

A D V E N T
E N V I R O N

**AQUAFINESSE COOL PUCK
TOXICITY TEST RESULTS**

Prepared for

AQUAFINESSE
Nashville, Tennessee

Prepared by

ADVENT-ENVIRON
201 Summit View Drive, Suite 300
Brentwood, TN 37027

October 2007

November 30, 2007

Mr. Shawn Gliner
Aquafinesse Industrial Water, LLC
424 Church Street Suite 1600
Nashville, Tennessee 37219

**Re: Aquafinesse Cool Puck Toxicity Test Results
ENVIRON Project No. TR-00018818**

Dear Mr. Gliner:

Attached are the results of the definitive (five dilution) 48-hour and 96-hour acute toxicity tests, and chronic (7 day) toxicity tests performed with the Aquafinesse Cool Puck anti-microbial product. Testing was performed in accordance with project number TR-00018818. Organisms utilized were *Pimephales promelas* (fathead minnow), *Ceriodaphnia dubia* (*C. dubia*), and *Oncorhynchus mykiss* (rainbow trout), which the EPA considers as surrogates for wild fish and aquatic invertebrates. The acute range-finding tests with fathead minnow and *C. dubia* were initiated on October 9 and 11, 2007 with maximum soluble concentrations of 1,000 mg/L (as whole product). The definitive acute tests with the fathead minnow and *C. dubia* were initiated October 11 and 17, 2007, respectively. The definitive chronic tests with the fathead minnow and *C. dubia* were initiated October 23 and November 9, 2007, respectively. The definitive acute tests with rainbow trout were initiated October 31, 2007. Test exposure concentrations for the definitive tests were based on the range-finding results, and USEPA moderately hard water was used for the control and dilution water. The maximum product dose used for acute testing with *C. dubia* was 400 mg/L, and the maximum chronic testing dose was 100 mg/L. For fathead minnow the maximum acute testing dose was 1,000 mg/L, and the maximum chronic testing dose was 800 mg/L. The maximum test dose for rainbow trout was 1,000 mg/L.

Acute toxicity test methods followed EPA-821-R-02-012, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition. Chronic toxicity test methods followed EPA-821-R-02-013, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition. Moderately hard water controls met USEPA test acceptability criteria. Sodium chloride reference toxicant results for *C. dubia* and the fathead minnow, and copper reference toxicant results for rainbow trout were within normal ranges for these species during the testing period.

Results from acute and chronic toxicity testing with the Aquafinesse products are summarized below. The results of acute toxicity tests reflect effects as indicated by organism mortality, the results of chronic tests indicate combined effects based on mortality and growth (for the fathead minnow), or mortality and reproduction (for *C. dubia*). All data are based on nominal concentrations of the whole product:

AQUAFINESSE TEST RESULTS (LC50 and 95% confidence intervals)				
Test Species	48-hr LC50 (mg/L*)	96-hr LC50 (mg/L*)	7-day IC25 (mg/L*)	7-day NOEC (mg/L*)
<i>C. dubia</i>	43 (31 – 54)	NA	60 (31 – 72)	50
Fathead Minnow	682 (591 – 787)	NA	503 (471 – 509)	400
Rainbow Trout	351 (313 – 393)	351 (313 – 393)	NA	NA

* mg/L as whole product. NOEC = No Observed Effects Concentration.

The recommended dose rate for Cool Puck is one 53 gram puck for 20,000 L of water, which translates to a theoretical maximum dose rate of 2.65 mg/L. All of the above toxicity results are greater than the recommended dose rate. *C. dubia* was the most sensitive organism to the product, with an acute effects level approximately 16-fold above the product's recommended dose rate. The acute Lethal Concentration (LC50) value for *C. dubia* was lower than the chronic Inhibition Concentration (IC25) value, suggesting that the toxicity of the product may be ameliorated by solids or dissolved organic matter in the aquatic matrix (i.e., such materials are added as food in chronic tests, but not in acute tests). Effects levels for acute rainbow trout and chronic fathead minnow tests (IC25 basis) are approximately 66 and 94 times the recommended dose rate, respectively.

The toxicity of the Aquafinesse Cool Puck is considerably less than that of chlorine, a commonly used biocide. Acute toxicity values for total residual chlorine taken from EPA 440/5-84-030, *Ambient Water Quality Criteria for Chlorine-1984*, range from 0.027 mg/L for *Daphnia magna*, 0.062 mg/L for rainbow trout, to 0.106 mg/L for the fathead minnow. Chronic toxicity values for *D. magna* and the fathead minnow are reported at 0.008 mg/L and 0.026 mg/L respectively. The toxicity of chlorine as reported in EPA 440/5-84-030 is at least three orders of magnitude more toxic to cladocerans (*C. dubia* and *D. magna*) than the whole product Aquafinesse Cool Puck.

Copies of the statistical results and raw data for the definitive product tests are presented in Attachment 1. Copies of range-finder and reference toxicant information are provided in Attachment 2.

If you have any questions or concerns regarding this report, please call Rick Lockwood at (615) 377-4775 extension 155. ENVIRON appreciates the opportunity to assist Aquafinesse with their biomonitoring requirements.

Sincerely,

ADVENT-ENVIRON

Richard E. Lockwood
Project Scientist

Robin L. Garibay, REM
Principal

ATTACHMENT 1

STATISTICAL RESULTS AND RAW DATA

Acute Cerio Test-48 Hr Survival

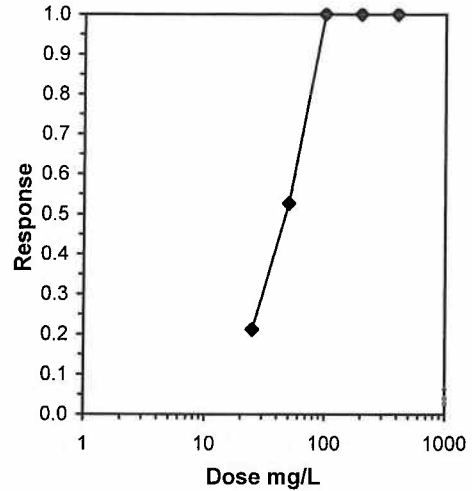
Start Date: 10/17/2007	Test ID: 9896	Sample ID: Aquafinnesse
End Date: 10/19/2007	Lab ID: Advent	Sample Type: product test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: CD-Ceriodaphnia dubia

Conc-mg/L	1	2	3	4
mod hard	1.0000	0.8000	1.0000	1.0000
25	1.0000	0.8000	0.6000	0.6000
50	0.6000	0.4000	0.8000	0.0000
100	0.0000	0.0000	0.0000	0.0000
200	0.0000	0.0000	0.0000	0.0000
400	0.0000	0.0000	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							t-Stat	1-Tailed Critical	MSD	Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N					
mod hard	0.9500	1.0000	1.2857	1.1071	1.3453	9.261	4				1	20
25	0.7500	0.7895	1.0561	0.8861	1.3453	20.748	4	1.248	2.180	0.4012	5	20
*50	0.4500	0.4737	0.7259	0.2255	1.1071	51.737	4	3.042	2.180	0.4012	11	20
100	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4				20	20
200	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4				20	20
400	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4				20	20

Auxiliary Tests		Statistic		Critical		Skew		Kurt			
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)		0.95162		0.805		-0.4714		0.79859			
Bartlett's Test indicates equal variances (p = 0.22)		3.07002		9.21034							
Hypothesis Test (1-tail, 0.05)		NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test		25	50	35.3553		0.32243	0.35011	0.31685	0.06774	0.04048	2, 9

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%			
5.0%			
10.0%			
20.0%			
Auto-21.1%	45.173	34.674	58.851



Ceriodaphnia Survival and Reproduction Test-48 Hr Survival

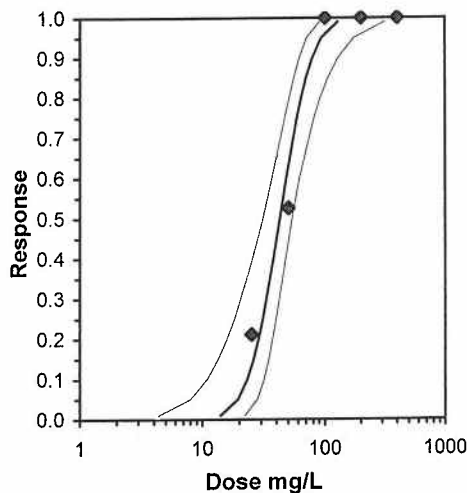
Start Date: 10/17/2007 Test ID: 9896 Sample ID: Aquafinesse
 End Date: 10/19/2007 Lab ID: ENVIRON Sample Type:
 Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-mg/L	1	2	3	4
Mod Hard	1.0000	0.8000	1.0000	1.0000
25	1.0000	0.8000	0.6000	0.6000
50	0.6000	0.4000	0.8000	0.0000
100	0.0000	0.0000	0.0000	0.0000
200	0.0000	0.0000	0.0000	0.0000
400	0.0000	0.0000	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Rank Sum	1-Tailed Critical	Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N				
Mod Hard	0.9500	1.0000	1.2857	1.1071	1.3453	9.261	4			1	20
25	0.7500	0.7895	1.0561	0.8861	1.3453	20.748	4	13.00	10.00	5	20
50	0.4500	0.4737	0.7259	0.2255	1.1071	51.737	4	10.50	10.00	11	20
*100	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4	10.00	10.00	20	20
*200	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4	10.00	10.00	20	20
*400	0.0000	0.0000	0.2255	0.2255	0.2255	0.000	4	10.00	10.00	20	20

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.82259	0.884	-0.6197	4.13469
Equality of variance cannot be confirmed				
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	50	100	70.7107	

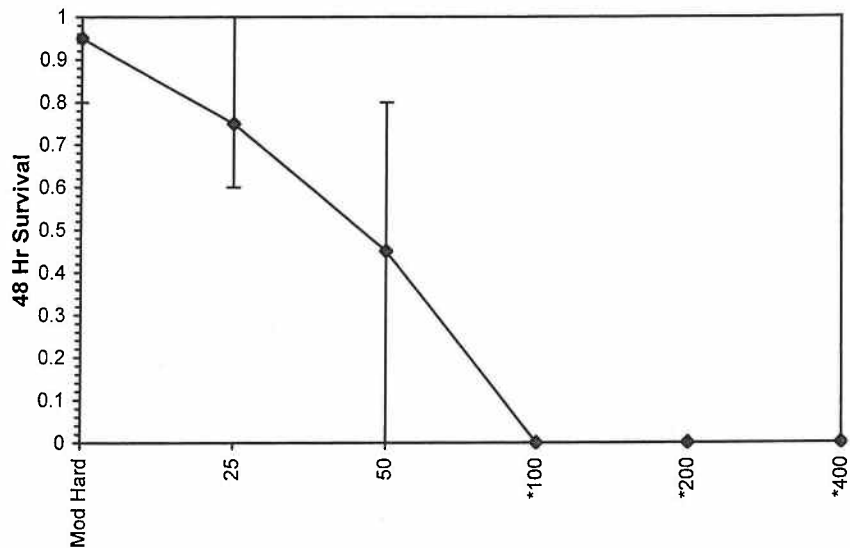
Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	4.8189	1.15372	2.55761	7.08019	0.05	2.21485	7.81473	0.53	1.6295	0.20752	9
Intercept	-2.8524	1.94819	-6.6708	0.96604							
TSCR	0.06343	0.0537	-0.0418	0.16869							
Point	Probits	mg/L	95% Fiducial Limits								
EC01	2.674	14.0199	4.34741	21.9821							
EC05	3.355	19.4163	7.92396	27.8016							
EC10	3.718	23.0971	10.8706	31.6312							
EC15	3.964	25.9671	13.4208	34.5981							
EC20	4.158	28.5003	15.8333	37.2343							
EC25	4.326	30.8697	18.2075	39.7389							
EC40	4.747	37.7508	25.5458	47.456							
EC50	5.000	42.6089	30.8622	53.5825							
EC60	5.253	48.0921	36.6701	61.5144							
EC75	5.674	58.8122	46.7401	80.8618							
EC80	5.842	63.7015	50.753	91.3953							
EC85	6.036	69.916	55.4501	106.21							
EC90	6.282	78.6036	61.4619	129.396							
EC95	6.645	93.5047	70.7926	175.348							
EC99	7.326	129.496	90.5591	315.986							



Ceriodaphnia Survival and Reproduction Test-48 Hr Survival

Start Date: 10/17/2007 Test ID: 9896 Sample ID: Aquafinesse
End Date: 10/19/2007 Lab ID: ENVIRON Sample Type:
Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: CD-Ceriodaphnia dubia
Comments:

Dose-Response Plot



48-HR ACUTE TOXICITY TEST DATA SHEET

LOG: 98910

JOB NO: _____

CLIENT: Aquafinesse

EFFLUENT: _____

SAMPLE "B" NOS.: _____

SAMPLE DATE: _____

ORGANISM SOURCE TEMP: 24.4

TEST TYPE: Static, Non-Renewal

TEST ORGANISM: Ceriodaphnia dubia

ORGANISM AGE (date): 10/16/17 1522-07

ORGANISM SOURCE: 6312, 14, 16, 22

PHOTOPERIOD: 16 hrs light/8 hrs dark

START DATE/TIME: 10/17/17 1207

END DATE/TIME: 10/19/17 1228

TEST VESSEL CAPACITY: 30 mL

TEST SOLUTION VOLUME: 15 - 20 mL

NO. ORGANISMS/VESSEL: 5

NO. REPLICATES: 4

DILUTION WATER: MH Type: MH Batch # 3301

FED @ LEAST 2 HR. PRIOR TO TEST: Time: 0747 Intls: LH

RANDOMIZED BY: LM

48 hr. LC50 = _____ 95% CI = _____

Cnc Vessel (%)	Vessel ID	Survival (#)			DEAD	DO (mg/L)			pH (s.u.)			Temperature (°C)			Conductivity (umhos/cm)		
		0	24	48		0	24	48	0	24	48	0	24	48			
MH	A	5	5	5	0	8.0	8.1	8.0	7.67	7.91	8.02	24.1	24.7	24.9	332	355	354
	B	5	5	5	0												
	C	5	5	5	0												
	D	5	5	5	0												
25	A	5	5	5	0	8.4	8.1	7.9	7.98	7.97	8.14	24.2	24.9	24.7	352	358	355
	B	5	5	5	0												
	C	5	5	5	0												
50	A	5	5	5	0	8.3	8.0	7.9	8.25	8.10	8.24	24.4	24.8	24.6	376	369	371
	B	5	5	5	0												
	C	5	5	5	0												
100	A	5	5	5	0	8.2	8.0	7.8	8.06	8.33	8.34	24.4	24.9	24.6	411	414	416
	B	5	5	5	0												
	C	5	5	5	0												

Initials: LM CF

Time: 1207 1228

Date: 10/19 10/19

Control Primary	100% Effluent	Comments:
Alkalinity (mg/L)		
Hardness (mg/L)		
TRC (mg/L)		
Ammonia (mg/L)		

