0.4636	53.294	4	10.00	10.00	37	40

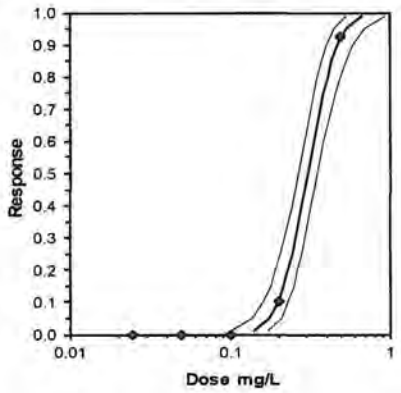
Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.70067	0.884	0.60065	3.09883
Equality of variance cannot be confirmed				

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	0.2	0.5	0.31623	
Treatments vs D-Control				

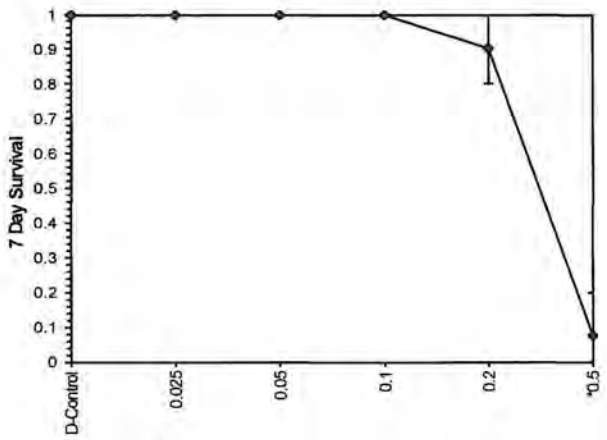
Maximum Likelihood-Probit

Parameter	Value	SE	95% Fiducial Limits		Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter
Slope	6.86588	0.98318	4.93884	8.79292	0	0.01675	7.81472	0.99943	-0.5112	0.14565	3
Intercept	8.51012	0.54899	7.43409	9.58615							
TSCR											

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	0.14123	0.10121	0.17309
EC05	3.355	0.1775	0.13732	0.20954
EC10	3.718	0.20049	0.161	0.23283
EC15	3.964	0.21767	0.17884	0.25056
EC20	4.158	0.23237	0.19409	0.26605
EC25	4.326	0.24577	0.2079	0.28052
EC40	4.747	0.28305	0.24534	0.32302
EC50	5.000	0.30815	0.26937	0.35379
EC60	5.253	0.33547	0.29432	0.38939
EC75	5.674	0.38636	0.33775	0.46108
EC80	5.842	0.40864	0.35574	0.49442
EC85	6.036	0.43623	0.37734	0.53714
EC90	6.282	0.4736	0.40565	0.59728
EC95	6.645	0.53497	0.45026	0.70104
EC99	7.326	0.67234	0.54442	0.95229



Dose-Response Plot



Environmental Testing Solutions, Inc.

Statistical Analyses

Entered and Reviewed by Jim Sumner

Larval Fish Growth and Survival Test-7 Day Growth

Start Date:	1/6/2026	Test ID:	MbCuCR	Sample ID:	REF-Ref Toxicant
End Date:	1/13/2026	Lab ID:	ETS-Envir. Testing Sol.	Sample Type:	CUSO4
Sample Date:		Protocol:	SWCHR-EPA-821-R-02-014	Test Species:	MB-Menidia beryllina
Comments:					

Conc-mg/L	1	2	3	4
D-Control	2.2010	2.1390	2.6330	2.6300
0.025	2.5910	2.3390	2.8080	2.2240
0.05	2.2270	2.4470	2.3820	2.3410
0.1	2.5070	2.0960	2.5950	2.2650
0.2	2.1480	1.9740	2.4160	2.5090
0.5	0.0000	0.3370	0.3100	0.0000

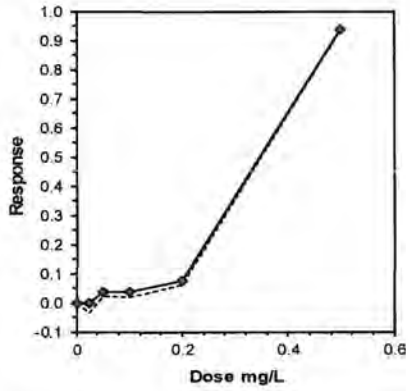
			Transform: Untransformed					1-Tailed			Isotonic	
Conc-mg/L	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
D-Control	2.4008	1.0000	2.4008	2.1390	2.6330	11.149	4				2.4456	1.0000
0.025	2.4905	1.0374	2.4905	2.2240	2.8080	10.493	4	-0.556	2.360	0.3809	2.4456	1.0000
0.05	2.3493	0.9785	2.3493	2.2270	2.4470	3.935	4	0.319	2.360	0.3809	2.3575	0.9640
0.1	2.3658	0.9854	2.3658	2.0960	2.5950	9.621	4	0.217	2.360	0.3809	2.3575	0.9640
0.2	2.2618	0.9421	2.2618	1.9740	2.5090	10.850	4	0.861	2.360	0.3809	2.2618	0.9248
0.5	0.1618	0.0674	0.1618	0.0000	0.3370	115.671	4				0.1618	0.0661

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9176	0.868	-0.0271	-1.49
Bartlett's Test indicates equal variances (p = 0.58)	2.85719	13.2767		

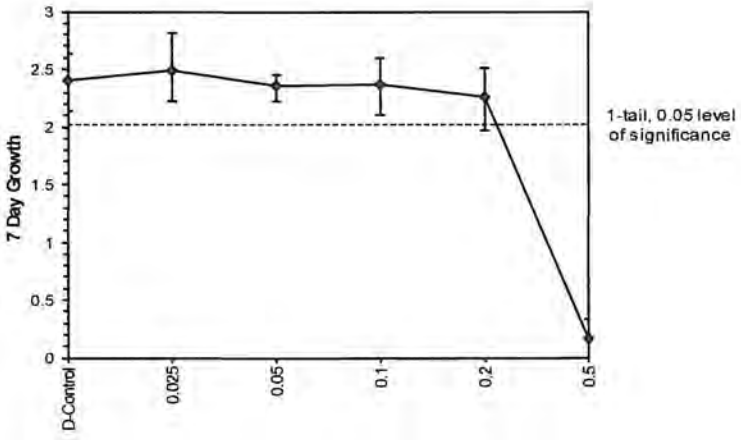
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test Treatments vs D-Control	0.2	>0.2			0.38091	0.15866	0.02757	0.0521	0.71622	4, 15

Linear Interpolation (200 Resamples)

Point	mg/L	SD	95% CL(Exp)		Skew
IC05	0.1357	0.0670	0.0000	0.2593	0.2400
IC10	0.2087	0.0524	0.0000	0.2411	-1.2829
IC15	0.2261	0.0263	0.1040	0.2567	-2.6881
IC20	0.2436	0.0155	0.1889	0.2724	-0.3987
IC25	0.2611	0.0142	0.2083	0.2874	-0.1737
IC40	0.3135	0.0118	0.2697	0.3364	-0.1124
IC50	0.3484	0.0106	0.3094	0.3729	-0.0785



Dose-Response Plot



Environmental Testing Solutions, Inc.

Species: ***Menidia beryllina*** MbCuCR Test Number: **155**

Daily Chemistry:

Temperature and salinity performed at the time of test initiation, renewal or termination by the analyst identified in the Daily Renewal Information table located on Page 1. Alkalinity and chlorine (total residual) performed by the analyst identified on the bench sheet specific for each analysis and transcribed to this bench sheet.

		Day (Analyst identified for each day, performed pH and D.O. measurements only.)					
		0		1		2	
	Analyst	XL	XL	XL	XL	XL	XL
Concentration	Parameter						
CONTROL, SaltSW	pH (S.U.)	8.23	7.97	8.11	7.98	8.09	7.95
	Dissolved oxygen (mg/L)	8.4	7.8	8.1	8.0	8.3	7.9
	Salinity (ppt)	25.0	25.2	25.0	25.6	25.0	25.6
	Alkalinity (mg $CaCO_3$/L)	150		150		150	
	Temperature (°C)	24.9	25.0	24.9	24.6	24.6	25.0
0.025 mg/L	pH (S.U.)	8.12	7.94	8.09	7.89	8.09	7.98
	Dissolved oxygen (mg/L)	8.5	7.7	8.1	8.0	8.3	8.0
	Salinity (ppt)	25.3	25.5	25.1	25.7	25.2	25.4
	Temperature (°C)	25.0	25.2	25.0	25.1	24.6	25.2
0.05 mg/L	pH (S.U.)	8.11	7.96	8.12	7.91	8.10	7.98
	Dissolved oxygen (mg/L)	8.5	7.8	8.1	7.8	8.3	8.0
	Salinity (ppt)	25.4	25.6	25.2	25.7	25.2	25.2
	Temperature (°C)	24.7	25.2	25.0	24.7	24.5	25.2
0.1 mg/L	pH (S.U.)	8.11	7.94	8.15	7.93	8.10	7.98
	Dissolved oxygen (mg/L)	8.5	7.8	8.1	7.8	8.3	8.0
	Salinity (ppt)	25.3	25.6	25.2	25.8	25.1	25.3
	Temperature (°C)	24.7	25.2	24.8	24.7	24.6	24.9
0.2 mg/L	pH (S.U.)	8.11	7.94	8.15	7.93	8.10	7.97
	Dissolved oxygen (mg/L)	8.5	7.7	8.1	7.8	8.3	7.9
	Salinity (ppt)	25.7	25.5	25.2	25.5	25.1	25.4
	Temperature (°C)	24.7	25.2	24.8	25.0	24.6	24.9
0.5 mg/L	pH (S.U.)	8.10	7.95	8.14	7.95	8.09	8.00
	Dissolved oxygen (mg/L)	8.4	7.6	8.1	7.8	8.2	7.9
	Salinity (ppt)	25.5	25.6	25.2	25.8	25.1	25.2
	Temperature (°C)	24.8	25.1	25.0	24.8	24.7	24.9
		Initial	Final	Initial	Final	Initial	Final