48-HR ACUTE TOXICITY TEST DATA SHEET

LOG:		TEST TYPE:	Static, Non-Renewal	TEST VESSEL CAPACITY:	30 mL
JOB NO:		TEST ORGANISM:	<i>Ceriodaphnia dubia</i>	TEST SOLUTION VOLUME:	15 - 20 mL
CLIENT:	Aquafinesse	SAMPLE B #:		NO. ORGANISMS/VESSEL:	5
EFFLUENT:		TEST START DATE:		NO. REPLICATES:	4

Cconc Vessel ID	Survival (#)				DO (mg/L)	pH (s.u.)	Temperature (°C)	Conductivity (umhos/cm)
	0	24	48	DEAD				
200 mg/L A	5	2	0	5	8.1	9.47	24.6	193
200 mg/L B	5	2	0	5	8.0	8.52	24.8	473
200 mg/L C	5	2	0	5	7.8	8.76	24.5	480
200 mg/L D	5	1	0	5	7.8			
400 mg/L A	5	2	0	5	8.2	9.0	24.3	647
400 mg/L B	5	2	0	5	8.0	8.88	24.5	611
400 mg/L C	5	1	0	5	7.8	8.65	24.6	632
400 mg/L D	5	2	0	5				

Comments:

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

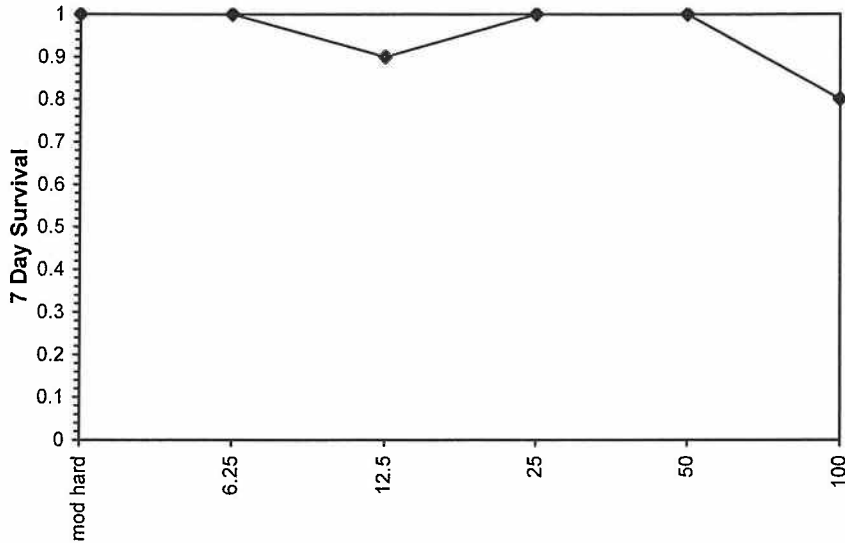
Start Date: 11/9/2007	Test ID: 9953	Sample ID: Aquafinesse
End Date: 11/15/2007	Lab ID: Advent	Sample Type: Product test
Sample Date:	Protocol: EPAF 91-EPA Freshwater	Test Species: CD-Ceriodaphnia dubia
Comments:		

Conc-mg/L	1	2	3	4	5	6	7	8	9	10
mod hard	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12.5	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
25	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
50	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	0.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-mg/L	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical
mod hard	1.0000	1.0000	0	10	10	10		
6.25	1.0000	1.0000	0	10	10	10	1.0000	0.0500
12.5	0.9000	0.9000	1	9	10	10	0.5000	0.0500
25	1.0000	1.0000	0	10	10	10	1.0000	0.0500
50	1.0000	1.0000	0	10	10	10	1.0000	0.0500
100	0.8000	0.8000	2	8	10	10	0.2368	0.0500

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Fisher's Exact Test	100	>100		

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

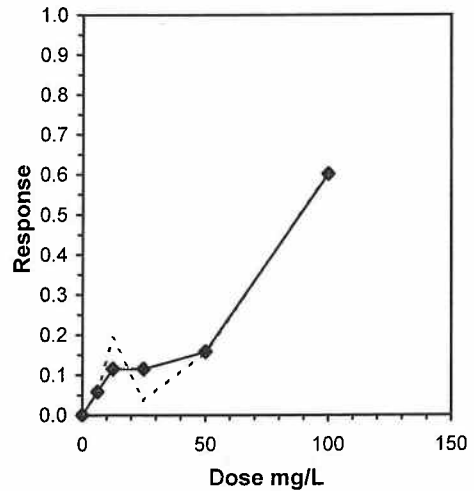
Start Date: 11/9/2007 Test ID: 9953 Sample ID: Aquafinesse
 End Date: 11/15/2007 Lab ID: Advent Sample Type: Product test
 Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-mg/L	1	2	3	4	5	6	7	8	9	10
mod hard	23.000	18.000	27.000	25.000	21.000	13.000	26.000	28.000	26.000	34.000
6.25	27.000	8.000	25.000	23.000	21.000	23.000	27.000	26.000	24.000	23.000
12.5	24.000	15.000	23.000	18.000	29.000	11.000	20.000	24.000	11.000	
25	13.000	22.000	18.000	29.000	25.000	17.000	28.000	27.000	24.000	29.000
50	23.000	20.000	22.000	14.000	21.000	11.000	27.000	19.000	25.000	21.000
100	0.000	0.000	11.000	17.000	14.000	5.000	8.000	14.000	15.000	12.000

Conc-mg/L	Transform: Untransformed							Rank Sum	1-Tailed Critical	Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N			Mean	N-Mean
mod hard	24.100	1.0000	24.100	13.000	34.000	23.992	10			24.100	1.0000
6.25	22.700	0.9419	22.700	8.000	27.000	24.311	10	97.50	74.00	22.700	0.9419
12.5	19.444	0.8068	19.444	11.000	29.000	32.026	9	70.00	61.00	21.322	0.8847
25	23.200	0.9627	23.200	13.000	29.000	24.025	10	103.50	74.00	21.322	0.8847
50	20.300	0.8423	20.300	11.000	27.000	23.573	10	83.50	74.00	20.300	0.8423
*100	9.600	0.3983	9.600	0.000	17.000	63.874	10	59.00	74.00	9.600	0.3983

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)	1.16069	1.035	-0.7078	0.00417
Bartlett's Test indicates equal variances (p = 0.98)	0.72313	15.0863		
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Wilcoxon Rank Sum Test	50	100	70.7107	

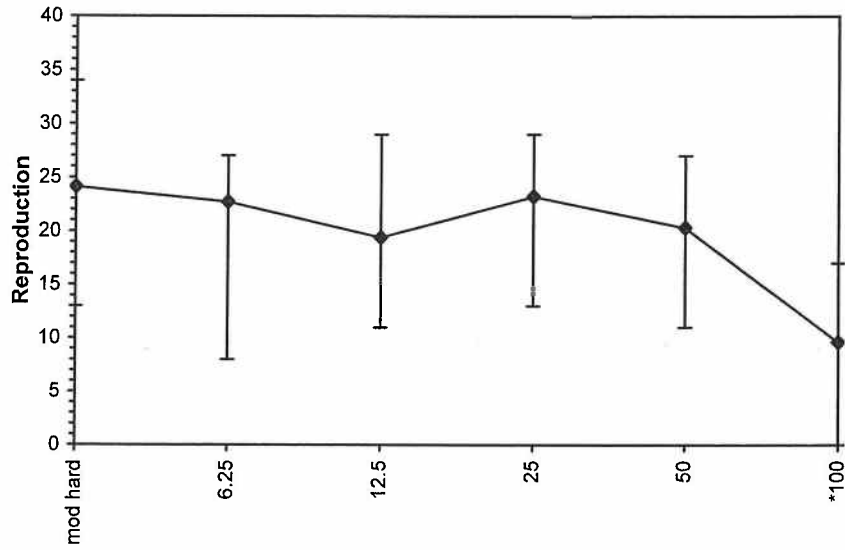
Linear Interpolation (200 Resamples)				
Point	mg/L	SD	95% CL	Skew
IC25	60.397	10.589	31.015 72.069	-1.3206



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 11/9/2007 Test ID: 9953 Sample ID: Aquafinesse
End Date: 11/15/2007 Lab ID: Advent Sample Type: Product test
Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: CD-Ceriodaphnia dubia
Comments:

Dose-Response Plot



Ceriodaphnia Survival and Reproduction Test-Reproduction

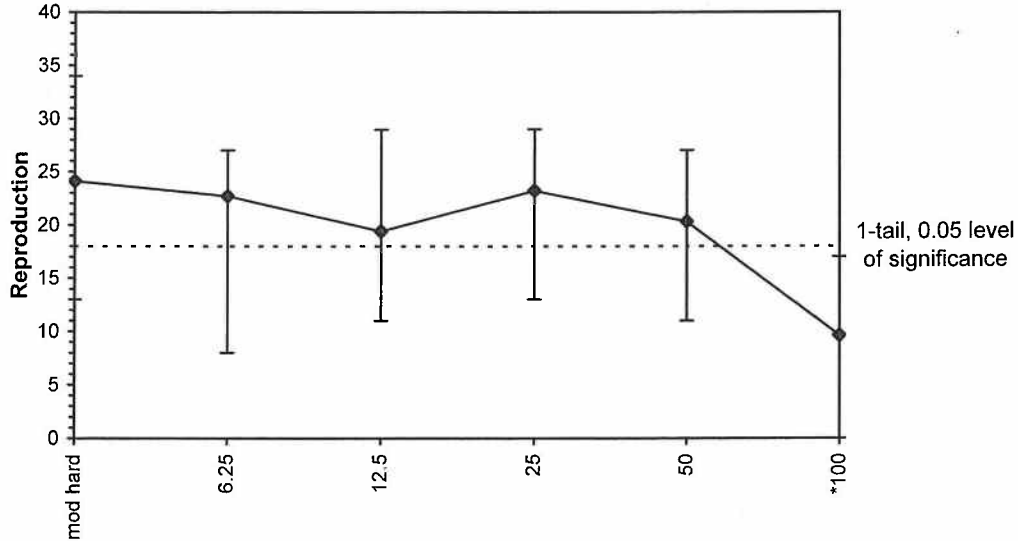
Start Date: 11/9/2007 Test ID: 9953 Sample ID: Aquafinesse
 End Date: 11/15/2007 Lab ID: Advent Sample Type: Product test
 Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-mg/L	1	2	3	4	5	6	7	8	9	10
mod hard	23.000	18.000	27.000	25.000	21.000	13.000	26.000	28.000	26.000	34.000
6.25	27.000	8.000	25.000	23.000	21.000	23.000	27.000	26.000	24.000	23.000
12.5	24.000	15.000	23.000	18.000	29.000	11.000	20.000	24.000	11.000	
25	13.000	22.000	18.000	29.000	25.000	17.000	28.000	27.000	24.000	29.000
50	23.000	20.000	22.000	14.000	21.000	11.000	27.000	19.000	25.000	21.000
100	0.000	0.000	11.000	17.000	14.000	5.000	8.000	14.000	15.000	12.000

Conc-mg/L	Transform: Untransformed							1-Tailed		
	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
mod hard	24.100	1.0000	24.100	13.000	34.000	23.992	10			
6.25	22.700	0.9419	22.700	8.000	27.000	24.311	10	0.551	2.399	6.092
12.5	19.444	0.8068	19.444	11.000	29.000	32.026	9	1.784	2.399	6.259
25	23.200	0.9627	23.200	13.000	29.000	24.025	10	0.354	2.399	6.092
50	20.300	0.8423	20.300	11.000	27.000	23.573	10	1.496	2.399	6.092
*100	9.600	0.3983	9.600	0.000	17.000	63.874	10	5.709	2.399	6.092

Auxiliary Tests						Statistic	Critical	Skew	Kurt			
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)						1.16069	1.035	-0.7078	0.00417			
Bartlett's Test indicates equal variances (p = 0.98)						0.72313	15.0863					
Hypothesis Test (1-tail, 0.05)			NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Bonferroni t Test			50	100	70.7107		6.0923	0.25279	285.614	32.2514	3.7E-06	5, 53

Dose-Response Plot



TEST LOG # 9935 JOB # _____
 CLIENT/SAMPLE ID: Aquafinense LAB/STATE: ADVENT-ENVIRON / TN
 PURPOSE OF TEST: NEDES YES NO _____ TEST PROTOCOL APPROVAL: EPA-821-R-02-013
 ORGANISM SOURCE: 0380, 869894 AGE DATE: 11/8/07 TIME: 1238-0816 TEST START DATES/TIME: 11/9/07 1000
 RANDOMIZED BY: LM SOURCE TEMP: _____ TEST END DATES / TIME: 11/15/07 1200

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Control		Adult	REPLICATES										Notes
			MH	Temp		8 ¹	8 ²	9 ⁴	9 ⁸	8 ⁶	8 ⁶	8 ⁰	9 ⁴	9 ⁸	8 ⁶	
						17	15	14	12	12	4	5	5	9	20	
LM 1000		11/9	24.8		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1115	11/10	25.3	25.8	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1140	11/11	24.8	26.0	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	OK 1247	11/12	24.6	24.4	Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LTH 1122	11/13	25.6	25.1	Day 4	4	3	6	6	4	4	4	5	5	7	
	KR 1254	11/14	24.0	25.9	Day 5	7	5	8	7	6	9	9	10	8	13	
CF 4200		11/15		24.0	Day 6	12	10	13	12	11	✓	13	13	13	14	90%
					Day 7											
					Day 8											
			Total			23	18	27	25	21	13	26	28	26	34	241

x75 = 180

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Concentration		Temp	REPLICATES										Notes
			6.25mg/L			1	2	3	4	5	6	7	8	9	10	
LM 1000		11/9	24.2		Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1115	11/10	25.2	25.8	Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1140	11/11	25.1	25.5	Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	OK 1247	11/12	24.9	24.9	Day 3	✓	✓	✓	✓	✓	✓	✓	4	✓	✓	
	LTH 1122	11/13	25.6	25.3	Day 4	5	3	6	6	4	6	6	✓	6	5	
	KR 1254	11/14	25.8	25.4	Day 5	7	5	7	6	6	(-2)	9	9	(-2)	(-4)	*Babies are floating on top
CF 1200		11/15		24.5	Day 6	15	✓	12	11	11	14	12	13	11	13	
					Day 7											
					Day 8											
			Total			27	8	25	23	21	23	27	26	24	23	227

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-0) = Dead neonates M = Male

TEST LOG # 9935

JOB # _____

CLIENT/SAMPLE ID: Agua

LAB/STATE: LAB/STATE: ADVENT-Environ / TN

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																				
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Concentration		REPLICATES										Notes					
			Temp		1	2	3	4	5	6	7	8	9	10						
					12.5 mg/L															
						Adult														
LM 1000		11/9	24.5			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1114	11/10	25.3	26.0		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1140	11/11	24.5	25.4		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	PK 1247	11/12	24.4	24.5		Day 3	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LTH 1122	11/13	24.9	25.0		Day 4	✓	3	4	6	3	6	4	4	5	5				
	KR 1254	11/14	25.6	25.7		Day 5	4	5	5	6	3	9	7	5	8	6				* Babies are lethargic some cups look like there is fungus
CF 1200		11/15	25.2			Day 6	15	7	Miss.	11	12	14	✓	11	11	D/0				
						Day 7														
						Day 8														
						Total	24	15	Miss.	23	18	29	11	20	24	11	175			

121

194

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																					
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Concentration		REPLICATES										Notes						
			Temp		1	2	3	4	5	6	7	8	9	10							
					25 mg/L																
						Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1114	11/10	25.2	26.0		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LM 1140	11/11	24.9	24.8		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	PK 1247	11/12	24.8	24.6		Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
	LTH 1122	11/13	25.0	25.4		Day 4	7	3	6	6	4	3	4	✓	6	7					
	KR 1254	11/14	25.8	25.4		Day 5	6	8	9	10	7	5	10	10	7	9				*	
CF 1200		11/15	25.3			Day 6	✓	11	13	13	14	9	14	17	11	13					
						Day 7															
						Day 8															
						Total	13	22	18	29	25	17	28	27	24	29	242				

✓ = Test Organism Alive
D = Test Organism Dead

0 = Live neonates
(-0) = Dead neonates

Miss = Lost or Missing
M = Male

TEST LOG # 9935

JOB # _____

CLIENT/SAMPLE ID: Aqua

LAB/STATE: LAB/STATE: ADVENT-Environ / TN

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																		
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Concentration		Temp	REPLICATES										Notes		
			50mg/L			1	2	3	4	5	6	7	8	9	10			
						Adult												
LM 1000		11/9	24.0			Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1114	11/10	25.1	25.8		Day 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1140	11/11	25.0	26.0		Day 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	OK 1247	11/12	24.8	24.6		Day 3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	3	
	LTH 1122	11/13	25.2	25.7		Day 4	4	2	3	7	4	4	6	✓	5	✓		
	KP 1256	11/14	25.4	25.8		Day 5	9	8	7	7	7	7	(-2)	(-2)	8	(-1)	*	
CF 1200		11/15	25.1			Day 6	10	10	12	✓	10	✓	12	12	12	10		
						Day 7												
						Day 8												
			Total				23	20	22	14	21	11	27	19	25	21	20	3

SURVIVAL AND REPRODUCTION DATA FOR 3-BROOD CHRONIC TEST WITH CERIODAPHNIA DUBIA																		
Test Start/ Test End	Daily Renewal and Feeding Initials/ Time	Date	Concentration		Temp	REPLICATES										Notes		
			100mg/L			1	2	3	4	5	6	7	8	9	10			
						Day 0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1114	11/10	25.4	25.6		Day 1	✓	D	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	LM 1140	11/11	24.9	25.7		Day 2	D		✓	✓	✓	✓	✓	✓	✓	✓	✓	Smaller
	OK 1247	11/12	25.2	25.3		Day 3			✓	✓	✓	✓	✓	✓	✓	✓	✓	thinner
	LTH 1122	11/13	25.4	25.4		Day 4			2	4	4	3	2	4	3	4		concentric
	KP 1256	11/14	25.5	25.9		Day 5			15	5	3	✓	(-2)	(-2)	(-2)	(-7)	*	
CF 1200		11/15	24.5			Day 6			6	8	7	2	5	9	9	8		
						Day 7												
						Day 8												
			Total				D	D	11	17	14	5	8	14	15	12	9	6

✓ = Test Organism Alive 0 = Live neonates Miss = Lost or Missing
 D = Test Organism Dead (-0) = Dead neonates M = Male

TEST LOG NO. 9935

JOB NO. _____

COMPANY NAME/SAMPLE ID: AquaPrime

CHRONIC TOXICITY TEST PARAMETER SHEET. Col

DATE: 11/9/07

D.O.

Concentration	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	
MH	8.2	8.1	8.3	8.4	8.5	8.0	8.6	8.2	8.0	8.2	8.5	
6.25% MH	8.3	7.9	8.0	8.2	8.2	8.0	8.6	8.0	8.0	8.2	8.5	
12.50% MH	8.2	7.8	8.2	8.1	8.7	8.0	8.8	8.1	8.0	8.2	8.5	
25%	8.1	7.7	8.1	7.9	9.0	8.0	8.7	8.1	8.0	8.2	8.5	
50%	8.0	7.7	8.1	7.8	8.7	8.0	8.7	8.1	8.0	8.2	8.5	
100%	8.0	7.7	8.1	7.8	8.7	8.0	8.7	8.1	8.0	8.2	8.5	

pH

Concentration	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	
MH	7.95	7.84	7.96	7.91	7.88	7.82	7.80	7.82	7.79	7.71	7.84	
6.25% MH	8.27	7.90	8.18	7.94	8.09	7.86	7.97	7.83	7.95	7.82	7.84	
12.50% MH	8.61	7.93	8.53	7.96	8.77	7.88	8.32	7.87	8.26	7.92	8.37	
25%	8.86	7.95	8.88	8.00	8.84	7.91	8.67	7.93	8.53	7.96	8.04	
50%	9.22	8.01	9.12	8.08	9.14	7.99	9.01	8.06	8.93	8.08	9.04	
100%	9.55	8.18	9.46	8.22	9.51	8.10	9.37	8.15	9.31	8.18	9.43	

Conductivity

Concentration	Start	Day 1		Day 2		Day 3		Day 4		Day 5		Day 7
		Old	New	Old	New	Old	New	Old	New	Old	New	
MH	330	365	331	366	328	344	358	358	326	339	307	
6.25% MH	337	372	330	367	333	345	353	353	330	347	307	
12.50% MH	343	378	341	380	338	345	358	358	333	351	307	
25%	359	386	349	385	349	359	371	371	343	383	307	
50%	375	407	373	409	370	387	403	403	365	393	307	
100%	415	448	419	467	412	434	443	443	400	433	391	

Daily Initials: PK

Control Water Batch#: 3351

TB WL/PK

3392

TB PK

3353

TB PK

3354

PK TB

3354

PK PK

3354

CF CF

3350

Acute Fish Test-48 Hr Survival

Start Date: 10/11/2007	Test ID: 9883	Sample ID: Aquafinesse
End Date: 10/13/2007	Lab ID: Advent	Sample Type: Product test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: PP-Pimephales promelas
Comments:		

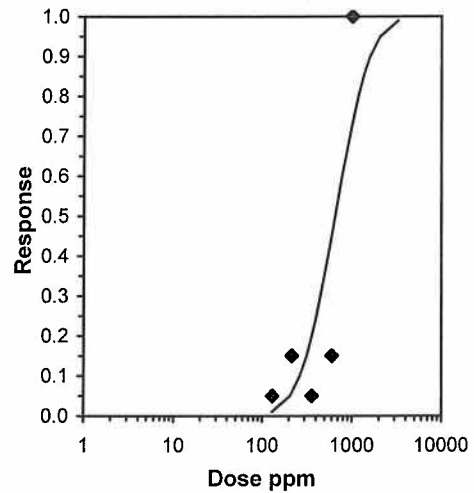
Conc-ppm	1	2
mod hard	1.0000	1.0000
130	1.0000	0.9000
216	0.7000	1.0000
360	0.9000	1.0000
600	0.7000	1.0000
1000	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
130	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
216	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
360	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
600	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
1000	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				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	3.30505	1.80243	-2.4311	9.04118	0	23.7711	7.81473	2.8E-05	2.8116	0.30257	6
Intercept	-4.2925	4.89744	-19.878	11.2933							

Point	Probits	ppm	95% Fiducial Limits
EC01	2.674	128.152	
EC05	3.355	206.027	
EC10	3.718	265.367	
EC15	3.964	314.783	
EC20	4.158	360.542	
EC25	4.326	405.064	
EC40	4.747	543.185	
EC50	5.000	648.041	
EC60	5.253	773.138	
EC75	5.674	1036.77	
EC80	5.842	1164.79	
EC85	6.036	1334.11	
EC90	6.282	1582.55	
EC95	6.645	2038.36	
EC99	7.326	3277.01	

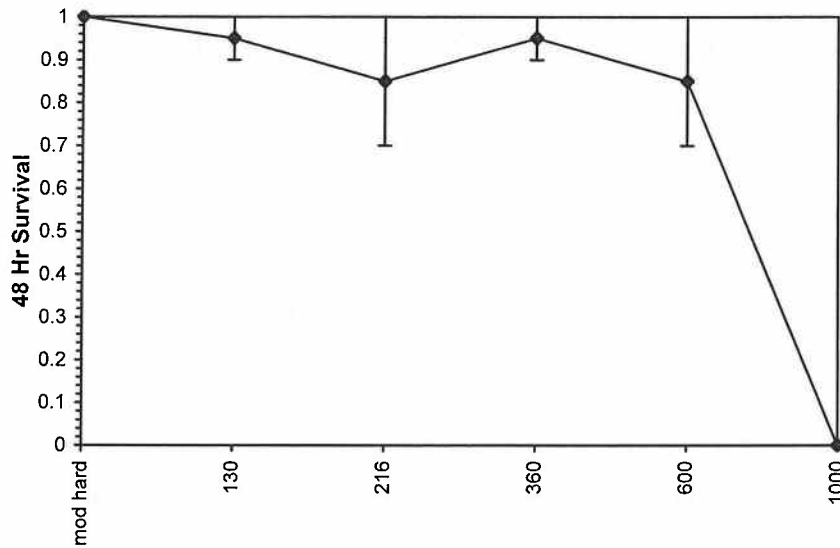


Significant heterogeneity detected (p = 2.79E-05)

Acute Fish Test-48 Hr Survival

Start Date: 10/11/2007 Test ID: 9883 Sample ID: Aquafinesse
End Date: 10/13/2007 Lab ID: Advent Sample Type: Product test
Sample Date: Protocol: EPAA 91-EPA Acute Test Species: PP-Pimephales promelas
Comments:

Dose-Response Plot



Acute Fish Test-48 Hr Survival

Start Date: 10/11/2007	Test ID: 9883	Sample ID: Aquafinesse
End Date: 10/13/2007	Lab ID: Advent	Sample Type: Product test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: PP-Pimephales promelas

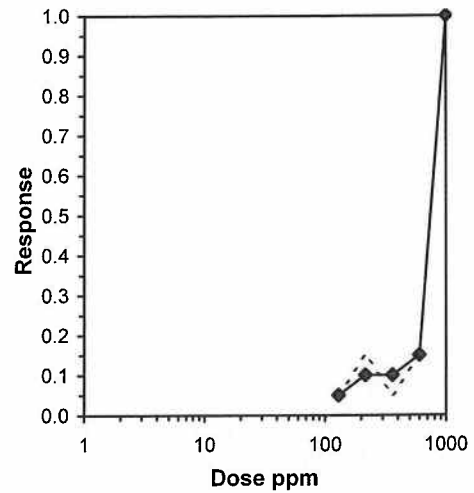
Comments:

Conc-ppm	1	2
mod hard	1.0000	1.0000
130	1.0000	0.9000
216	0.7000	1.0000
360	0.9000	1.0000
600	0.7000	1.0000
1000	0.0000	0.0000

Conc-ppm	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
130	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
216	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
360	0.9500	0.9500	1.3305	1.2490	1.4120	8.661	2	1	20
600	0.8500	0.8500	1.2016	0.9912	1.4120	24.767	2	3	20
1000	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				

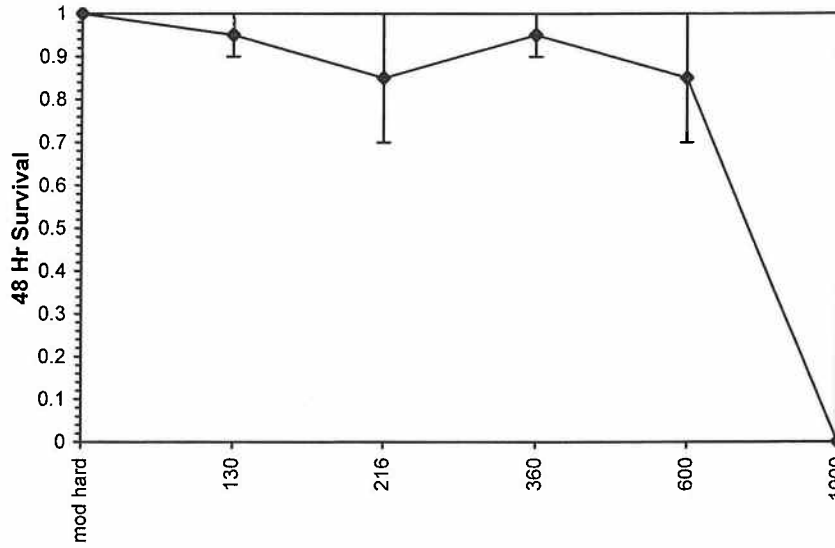
Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%			
5.0%	682.36	591.32	787.41
10.0%	729.42	653.47	814.19
20.0%	740.46	699.82	783.46
Auto-5.0%	682.36	591.32	787.41



Acute Fish Test-48 Hr Survival

Start Date: 10/11/2007 Test ID: 9883 Sample ID: Aquafinesse
End Date: 10/13/2007 Lab ID: Advent Sample Type: Product test
Sample Date: Protocol: EPAA 91-EPA Acute Test Species: PP-Pimephales promelas
Comments:

Dose-Response Plot



48-HR ACUTE TOXICITY TEST DATA SHEET

LOG: 9883

JOB NO: _____

CLIENT: Aquafinesse

EFFLUENT: _____

SAMPLE "B" NOS: _____

SAMPLE DATE: _____

ORGANISM SOURCE TEMP: 24.3

TEST TYPE: Static, Non-Renewal

TEST ORGANISM: FATHEAD MINNOW

ORGANISM AGE (date): 10/10/10

ORGANISM SOURCE: ECI 2337

PHOTOPERIOD: 16 hrs light/8 hrs dark

START DATE/TIME: 10/11/07 1422

END DATE/TIME: 10/13/07 1322

TEST VESSEL CAPACITY: 250 mL

TEST SOLUTION VOLUME: 200 mL

NO. ORGANISMS/VESSEL: 10

NO. REPLICATES: 2

DILUTION WATER: _____

FED 2 hrs PRIOR TO TEST: _____

RANDOMIZED BY: _____

48 hr. LC50 = _____ 95% CI = _____

Mod. Hard No. 3328

Time: 070 Intls: LM

Ccnr Vessel ID (%)	Survival (#)			DO (mg/L)	pH (s.u.)	Temperature (°C)			Conductivity (µmhos/cm)		
	0	24	48			0	24	48		0	24
MH A	10	10	10	8.6	7.83	24.0	24.3	24.2	303	343	340
MH B	10	10	10	8.6	7.88	24.0	24.3	24.2	401		
MH C	10	10	10	8.6	8.70	24.0	24.2	24.2	401		417
MH D	10	10	10	8.5	8.99	24.3	24.3	24.0	482		448
MH A	10	8	7	8.5	9.10	24.5	24.3	24.0	614		448
MH B	10	10	10	8.4	9.10	24.5	24.4	24.0	614		451
MH C	10	9	9	8.4	9.48	24.5	24.4	24.0	607		552
MH D	10	10	10	8.1	8.36						584