Environmental Testing Solutions, Inc.

Species: ***Menidia beryllina***

MbCuCR Test Number: **155**

		Day (Analyst identified for each day, performed pH and D.O. measurements only.)							
		~~01-Oct~~ 3		4		5		6	
	Analyst	XL	BSL	BSL	BSL	BSL	XL	XL	XL
Concentration	**Parameter**								
CONTROL, SaltSW	pH (S.U.)	8.01	7.95	8.06	7.94	8.16	7.87	8.09	7.73
	Dissolved oxygen (mg/L)	8.2	8.1	8.3	7.6	8.0	7.9	8.3	6.2
	Salinity (ppt)	25.0	25.2	25.0	25.4	24.9	25.3	25.0	25.6
	Alkalinity (mg $CaCO_3$/L)	140		130		120		—	01-13-16
	Temperature (°C)	24.8	24.9	24.7	24.8	24.6	24.7	24.8	24.8
0.025 mg/L	pH (S.U.)	8.06	7.93	8.12	7.98	8.18	7.88	8.09	7.73
	Dissolved oxygen (mg/L)	8.1	7.8	8.2	7.6	8.2	7.7	8.2	6.4
	Salinity (ppt)	25.1	25.5	25.1	25.6	25.1	25.9	25.2	25.8
	Temperature (°C)	24.9	25.1	24.8	24.7	24.7	24.9	24.8	24.5
0.05 mg/L	pH (S.U.)	8.06	7.93	8.12	8.00	8.18	7.88	8.09	7.73
	Dissolved oxygen (mg/L)	8.1	7.6	8.3	7.6	8.1	7.7	8.2	6.4
	Salinity (ppt)	25.1	25.4	25.1	25.4	25.0	25.6	25.2	25.5
	Temperature (°C)	24.9	25.1	24.8	24.7	24.6	25.1	24.9	24.5
0.1 mg/L	pH (S.U.)	8.06	7.93	8.12	8.00	8.18	7.89	8.09	7.72
	Dissolved oxygen (mg/L)	8.1	7.7	8.3	7.6	8.2	7.7	8.3	6.4
	Salinity (ppt)	25.1	25.2	25.1	25.5	25.0	25.5	25.2	25.4
	Temperature (°C)	25.0	24.8	24.7	24.9	24.6	24.8	24.9	24.6
0.2 mg/L	pH (S.U.)	8.06	7.92	8.12	7.99	8.18	7.91	8.09	7.73
	Dissolved oxygen (mg/L)	8.1	7.7	8.3	7.6	8.1	7.8	8.3	6.6
	Salinity (ppt)	25.1	25.3	25.0	25.5	25.0	25.6	25.3	25.5
	Temperature (°C)	24.9	24.8	24.7	24.6	24.6	24.8	24.9	24.6
0.5 mg/L	pH (S.U.)	8.06	8.00	8.12	8.07	8.21	7.99	8.09	7.09
	Dissolved oxygen (mg/L)	8.1	7.8	8.3	7.6	8.2	7.8	8.3	7.0
	Salinity (ppt)	25.0	25.3	24.9	25.2	25.1	25.9	25.1	25.4
	Temperature (°C)	24.9	25.2	24.7	24.6	24.6	24.7	24.9	24.6
		Initial	Final	Initial	Final	Initial	Final	Initial	Final