Control Primary: _____

100% Effluent: _____

Comments: _____

Alkalinity (mg/L): _____

Hardness (mg/L): _____

TRC (mg/L): _____

Ammonia (mg/L): _____

Initials: LM LM LM

Time: 1422 1322 1322

Date: 10/12 10/13

48-HR ACUTE TOXICITY TEST DATA SHEET

Page _____

LOG: JOB NO: CLIENT: <u>Aquafinesse</u> EFFLUENT:	TEST TYPE: <u>Static, Non-Renewal</u> TEST ORGANISM: <u>FATHEAD MINNOW</u> SAMPLE B #:	TEST VESSEL CAPACITY: <u>250 mL</u> TEST SOLUTION VOLUME: <u>200 mL</u> NO. ORGANISMS/VESSEL: <u>10</u> NO. REPLICATES: <u>2</u>												
Survival (#) DO (mg/L) pH (s.u.) Temperature (°C) Conductivity (umhos/cm)														
Cnc	Vessel	0	24	48	0	24	48	0	24	48				
(%)	ID	DEAD												
600	A	10	7	3	8.3	8.1	7.6	10.48	9.80	8.77	24.0	24.0	743	612
1000	B	10	10	0	8.2	7.8	10.74	10.05	24.0	24.0	1154	1082		
	C													
	D													
	E													
	F													
	G													
	H													
	I													
	J													
	K													
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	M													
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	BU													
	BV													
	BW													
	BX													
	BY													
	BZ													
	CA													
	CB													
	CC													
	CD													
	CE													
	CF													
	CG													
	CH													
	CI													
	CJ													
	CK													
	CL													
	CM													
	CN													
	CO													
	CP													
	CQ													
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	CT													
	CU													
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	DL													
	DM													
	DN													
	DO													
	DP													
	DQ													
	DR													
	DS													
	DT													
	DU													
	DV													
	DW													
	DX													

Larval Fish Growth and Survival Test-7 Day Survival

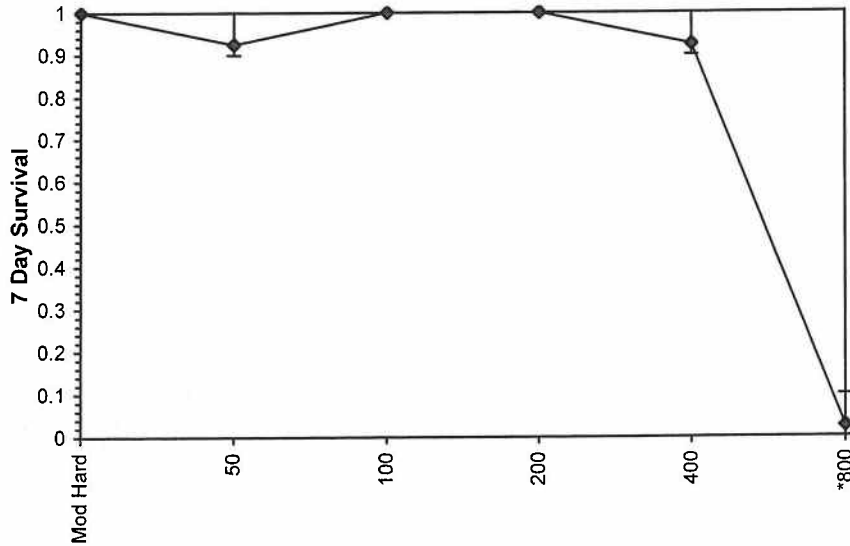
Start Date: 10/23/2007 Test ID: 9908 Sample ID: Aquafinnesse
 End Date: 10/30/2007 Lab ID: ENVIRON Sample Type:
 Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: PP-Pimephales promelas
 Comments:

Conc-mg/L	1	2	3	4
Mod Hard	1.0000	1.0000	1.0000	1.0000
50	0.9000	0.9000	1.0000	0.9000
100	1.0000	1.0000	1.0000	1.0000
200	1.0000	1.0000	1.0000	1.0000
400	0.9000	1.0000	0.9000	0.9000
800	0.0000	0.0000	0.1000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Rank Sum	1-Tailed Critical
	Mean	N-Mean	Mean	Min	Max	CV%	N		
Mod Hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4		
50	0.9250	0.9250	1.2898	1.2490	1.4120	6.318	4	12.00	10.00
100	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4	18.00	10.00
200	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4	18.00	10.00
400	0.9250	0.9250	1.2898	1.2490	1.4120	6.318	4	12.00	10.00
*800	0.0250	0.0250	0.1995	0.1588	0.3218	40.840	4	10.00	10.00

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)	0.66831	0.884	1.74394	2.37302
Equality of variance cannot be confirmed				
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU
Steel's Many-One Rank Test	400	800	565.685	

Dose-Response Plot



Larval Fish Growth and Survival Test-7 Day Biomass

Start Date: 10/23/2007	Test ID: 9908	Sample ID: AQUAFINNESS
End Date: 10/30/2007	Lab ID: ADVENT	Sample Type: PRODUCT TEST
Sample Date:	Protocol: EPAF 91-EPA Freshwater	Test Species: PP-Pimephales promelas

Conc-ppm	1	2	3	4
mod hard	0.4790	0.4870	0.4400	0.4820
50	0.4020	0.4970	0.3940	0.4650
100	0.5280	0.4180	0.5150	0.4310
200	0.5190	0.4860	0.4610	0.4930
400	0.4450	0.5750	0.4630	0.4790
800	0.0000	0.0000	0.0580	0.0000

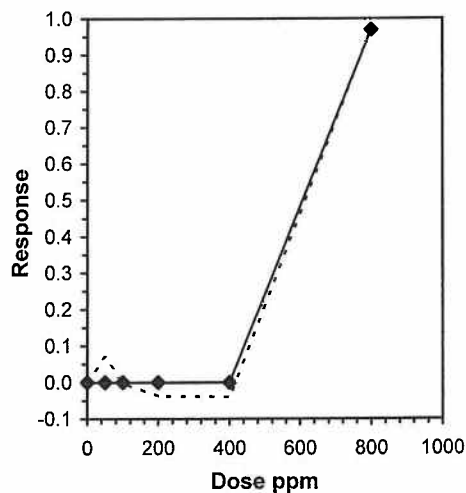
Conc-ppm	Transform: Untransformed							1-Tailed			Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean	N-Mean
mod hard	0.4720	1.0000	0.4720	0.4400	0.4870	4.574	4				0.4729	1.0000
50	0.4395	0.9311	0.4395	0.3940	0.4970	11.326	4	1.078	2.410	0.0727	0.4729	1.0000
100	0.4730	1.0021	0.4730	0.4180	0.5280	11.946	4	-0.033	2.410	0.0727	0.4729	1.0000
200	0.4897	1.0376	0.4897	0.4610	0.5190	4.870	4	-0.589	2.410	0.0727	0.4729	1.0000
400	0.4905	1.0392	0.4905	0.4450	0.5750	11.829	4	-0.613	2.410	0.0727	0.4729	1.0000
*800	0.0145	0.0307	0.0145	0.0000	0.0580	200.000	4	15.171	2.410	0.0727	0.0145	0.0307

Auxiliary Tests	Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.95584	0.884	0.52372	-0.5298
Bartlett's Test indicates equal variances (p = 0.44)	4.80078	15.0863		

Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	400	800	565.685		0.07268	0.15397	0.14149	0.00182	1.5E-11	5, 18

Linear Interpolation (200 Resamples)

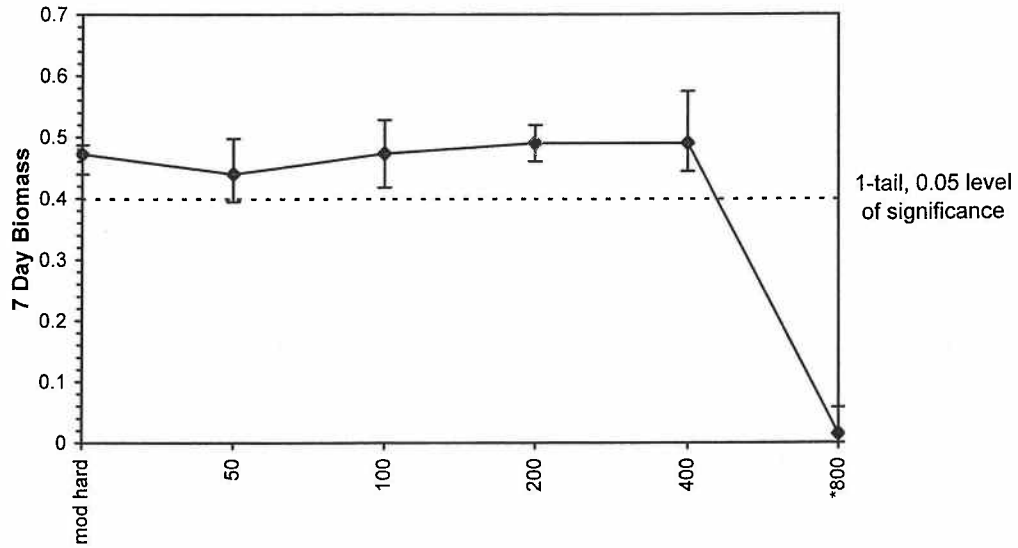
Point	ppm	SD	95% CL(Exp)	Skew	
IC25	503.16	6.29	471.05	508.63	-1.1245



Larval Fish Growth and Survival Test-7 Day Biomass

Start Date: 10/23/2007 Test ID: 9908 Sample ID: AQUAFINNESS
End Date: 10/30/2007 Lab ID: ADVENT Sample Type: PRODUCT TEST
Sample Date: Protocol: EPAF 91-EPA Freshwater Test Species: PP-Pimephales promelas
Comments:

Dose-Response Plot



FATHEAD MINNOW SURVIVAL AND GROWTH
7-DAY CHRONIC TOXICITY TEST

TEST LOG NO.: 9908
 JOB NO.: _____
 INDUSTRY: Aquafinesse
 EFFLUENT: _____
 DILUTION WATER: MH
 NPDES: YES _____ NO _____

LAB CONDUCTING TEST: ADVENT-ENVRON
 BEGINNING: HRS: 3:30 DATE: 10/23/07
 ENDING: HRS: 12:27 DATE: 10/30/07
 TEST DILUTIONS: 50, 100, 200, 400, 800 mg/L
 ORGANISM AGE (date): 10/22/07
 ORGANISM SOURCE: ECT# 2347
 ORGANISM SOURCE TEMP _____
 @ TEST START: 24.0

RANDOMIZED BY: LM
 PHOTOPERIOD: 16 hr light/8 hr dark
 FEEDING REGIME:
 0.15 mL Artemia @ 2 times/day
 TEST VESSEL CAPACITY: 450 mL
 TEST SOLUTION VOLUME: 250 - 300 mL
 NO. ORGANISMS/TREATMENT: 10
 NO. REPLICATES: 4

CONC (%)	REP ID	SURVIVAL (#)							
		START	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7
MH	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
	Temp: old/new	24.9	24.5/25.3	24.7/25.5	24.8/25.0	24.6/25.1	24.6/24.8	24.1/24.3	24.3
50mg/L	A	10	9	9	9	9	9	9	9
	B	10	9	9	9	9	9	9	9
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	9
	E	10	10	10	10	10	10	10	9
	Temp: old/new	24.9	24.5/24.8	24.0/24.8	24.8/25.0	24.5/24.9	24.6/24.8	24.5/25.3	24.4
100mg/L	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
	Temp: old/new	24.9	24.6/24.8	24.3/24.8	24.8/25.3	24.6/24.8	24.4/24.8	24.3/25.1	24.3
200mg/L	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
	E	10	10	10	10	10	10	10	10
	Temp: old/new	24.6	24.8/24.8	24.8/24.8	24.6/25.3	24.8/24.8	24.5/24.8	24.9/25.3	24.4
400mg/L	A	10	10	10	10	10	9	9	9
	B	10	10	10	10	10	10	10	10
	C	10	10	10	9	9	9	9	9
	D	10	10	10	10	9	9	9	9
	E	10	10	10	10	9	9	9	9
	Temp: old/new	25.0	24.9/24.8	24.8/24.8	24.6/25.3	24.8/24.6	24.4/24.7	24.9/25.3	24.4
800mg/L	A	10	0	0	0	—	0	0	0
	B	10	1	1	1	1	1	1	0
	C	10	1	1	1	1	1	1	1
	D	10	2	2	0	—	0	0	0
	E	10	2	2	0	—	0	0	0
	Temp: old/new	24.8	24.8/24.7	24.3/24.5	24.8/25.2	24.4/24.6	24.4/24.7	24.8/24.8	24.0
Test Renewal	Time	1342	1100	0945	1255	1130	1030	1033	1227
	Date	10/23/07	10/24	10/25	10/26	10/27	10/28	10/29	10/30
	Initials	LM	CF	LM	TB	TUH	TUH	TB	TB
morning feeding	Int/Time		LM0702	LM0700	TB0745	TB0940	TUH 745	LM0402	—
afternoon feeding	Int/Time	TB 1639	TB 1631	TB 1606	CF 1430	CF 1404	CF 1417	CF 1627	—

FIGURE 11-1

**FATHEAD MINNOW SURVIVAL AND GROWTH
7-DAY CHRONIC TOXICITY TEST**

TEST LOG NO.: 9908 LAB CONDUCTING TEST: ADVENT-ENVIRON
 JOB NO.: _____ BEGINNING: HRS: 1342 DATE: 10/23/07
 INDUSTRY: Aquafinesse ENDING: HRS: 027 DATE: 10/30/07
 EFFLUENT: _____
 NPDES: Yes _____ NO _____ NO. ORGANISMS/TREATMENT: 10
 NO. REPLICATES: 4

PHOTOPERIOD: 16 hr light/8 hr dark
 FEEDING REGIME: 0.15 mL Artemia @ 2 times/day
 TEST VESSEL CAPACITY: 450 mL
 TEST SOLUTION VOLUME: 250 - 300 ML

GROWTH RESULTS								
Conc. (%)	REP ID	Boat ID	Tare wt (g)	Combined wt (g)	Tot Fish wt (g)	# of Fish	Fish Wt (mg)	Avg Control Fish Wt (mg)
		<u>Ag</u>						
	A	<u>10</u>	<u>0.98580</u>	<u>0.99059</u>	<u>0.00479</u>	<u>10</u>		
	B	<u>2</u>	<u>0.99816</u>	<u>1.00303</u>	<u>0.00487</u>	<u>10</u>		
	C	<u>3</u>	<u>1.00413</u>	<u>1.00853</u>	<u>0.00440</u>	<u>10</u>		
	D	<u>4</u>	<u>1.02098</u>	<u>1.02580</u>	<u>0.00482</u>	<u>10</u>		
	E							
	A	<u>5</u>	<u>0.99928</u>	<u>1.00330</u>	<u>0.00402</u>	<u>9</u>		
	B	<u>6</u>	<u>1.01203</u>	<u>1.01700</u>	<u>0.00497</u>	<u>9</u>		
	C	<u>7</u>	<u>1.01934</u>	<u>1.02328</u>	<u>0.00394</u>	<u>10</u>		
	D	<u>8</u>	<u>1.00643</u>	<u>1.01108</u>	<u>0.00465</u>	<u>9</u>		
	E							
	A	<u>9</u>	<u>1.01440</u>	<u>1.01968</u>	<u>0.00328</u>	<u>10</u>		
	B	<u>10</u>	<u>1.01500</u>	<u>1.01918</u>	<u>0.00418</u>	<u>10</u>		
	C	<u>11</u>	<u>1.01255</u>	<u>1.01770</u>	<u>0.00515</u>	<u>10</u>		
	D	<u>12</u>	<u>1.01737</u>	<u>1.02168</u>	<u>0.00431</u>	<u>10</u>		
	E							
	A	<u>13</u>	<u>1.03633</u>	<u>1.04152</u>	<u>0.00519</u>	<u>10</u>		
	B	<u>14</u>	<u>0.99878</u>	<u>1.00364</u>	<u>0.00486</u>	<u>10</u>		
	C	<u>15</u>	<u>1.00670</u>	<u>1.01131</u>	<u>0.00461</u>	<u>10</u>		
	D	<u>16</u>	<u>0.99238</u>	<u>0.99731</u>	<u>0.00493</u>	<u>10</u>		
	E							
	A	<u>17</u>	<u>1.00336</u>	<u>1.00781</u>	<u>0.00445</u>	<u>9</u>		
	B	<u>18</u>	<u>0.99318</u>	<u>0.99893</u>	<u>0.00575</u>	<u>10</u>		
	C	<u>19</u>	<u>1.01622</u>	<u>1.02085</u>	<u>0.00463</u>	<u>9</u>		
	D	<u>20</u>	<u>0.99569</u>	<u>1.00048</u>	<u>0.00479</u>	<u>9</u>		
	E							
	A	<u>21</u>	<u>1.06059</u>	_____	_____	<u>0</u>		
	B	<u>22</u>	<u>1.01589</u>	_____	_____	<u>0</u>		
	C	<u>23</u>	<u>1.02499</u>	<u>1.02557</u>	<u>0.00058</u>	<u>1</u>		
	D	<u>24</u>	<u>1.00600</u>	_____	_____	<u>0</u>		
	E							
	A	<u>25 IM</u>						
	B	<u>26</u>						
	C	<u>2</u>						
	D							
	E							
		Initials:	<u>CF</u>					

FINAL WEIGHTS
 DATE: 10/31/07
 INITIALS: CF

10/25/07

FIGURE 11-1

TEST LOG NO. 9908 COMPANY NAME/SAMPLE ID: Aquafinesse DATE: 10/23/07

JOB NO. _____ CHRONIC TOXICITY TEST PARAMETER SHEET - FM

D.O.		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
Concentration	Start	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
MH	7.9	8.1	8.0	7.3	8.0	6.9	8.3	7.5	8.4	7.4	8.3	8.0	8.6	7.7	8.6
50mg/L	7.9	7.8	8.0	7.3	8.0	6.9	8.3	7.4	8.3	7.4	8.3	8.0	8.6	7.6	8.6
100 µg/L	7.9	7.4	8.0	7.1	8.0	6.9	8.3	7.2	8.3	7.2	8.3	8.1	8.6	7.6	8.6
200	7.9	7.2	8.0	6.9	8.0	5.9	8.3	7.0	8.3	6.9	8.3	7.8	8.6	7.5	8.6
400	7.9	7.2	8.0	6.9	8.0	5.9	8.3	7.0	8.3	6.9	8.3	7.8	8.6	7.4	8.6
800	7.8	7.2	8.0	6.8	8.0	6.9	8.3	6.3	8.3	6.3	8.3	7.7	8.3	6.7	8.3
Concentration	Start	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New

pH		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
Concentration	Start	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
MH	8.06	7.59	8.13	7.44	8.10	7.49	8.03	7.68	8.05	7.63	8.15	7.71	8.13	7.60	8.13
50mg/L	8.36	8.23	8.16	7.77	8.31	7.74	8.13	7.87	8.28	7.96	8.23	8.08	8.13	7.88	8.28
100 µg/L	9.48	8.58	9.45	8.36	9.49	8.23	9.43	8.20	9.54	8.11	9.59	8.38	9.52	8.38	9.52
200	9.78	9.09	9.76	8.87	9.80	8.23	9.43	8.20	9.54	8.11	9.59	8.38	9.52	8.38	9.52
400	10.14	9.53	10.07	9.42	10.11	8.40	10.10	9.24	10.15	8.64	10.19	9.24	10.17	8.90	10.17
800	10.31	9.85	10.37	9.88	10.42	9.96	10.47	9.99	10.46	9.90	10.55	9.82	10.48	9.82	10.48
Concentration	Start	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td>	New	Old <td>New</td> <td>Old <td>New</td> </td>	New	Old <td>New</td>	New

Conductivity		Day 1		Day 2		Day 3		Day 4		Day 5		Day 6		Day 7	
Concentration	Start	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
MH	994	304	317	318	330	314	337	348	322	346	315	319	311	333	311
50mg/L	942	356	366	367	366	329	361	385	361	388	354	364	358	373	364
100 µg/L	376	371	395	388	395	387	395	413	395	430	393	399	400	411	399
200	436	429	467	441	467	428	454	459	460	466	459	446	471	453	446
400	633	584	620	572	620	584	622	594	622	611	618	584	648	608	648
800	801	809	917	892	941	807	932	891	931	902	963	893	1006	939	939
Concentration	Start	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td></td>	New	Old <td>New</td> <td>Old <td>New</td> <td>Old <td>New</td> </td></td>	New	Old <td>New</td> <td>Old <td>New</td> </td>	New	Old <td>New</td>	New

Daily Initials:	Control Water Batch#:
LM	3337
LM	3338
LM	3339
LM	3340
LM	3341
LM	3342

TEST LOG NO. 9908 COMPANY NAME/SAMPLE ID: Aquafinrese DATE OF TEST: 10/23/07

JOB NO. _____

100% EFFLUENT

B #	1st Use Date/Time	Hard	Alkalinity	TRC	NH ₃ N
FM		72	390		
cd		96	90		

CONTROL / DILUTION WATER

(Modhard, Soft, Hard, River Water, other)

Batch #	1st Use	Hard	Alkalinity	TRC	NH ₃ N
3337	10/22/07	88	66		
3338	10/23/07	78.4	65		
3339	10/24/07	81.6	66		
3340	10/26/07	80	65		
3341	10/27/07	92	69		
3342	10/28/07	85.6	64		

Acute Fish Test-96 Hr Survival

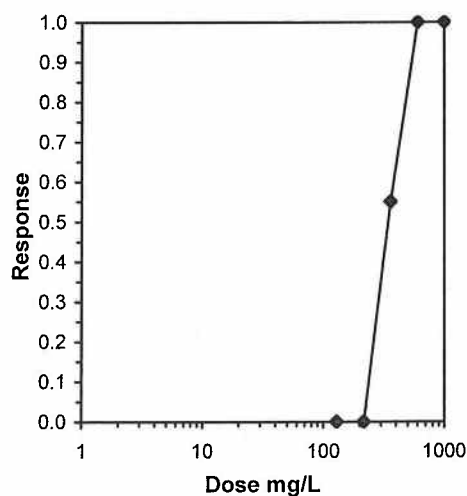
Start Date: 10/31/2007	Test ID: 9922	Sample ID: Aquafinesse
End Date: 11/4/2007	Lab ID: Advent	Sample Type: Product test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: OM-Oncorhynchus mykiss
Comments: Whole product testing with RBT		

Conc-mg/L	1	2
mod hard	1.0000	1.0000
130	1.0000	1.0000
216	1.0000	1.0000
360	0.3000	0.6000
600	0.0000	0.0000
1000	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
130	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
216	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
360	0.4500	0.4500	0.7329	0.5796	0.8861	29.567	2	11	20
600	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
1000	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				

Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%	350.92	313.22	393.16
5.0%	350.03	308.58	397.04
10.0%	349.14	303.25	401.97
20.0%	347.38	289.22	417.24
Auto-0.0%	350.92	313.22	393.16



12.0°C
Rainbow Trout

96-HR ACUTE TOXICITY TEST DATA SHEET

Page No. 1091

LOG NO: 9922
 JOB NO: Aquafinnesal
 CLIENT: Aquafinnesal
 EFFLUENT: 10/15/07
 SAMPLE "B" NOS. TFC1 2352
 SAMPLE DATE: 16 hrs light/8 dark
 ORGANISM SOURCE: 10/31/07 1231
 ORGANISM: Static, Renew 48 hr
 ORGANISM AGE (date): 11/4/07 1140
 ORGANISM SOURCE: 95% CI =
 PHOTOPERIOD: 16 hrs light/8 dark
 START DATE/TIME: 10/31/07 1231
 END DATE/TIME: 11/4/07 1140
 ORGANISM SOURCE TEMP: 12.0
 96 hr. LC50 =

TEST VESSEL CAPACITY: 250 ml
 TEST SOLUTION VOLUME: 200 ml
 NO. ORGANISMS/VESSEL: 10
 NO. REPLICATES: 2
 DILUTION WATER:
 FED 2 HRS PRIOR TO TEST
 FED AT 48 HR RENEWAL
 RANDOMIZED BY: TK

Mod. Hard No. 3345
 By: TK
 Time: 1000
 By: TK
 Time: 0700

Conc. Vessel ID (%)	Survival (#)	DO (mg/L)	pH (s.u.)	Temperature (°C)	Conductivity (umhos/cm)
	0 24 48 72 96	0 24 48 72 96	0 24 48 72 96	0 24 48 72 96	0 24 48 72 96

Conc. Vessel ID (%)	Survival (#)	DO (mg/L)	pH (s.u.)	Temperature (°C)	Conductivity (umhos/cm)
14H A	10 10 10 10 10 0	9.3	7.83	13.0	275
B	10 10 10 10 10 0	8.9	7.57	12.5	232
130mg/L A	10 10 10 10 10 0	9.5	9.06	13.0	358
B	10 10 10 10 10 0	8.7	8.78	12.0	405
240mg/L A	10 10 10 10 10 0	9.5	9.93	13.0	428
B	10 10 10 10 10 0	9.0	9.09	12.0	458
360mg/L A	10 0 3 3 3 7	9.5	10.20	13.0	528
B	10 0 0 0 0 4	9.1	9.96	13.0	369
600mg/L A	10 0 0 0 0 10	9.6	10.74	12.8	554
B	10 0 0 0 0 10	9.3	10.39	12.9	459
1200mg/L A	10 0 0 0 0 10	9.3	10.74	12.8	464
B	10 0 0 0 0 10	9.3	10.39	12.8	464

Initials: TK OF CFCECF
 Time: 1231 1312 1210 1135 1140
 Date: 10/31/11 11/2/11 11/3/11 11/4/11

Control / Diluent	100% Effluent, 1st	100% Effluent, 2nd	Comments:
Hardness mg/L CaCO3			
Alkalinity mg/L CaCO3			
TRC mg/L			
Ammonia mg/L NH3N			

ATTACHMENT 2

**RANGE-FINDER AND
REFERENCE TOXICANT INFORMATION**

48-HR ACUTE TOXICITY TEST DATA SHEET

LOG: 9882
 JOB NO:
 CLIENT: Aquafinesse
 EFFLUENT:
 SAMPLE "B" NOS.:
 SAMPLE DATE:
 ORGANISM SOURCE TEMP: 24.0

TEST TYPE: Static, Non-Renewal
 TEST ORGANISM: Ceriodaphnia dubia
 ORGANISM AGE (date): 10/11/07
 ORGANISM SOURCE: 6312-6314
 PHOTOPERIOD: 16 hrs light/8 hrs dark
 START DATE/TIME: 10/11/07 15:29
 END DATE/TIME: 10/13/07

TEST VESSEL CAPACITY: 30 mL
 TEST SOLUTION VOLUME: 15 - 20 mL
 NO. ORGANISMS/VESSEL: 5
 NO. REPLICATES: 4
 DILUTION WATER: MH Batch #: 3328
 Type: PR
 FED @ LEAST 2 HR. PRIOR TO TEST: Time: 0848
 RANDOMIZED BY: Intls: PR
 48 hr. LC50 = _____ 95% CI = _____

Cconc	Vessel ID	Survival (#)		DO (mg/L)	pH (s.u.)	Temperature (°C)		Conductivity (umhos/cm)
		0	24			24	48	
MH	A	5	5	8.6	7.97	24.0	300	
	B	5	5	8.6	8.29	24.4	348	
	C	5	5	8.6	8.26	24.1	318	
	D	5	5	8.6	8.26	24.1	345	
10mg/L	A	5	5	8.6	8.50	24.5	318	
	B	5	5	8.6	8.25	24.5	345	
	C	5	5	8.6	8.25	24.5	345	
	D	5	5	8.6	8.25	24.5	336	
100mg/L	A	5	5	8.4	9.41	24.4	372	
	B	5	5	8.4	8.41	24.4	347	
	C	5	5	8.4	8.41	24.4	409	
	D	5	5	8.4	8.41	24.4		

Initials: PR LM
 Time: 15:29
 Date: 10/11/07

Control Primary: _____ 100% Effluent: _____ Comments: _____
USF SD& Detector series
400, 200, 100, 50, 25

48-HR ACUTE TOXICITY TEST DATA SHEET

LOG: JOB NO: CLIENT: EFFLUENT:	TEST TYPE: <u>Static, Non-Renewal</u> TEST ORGANISM: <u>Ceriodaphnia dubia</u> SAMPLE B #: TEST START DATE:	TEST VESSEL CAPACITY: <u>30 mL</u> TEST SOLUTION VOLUME: <u>15 - 20 mL</u> NO. ORGANISMS/VESSEL: <u>5</u> NO. REPLICATES: <u>4</u>	
Ccnc Vessel (%) ID	Survival (#) 0 24 48 DEAD	DO (mg/L) 0 24 48	pH (s.u.) 0 24 48
100mL A B C D	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	8.4 8.5 8.4 8.5 8.4 8.5 8.4 8.5	10.77 9.69 10.77 9.69 10.77 9.69 10.77 9.69
Conductivity (umhos/cm) 0 24 48	Temperature (°C) 0 24 48	Comments:	
1160 1060 1160 1060 1160 1060 1160 1060	24.2 25.6 25.3 24.2 25.6 25.3 24.2 25.6 25.3 24.2 25.6 25.3		

48-HR ACUTE TOXICITY TEST DATA SHEET

Rangfunder

Page

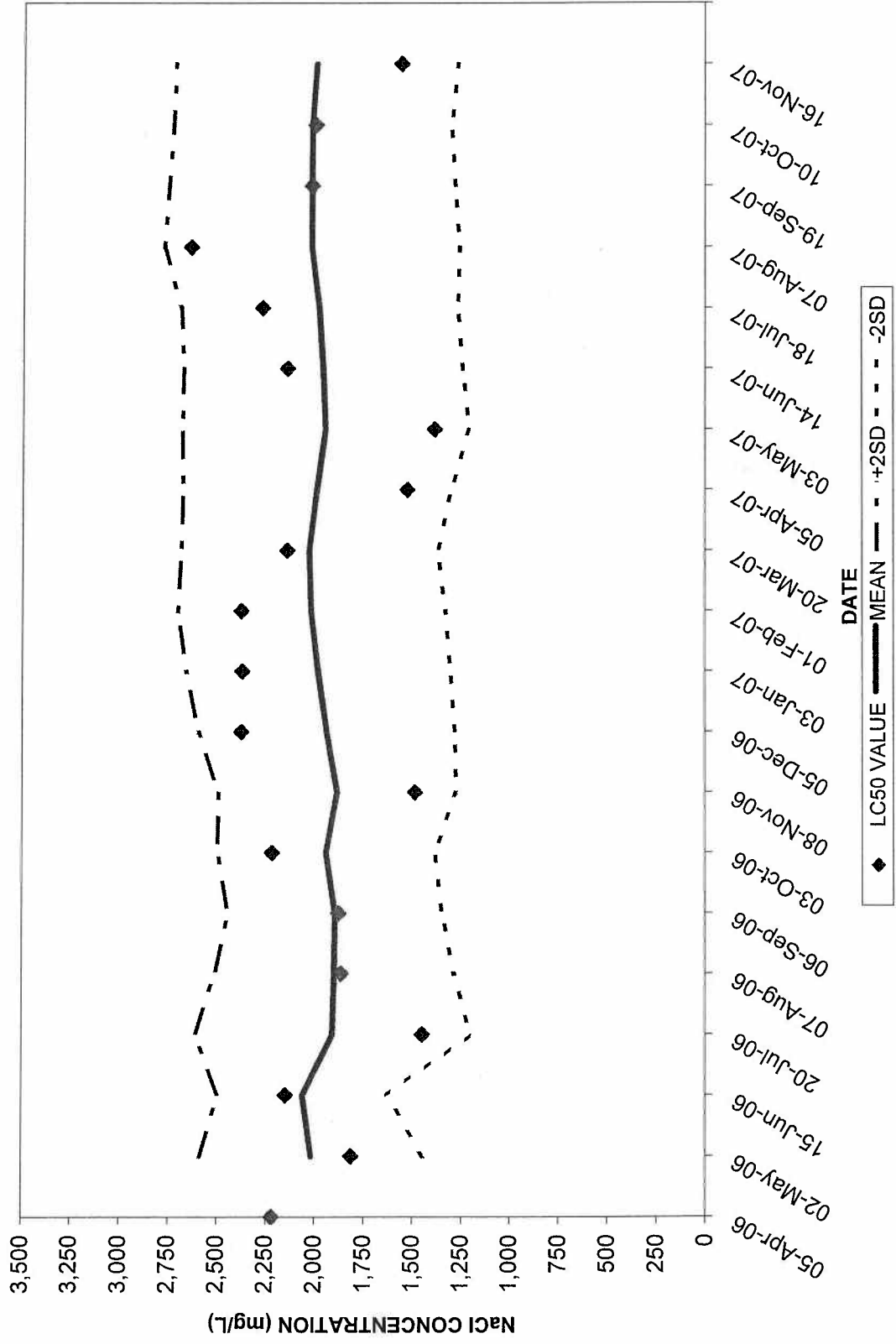
1091

LOG: <u>9873</u>	TEST TYPE: <u>Static, Non-Renewal</u>	TEST VESSEL CAPACITY: <u>250 mL</u>
JOB NO: <u>Aquafinuss</u>	TEST ORGANISM: <u>FATHEAD MINNOW</u>	TEST SOLUTION VOLUME: <u>200 mL</u>
CLIENT: <u>Aquafinuss</u>	ORGANISM AGE (date): <u>10/8/07</u>	NO. ORGANISMS/VESSEL: <u>10</u>
EFFLUENT: <u>BT 2340</u>	ORGANISM SOURCE: <u>BT 2340</u>	NO. REPLICATES: <u>2</u>
SAMPLE "B" NOS: <u>16 hrs light/8 hrs dark</u>	PHOTOPERIOD: <u>10/9/07 1358</u>	DILUTION WATER: <u>Mod. Hard No. 3326</u>
SAMPLE DATE: <u>10/9/07</u>	START DATE/TIME: <u>10/9/07 1358</u>	FED 2 hrs PRIOR TO TEST: <u>Time: 1000 Intls: LM</u>
ORGANISM SOURCE TEMP: <u>24.4</u>	END DATE/TIME: <u></u>	RANDOMIZED BY: <u>LM</u>
		48 hr. LC50 = _____ 95% CI = _____

Cnc Vessel (%)	ID	Survival (#)			DO (mg/L)	pH (s.u.)	Temperature (°C)			Conductivity (umhos/cm)
		0	24	48			0	24	48	
MH	A	5	5	5	8.4	8.07	24.1	24.0	294	300
	B	5	5	5	8.5	8.108	24.8	24.1	385	350
10mg/L	A	5	3	3	8.0	9.65	24.8	24.3	330	435
	B	5	4	4	8.0	10.69	24.9		1090	
100mg/L	A	5	0	0	8.5	8.10	25.2	24.1	297	338
	B	5	0	0	8.5	8.17				

Initials: <u>LM LM W</u>	Control Primary	100% Effluent	Comments:
Time: <u>1558</u>	Alkalinity (mg/L)		
Date: <u>10/9/07</u>	Hardness (mg/L)		
	TRC (mg/L)		
	Ammonia (mg/L)		

ACUTE REFERENCE TOXICANT (NaCl) 2006 - 2007
Ceriodaphnia dubia



Ceriodaphnia dubia ACUTE REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2006 - 2007

Test Number	Log Number	Test Initiation Date	Control Survival (%)	48-hr LC50 (mg/L)	95% Confidence Intervals (mg/L)	LC50 Cumulative Mean (mg/L)	LC50 Cumulative St. Dev. (mg/L)	2+ St. Dev. (mg/L)	2- St. Dev. (mg/L)	Coefficient of Variation (%)
1	8815	05-Apr-06	100	2,219	1,914 - 2,572	2,017	286	2,589	1,444	10
2	8888	02-May-06	95	1,814	1,496 - 2,199	2,061	216	2,494	1,628	9
3	8992	15-Jun-06	95	2,149	1,839 - 2,511	1,908	353	2,614	1,202	16
4	9081	20-Jul-06	95	1,450	1,170 - 1,700	1,900	306	2,512	1,287	14
5	9117	07-Aug-06	100	1,866	1,603 - 2,172	1,896	274	2,444	1,348	13
6	9173	06-Sep-06	100	1,878	NC	1,942	278	2,499	1,386	13
7	9221	03-Oct-06	100	2,219	1,896 - 2,597	1,885	304	2,493	1,278	15
8	9284	08-Nov-06	95	1,487	1,146 - 1,806	1,940	328	2,596	1,284	16
9	9323	05-Dec-06	100	2,378	2,080 - 2,720	1,983	338	2,660	1,307	16
10	9359	03-Jan-07	100	2,373	NC	2,019	342	2,704	1,334	16
11	9397	01-Feb-07	100	2,378	2,080 - 2,720	2,030	328	2,686	1,373	15
12	9481	20-Mar-07	100	2,144	1,842 - 2,495	1,991	344	2,678	1,304	17
13	9509	05-Apr-07	95	1,530	1,090 - 1,975	1,948	367	2,682	1,214	18
14	9555	03-May-07	95	1,390	1,025 - 1,738	1,961	357	2,676	1,247	18
15	9629	14-Jun-07	100	2,144	1,821 - 2,523	1,981	354	2,688	1,273	17
16	9705	18-Jul-07	90	2,272	1,968 - 2,625	2,019	378	2,775	1,263	18
17	9746	07-Aug-07	100	2,639	2,399 - 2,904	2,019	367	2,753	1,286	18
18	9834	19-Sep-07	95	2,018	1,066 - 2,446	2,018	356	2,731	1,305	17
19	9876	10-Oct-07	90	2,000	1,664 - 2,404	1,996	362	2,719	1,272	18
20	9951	16-Nov-07	100	1,562	1,257 - 1,940					

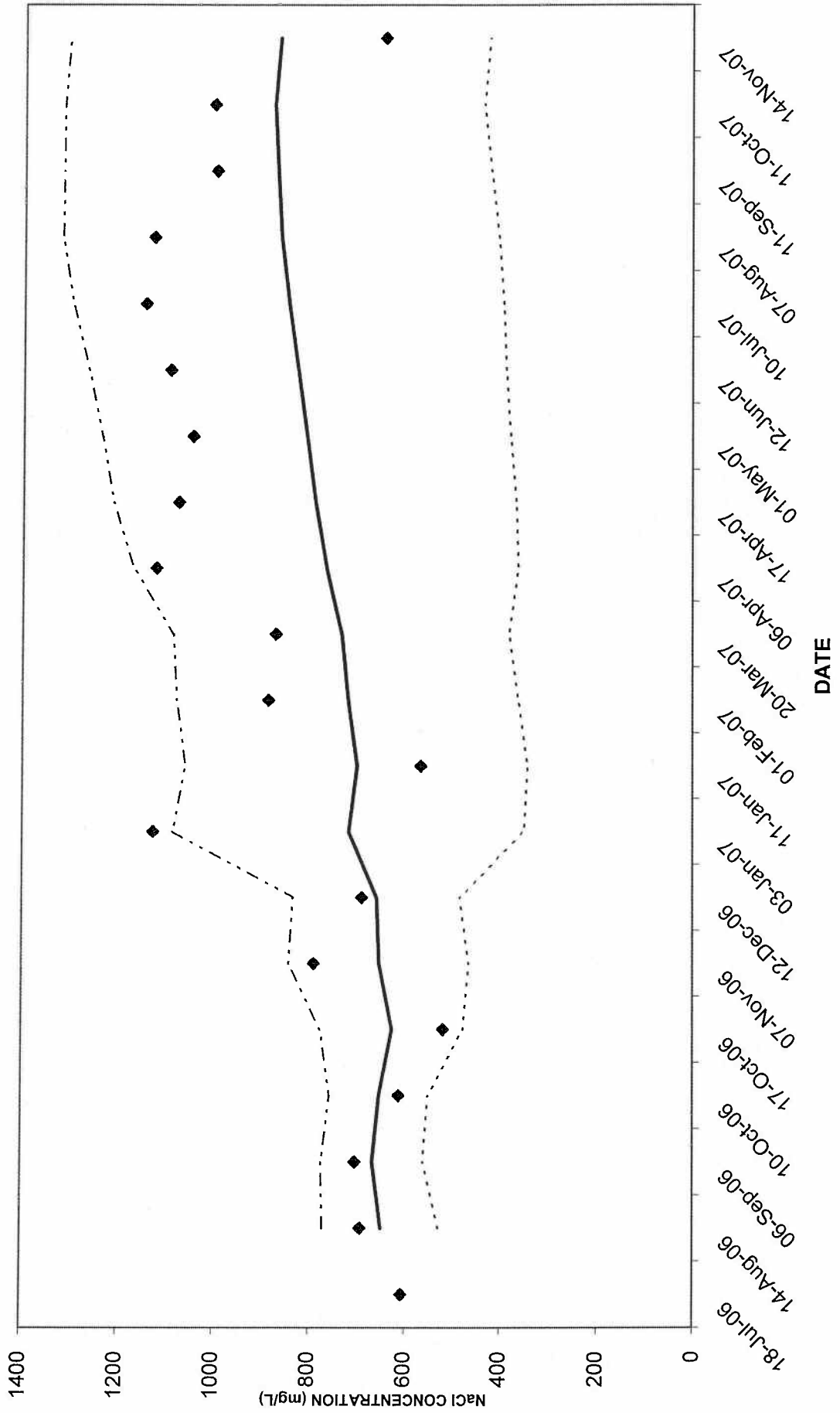
Notes:

Moderately Hard Water was used as the Control Water in each test

LC50 - Concentration of sodium chloride which was lethal to 50 percent of the test organisms.

NC - Not calculable, NA - Not Applicable

CHRONIC REFERENCE TOXICANT (NaCl) 2006-2007
Ceriodaphnia dubia



◆ IC25 Values — IC25 Mean - - - - +2SD ·····-2SD

Ceriodaphnia dubia CHRONIC REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2006-2007

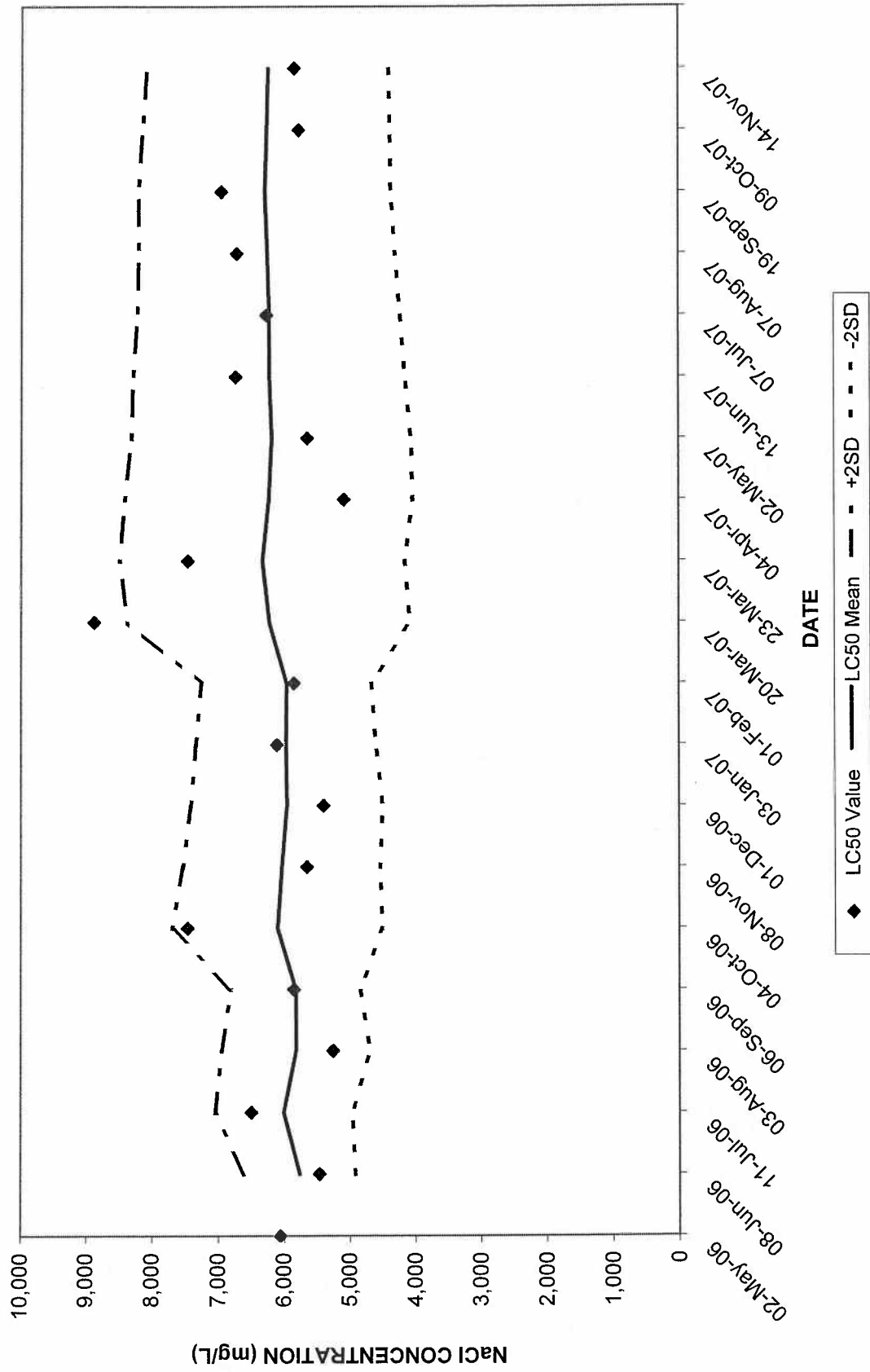
Test Number	Log Number	Test Initiation Date	Control Survival (%) (*)	3 Brood Production (%) (*)	Control Average Repro (*)	Survival		Reproduction		IC25 VALUE (mg/L)	IC25 CUMULATIVE MEAN (mg/L)	IC25 ST. DEV. (mg/L)	IC25 2+ STD. DEV.	IC25 2- STD. DEV.	Coefficient of Variation (%)
						NOEC (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOEC (mg/L)						
1	9069	18-Jul-06	100	100	31.2	1,000	2,000	250	500	607	650	61	772	528	7
2	9145	14-Aug-06	100	100	29.5	1,000	2,000	500	1,000	693	668	53	774	562	6
3	9169	06-Sep-06	100	100	28.6	1,000	2,000	500	1,000	704	654	51	757	552	7
4	9230	10-Oct-06	100	100	35.3	1,000	2,000	250	500	613	627	75	777	478	11
5	9238	17-Oct-06	100	90	26.8	1,000	2,000	125	250	520	655	94	844	466	13
6	9273	07-Nov-06	100	90	19.3	1,000	2,000	500	1,000	791	660	87	835	485	12
7	9331	12-Dec-06	100	90	25.0	1,000	2,000	500	1,000	691	718	184	1,085	351	24
8	9356	03-Jan-07	90	90	20.6	2,000	2,000	1,000	2,000	1126	701	179	1,059	344	24
9	9375	11-Jan-07	100	80	25.8	1,000	2,000	500	1,000	568	720	178	1,077	363	24
10	9396	01-Feb-07	100	100	27.9	1,000	2,000	500	1,000	886	734	175	1,084	383	23
11	9480	20-Mar-07	100	100	29.0	1,000	2,000	500	1,000	871	766	201	1,168	364	25
12	9512	06-Apr-07	90	90	29.7	2,000	2,000	500	1,000	1120	790	211	1,211	368	26
13	9529	17-Apr-07	100	100	29.0	1,000	2,000	250	500	1074	808	213	1,235	381	25
14	9548	01-May-07	100	100	28.2	1,000	2,000	500	1,000	1045	827	218	1,264	390	26
15	9611	12-Jun-07	90	90	26.3	2,000	>2,000	1,000	2,000	1092	847	225	1,297	396	26
16	9678	10-Jul-07	80	80	19.2	2,000	>2,000	1,000	2,000	1144	863	229	1,320	406	26
17	9737	07-Aug-07	100	100	27.9	2,000	>2,000	500	1,000	1127	871	224	1,319	422	25
18	9807	11-Sep-07	100	90	28.6	2,000	>2,000	250	500	998	878	220	1,317	438	24
19	9865	11-Oct-07	100	80	23.3	1,000	2,000	500	1,000	1003	866	220	1,306	426	25
20	9940	14-Nov-07	100	100	26.6	2,000	>2,000	500	1,000	646	866	220	1,306	426	25
		Avg	98	94	27	1350	1500	506	1013	866	753	163	1079	426	

Notes:

NOEC - No Observable Effect Concentration (survival or reproduction)
 LOEC - Lowest Observable Effect Concentration (survival or reproduction)
 ACCEPTABLE TEST RESULTS - A reproduction NOEC ranging from 250 mg/L to 1,000 mg/L.
 (*) Minimum USEPA CONTROL CRITERIA - 80 percent survival, 80 percent with 3 broods, and average reproduction of 15 neonates/adult.

ACUTE REFERENCE TOXICANT TESTS (NaCl) 2006 - 2007

Fathead Minnows



Fathead minnow ACUTE REFERENCE TOXICANT TESTING - SODIUM CHLORIDE (NaCl) 2006 - 2007

Test Number	Log Number	Test Initiation Date	Control Survival (%)	48-hr LC50 (mg/L)	95% Confidence Intervals (mg/L)	LC50 Cumulative Mean (mg/L)	LC50 Cumulative St. Dev. (mg/L)	2+ St. Dev. (mg/L)	2- St. Dev. (mg/L)	Coefficient of Variation (%)
1	8886	02-May-06	100	6,063	5,524 - 6,654	5,764	424	6,611	4,916	5
2	8974	08-Jun-06	100	5,464	5,107 - 5,846	6,008	519	7,047	4,970	7
3	9068	11-Jul-06	100	6,498	5,740 - 7,356	5,821	566	6,952	4,690	8
4	9111	03-Aug-06	90	5,259	4,782 - 5,784	5,828	490	6,808	4,848	8
5	9176	06-Sep-06	100	5,856	5,471 - 6,266	6,101	799	7,699	4,503	12
6	9225	04-Oct-06	100	7,464	6,412 - 8,688	6,037	748	7,534	4,541	11
7	9282	08-Nov-06	100	5,657	NC	5,958	728	7,414	4,502	11
8	9315	01-Dec-06	100	5,404	5,070 - 5,760	5,976	683	7,342	4,610	11
9	9357	03-Jan-07	100	6,119	5325 - 6902	5,964	645	7,255	4,673	10
10	9397	01-Feb-07	100	5,856	5,474 - 6,266	6,229	1,071	8,370	4,088	16
11	9481	20-Mar-07	100	8,877	7,656 - 10,291	6,332	1,081	8,494	4,169	16
12	9490	23-Mar-07	100	7,464	6,413 - 8,688	6,237	1,090	8,417	4,056	17
13	9505	04-Apr-07	100	5,098	4,545 - 5,719	6,195	1,059	8,313	4,078	16
14	9554	02-May-07	95	5,657	5,132 - 6,235	6,232	1,030	8,293	4,172	16
15	9617	13-Jun-07	100	6,745	5,750 - 7,921	6,235	995	8,226	4,244	15
16	9674	07-Jul-07	100	6,277	5619 - 7011	6,264	971	8,206	4,322	15
17	9746	07-Aug-07	100	6,727	5,882 - 7,694	6,303	956	8,216	4,390	15
18	9835	19-Sep-07	100	6,964	5,920 - 8,194	6,276	937	8,150	4,402	15
19	9868	09-Oct-07	95	5,794	5,350 - 6,274	6,255	917	8,088	4,422	14
20	9946	14-Nov-07	95	5,859	5,474 - 6,271					

Notes:

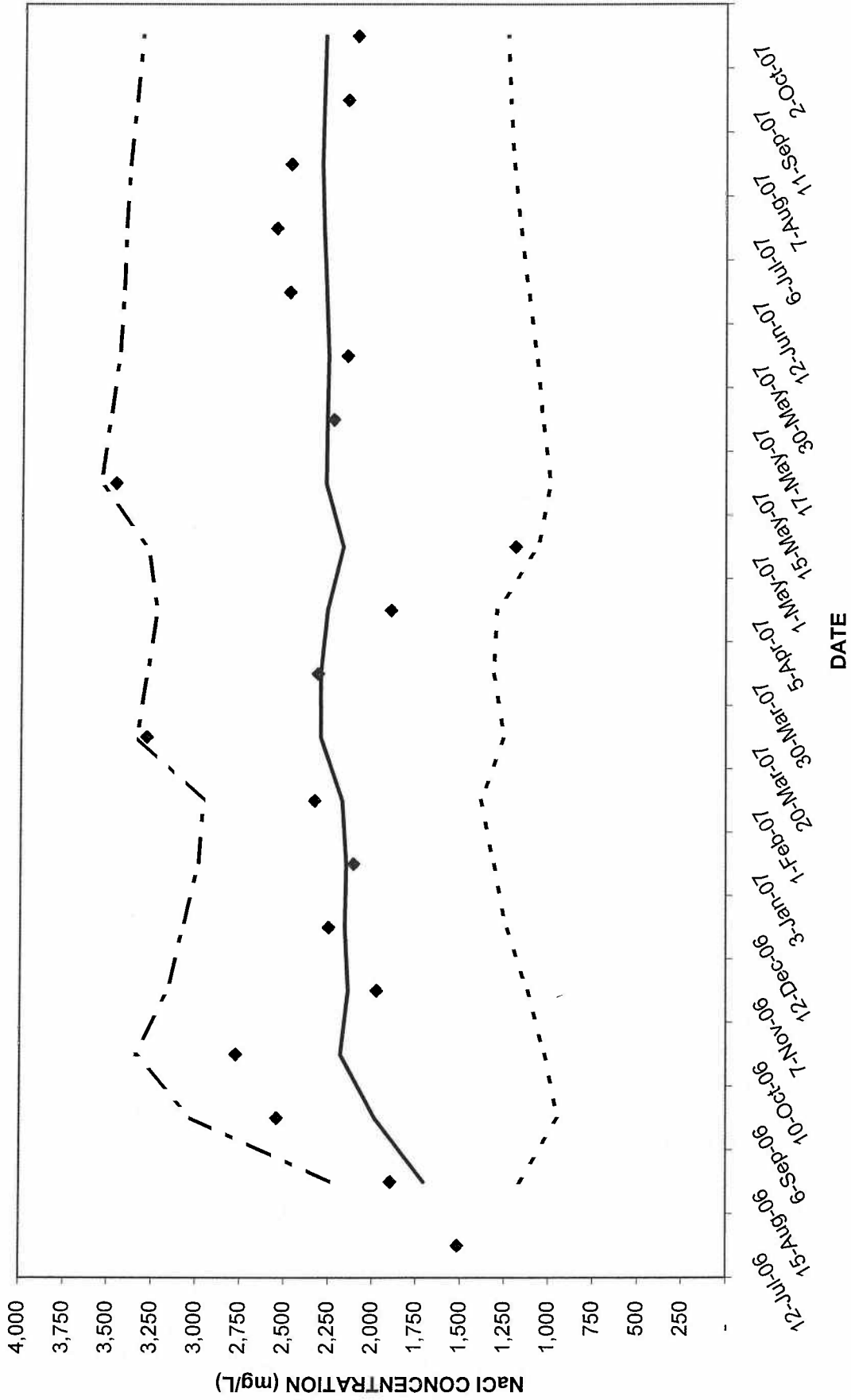
NR - Not Reliable

LC50 - Concentration of sodium chloride which was lethal to 50 percent of the test organisms.

NC - Not calculable;

Moderately Hard control water was used in all reference toxicant tests

CHRONIC REFERENCE TOXICANT TEST (NaCl) 2006 - 2007
 FATHEAD MINNOWS



◆ IC25 Values — IC25 Mean - - +2SD - - -2SD

Fathead Minnow CHRONIC REFERENCE TOXICANT TESTING-SODIUM CHLORIDE (NaCl) 2006 - 2007

Test Number	Log Number	Test Initiation Date	Control Survival (%) (*)	Control Mean Dry Weight (mg/fish) (*)	SURVIVAL		GROWTH		PMSD (%)	IC25 VALUE (mg/L)	IC25 CUMULATIVE MEAN (mg/L)	IC25 ST. DEV. (mg/L)	IC25 2+ STD. DEV.	IC25 2- STD. DEV.	Coefficient of Variation (%)
					NOEC (mg/L)	LOEC (mg/L)	NOEC (mg/L)	LOEC (mg/L)							
1	9050	12-Jul-06	87.5	0.459	1,500	3,000	1,500	3,000	25.9	1,516	1,707	269	2,245	1,168	0
2	9150	15-Aug-06	100	0.539	1,500	3,000	1,500	3,000	31.1	1,897	1,986	520	3,025	946	21
3	9170	06-Sep-06	100	0.636	1,500	3,000	1,500	3,000	17.6	2,544	1,986	520	3,025	946	21
4	9231	10-Oct-06	92.5	0.354	1,500	3,000	3,000	6,000	24.2	2,776	2,183	580	3,343	1,024	23
5	9274	07-Nov-06	95	0.405	1,500	3,000	1,500	3,000		1,977	2,142	511	3,163	1,121	21
6	9305	12-Dec-06	100	0.416	1,500	3,000	1,500	3,000	20.2	2,253	2,161	459	3,078	1,243	19
7	9355	03-Jan-07	92.5	0.315	1,500	3,000	1,500	3,000	21.4	2,112	2,154	419	2,992	1,315	18
8	9396	01-Feb-07	97.5	0.377	1,500	3,000	1,500	3,000	28.9	2,333	2,176	393	2,963	1,389	17
9	9480	20-Mar-07	100	0.443	3,000	6,000	3,000	6,000	22.5	3,287	2,299	522	3,344	1,255	21
10	9496	30-Mar-07	97.5	0.520	1,500	3,000	1,500	3,000	18.5	2,316	2,301	492	3,286	1,317	20
11	9506	05-Apr-07	100	0.476	1,500	3,000	1,500	3,000	17.8	1,901	2,265	482	3,229	1,300	20
12	9547	01-May-07	87.5	0.371	1,500	3,000	1,500	3,000	50.7*	1,193	2,175	554	3,284	1,067	24
13	9578	15-May-07	100	0.398	1,500	3,000	1,500	3,000	19.7	3,468	2,275	640	3,556	994	27
14	9586	17-May-07	97.5	0.400	3,000	6,000	1,500	3,000	20.8	2,233	2,272	615	3,503	1,041	26
15	9596	30-May-07	97.5	0.556	1,500	3,000	1,500	3,000	21.4	2,156	2,264	594	3,452	1,077	25
16	9611	12-Jun-07	100	0.410	1,500	3,000	1,500	3,000	28.6	2,486	2,278	576	3,431	1,125	24
17	9672	06-Jul-07	97.4	0.497	3,000	6,000	1,500	3,000	23.4	2,562	2,295	562	3,419	1,170	24
18	9736	07-Aug-07	97.5	0.595	3,000	6,000	1,500	3,000	22.5	2,482	2,305	547	3,400	1,211	23
19	9807	11-Sep-07	100	0.594	1,500	3,000	1,500	3,000	23.8	2,158	2,297	533	3,363	1,232	23
20	9854	02-Oct-07	100	0.583	1,500	3,000	1,500	3,000		2,104	2,288	520	3,329	1,247	22
Avg			97	0.467	1800	3600	1650	3300	2288	2201	515	3232	1171		

Notes:

- Dilution series - 0.375 g/L - 6.0 g/L
- NOEC - No Observable Effect Concentration (survival or growth)
- LOEC - Lowest Observable Effect Concentration (survival or growth)
- ACCEPTABLE TEST RESULTS - A growth NOEC ranging from 750 mg/L to 3,000 mg/L.
- (*) Minimum USEPA CONTROL CRITERIA - 80 percent survival and average dry weight of 0.25 mg (weight based on surviving number of fish).

Acute Fish Test-48 Hr Survival

Start Date: 10/31/2007	Test ID: 9921	Sample ID: Cu reftox
End Date: 11/4/2007	Lab ID: Advent	Sample Type: Chemical test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT		

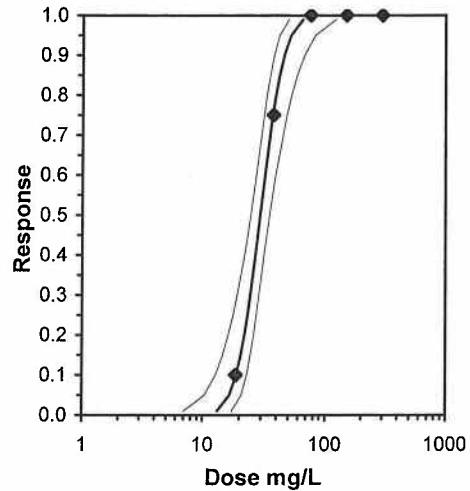
Conc-mg/L	1	2
mod hard	1.0000	1.0000
18.75	0.8000	1.0000
37.5	0.5000	0.0000
75	0.0000	0.0000
150	0.0000	0.0000
300	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
18.75	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20
37.5	0.2500	0.2500	0.4721	0.1588	0.7854	93.856	2	15	20
75	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
150	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
300	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				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	6.71162	1.46104	3.84799	9.57525	0	0.08295	7.81473	0.99	1.46818	0.149	3
Intercept	-4.8539	2.16294	-9.0932	-0.6145							

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	13.2302	7.01064	17.4425
EC05	3.355	16.7149	10.4074	20.8113
EC10	3.718	18.9337	12.7944	22.9603
EC15	3.964	20.5947	14.6651	24.6043
EC20	4.158	22.0182	16.3056	26.0576
EC25	4.326	23.3176	17.8171	27.436
EC40	4.747	26.9422	21.9701	31.6776
EC50	5.000	29.3887	24.5983	34.9927
EC60	5.253	32.0574	27.2266	39.1008
EC75	5.674	37.0404	31.5152	48.0936
EC80	5.842	39.2263	33.2047	52.5164
EC85	6.036	41.9376	35.187	58.3559
EC90	6.282	45.6168	37.727	66.852
EC95	6.645	51.672	41.6444	82.142
EC99	7.326	65.2822	49.7124	121.88



Acute Fish Test-48 Hr Survival

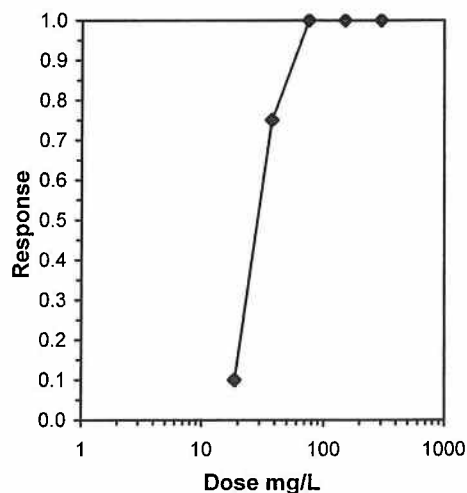
Start Date: 10/31/2007	Test ID: 9921	Sample ID: Cu reftox
End Date: 11/4/2007	Lab ID: Advent	Sample Type: Chemical test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT		

Conc-mg/L	1	2
mod hard	1.0000	1.0000
18.75	0.8000	1.0000
37.5	0.5000	0.0000
75	0.0000	0.0000
150	0.0000	0.0000
300	0.0000	0.0000

Conc-mg/L	Mean	N-Mean	Transform: Arcsin Square Root					N	Number Resp	Total Number
			Mean	Min	Max	CV%				
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20	
18.75	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20	
37.5	0.2500	0.2500	0.4721	0.1588	0.7854	93.856	2	15	20	
75	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
150	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20	
300	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				

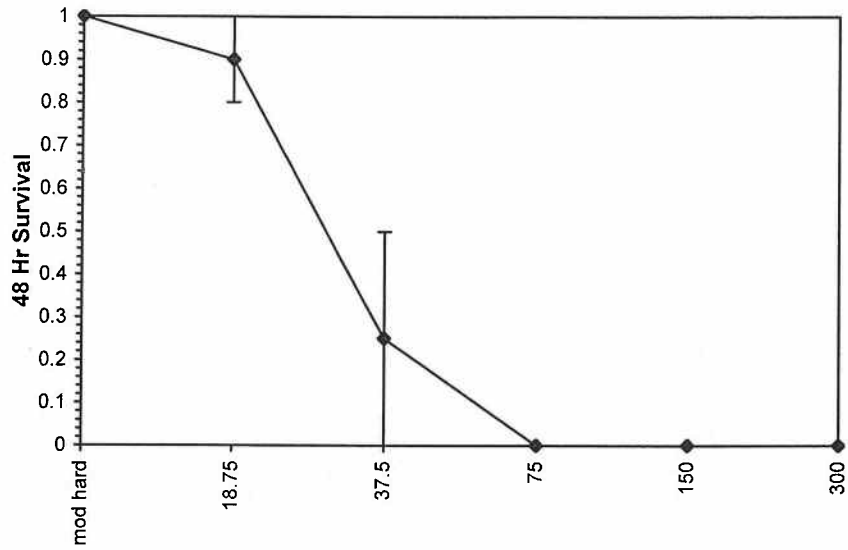
Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%			
5.0%			
10.0%	29.422	24.948	34.698
20.0%	28.827	24.456	33.978
Auto-10.0%	29.422	24.948	34.698



Acute Fish Test-48 Hr Survival

Start Date: 10/31/2007 Test ID: 9921 Sample ID: Cu reftox
End Date: 11/4/2007 Lab ID: Advent Sample Type: Chemical test
Sample Date: Protocol: EPAA 91-EPA Acute Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT

Dose-Response Plot



Acute Fish Test-96 Hr Survival

Start Date: 10/31/2007	Test ID: 9921	Sample ID: Cu refox
End Date: 11/4/2007	Lab ID: Advent	Sample Type: Chemical test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT		

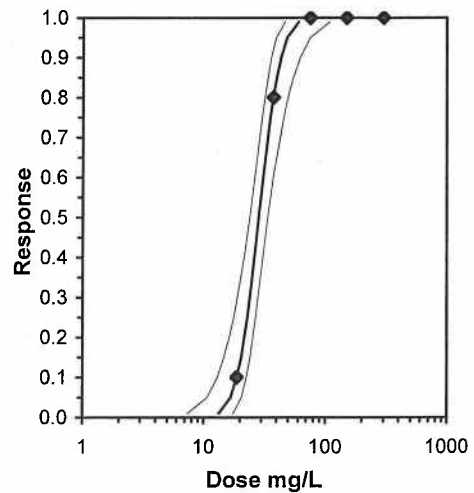
Conc-mg/L	1	2
mod hard	1.0000	1.0000
18.75	0.8000	1.0000
37.5	0.4000	0.0000
75	0.0000	0.0000
150	0.0000	0.0000
300	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
18.75	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20
37.5	0.2000	0.2000	0.4217	0.1588	0.6847	88.179	2	16	20
75	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
150	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
300	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				

Parameter	Value	SE	95% Fiducial Limits		Maximum Likelihood-Probit						
			Control	Chi-Sq	Critical	P-value	Mu	Sigma	Iter		
Slope	7.15294	1.56029	4.09477	10.2111	0	0.03006	7.81473	1	1.45392	0.1398	3
Intercept	-5.3998	2.28721	-9.8827	-0.9169							

Point	Probits	mg/L	95% Fiducial Limits	
EC01	2.674	13.449	7.37644	17.4763
EC05	3.355	16.7481	10.6867	20.636
EC10	3.718	18.8259	12.9695	22.6383
EC15	3.964	20.3716	14.7388	24.1642
EC20	4.158	21.69	16.278	25.5087
EC25	4.326	22.8889	17.6873	26.7801
EC40	4.747	26.2121	21.5237	30.6654
EC50	5.000	28.4394	23.9326	33.6711
EC60	5.253	30.856	26.3331	37.3616
EC75	5.674	35.3359	30.2344	45.344
EC80	5.842	37.2891	31.7645	49.2337
EC85	6.036	39.7024	33.5537	54.3397
EC90	6.282	42.962	35.8366	61.716
EC95	6.645	48.292	39.3366	74.8566
EC99	7.326	60.1381	46.4748	108.388



Acute Fish Test-96 Hr Survival

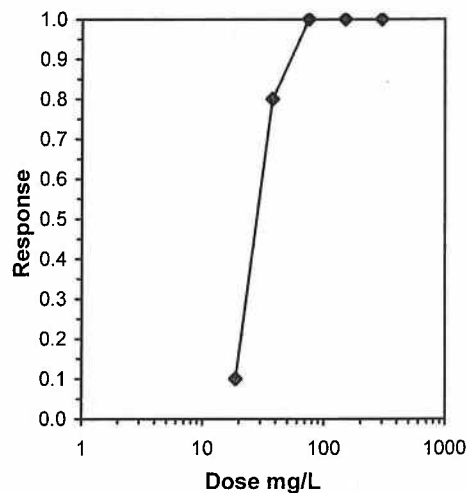
Start Date: 10/31/2007	Test ID: 9921	Sample ID: Cu reftox
End Date: 11/4/2007	Lab ID: Advent	Sample Type: Chemical test
Sample Date:	Protocol: EPAA 91-EPA Acute	Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT		

Conc-mg/L	1	2
mod hard	1.0000	1.0000
18.75	0.8000	1.0000
37.5	0.4000	0.0000
75	0.0000	0.0000
150	0.0000	0.0000
300	0.0000	0.0000

Conc-mg/L	Transform: Arcsin Square Root							Number Resp	Total Number
	Mean	N-Mean	Mean	Min	Max	CV%	N		
mod hard	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	2	0	20
18.75	0.9000	0.9000	1.2596	1.1071	1.4120	17.115	2	2	20
37.5	0.2000	0.2000	0.4217	0.1588	0.6847	88.179	2	16	20
75	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
150	0.0000	0.0000	0.1588	0.1588	0.1588	0.000	2	20	20
300	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				

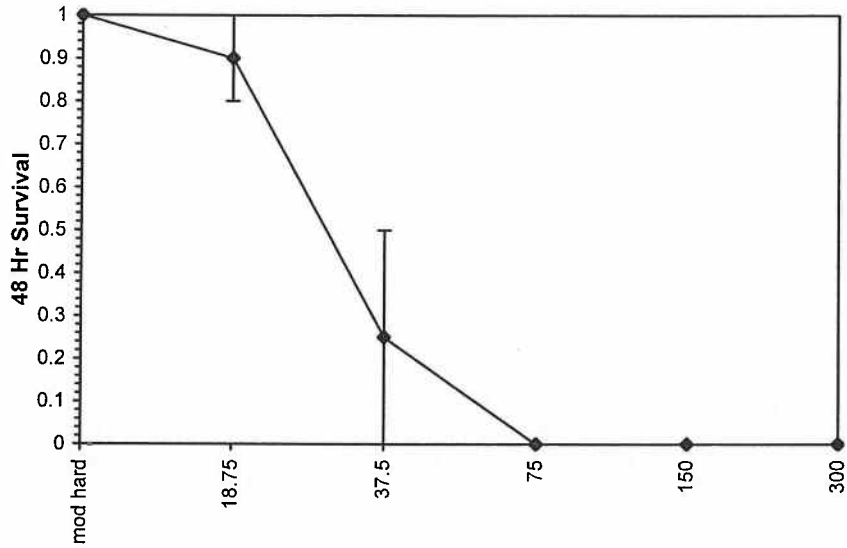
Trimmed Spearman-Kärber			
Trim Level	EC50	95% CL	
0.0%			
5.0%			
10.0%	28.297	24.415	32.796
20.0%	27.862	24.807	31.294
Auto-10.0%	28.297	24.415	32.796



Acute Fish Test-96 Hr Survival

Start Date: 10/31/2007 Test ID: 9921 Sample ID: Cu reftox
End Date: 11/4/2007 Lab ID: Advent Sample Type: Chemical test
Sample Date: Protocol: EPAA 91-EPA Acute Test Species: OM-Oncorhynchus mykiss
Comments: Copper testing with RBT

Dose-Response Plot



96-HR ACUTE TOXICITY TEST DATA SHEET

Page No. 104/1

LOG NO: 9921
 JOB NO: 9921
 CLIENT: Cappel Refox
 EFFLUENT:
 SAMPLE "B" NOS.
 SAMPLE DATE:
 ORGANISM SOURCE TEMP: 12.0

TEST TYPE: Static, Renew 48 hr
 TEST ORGANISM: Fathead Minnow
 ORGANISM AGE (date): 10/15/07
 ORGANISM SOURCE: TEC 2352
 PHOTOPERIOD: 16 hrs light/8 dark
 START DATE/TIME: 10/31/07 1330
 END DATE/TIME: 11/4/07 1135
 96 hr. LC50 =
 95% CI =

TEST VESSEL CAPACITY: 250 ml
 TEST SOLUTION VOLUME: 200 ml
 NO. ORGANISMS/VESSEL: 10
 NO. REPLICATES: 2
 DILUTION WATER:
 FED 2 HRS PRIOR TO TEST
 FED AT 48 HR RENEWAL
 RANDOMIZED BY: TK/M

Mod. Hard No. 3345
 BY: TB Time: 1000
 BY: LM Time: 0707

Rainbow Trout 12.0°C

Conc. (%)	Vessel ID	Survival (#)					DO (mg/L)					pH (s.u.)					Temperature (°C)					Conductivity (umhos/cm)				
		0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96	0	24	48	72	96

Conc. (%)	Vessel ID	0	24	48	72	96	DO (mg/L)	0	24	48	72	96	pH (s.u.)	0	24	48	72	96	Temperature (°C)	0	24	48	72	96	Conductivity (umhos/cm)	0	24	48	72	96	
MH	A	10	10	10	10	10	8.3	8.0	8.0	8.9	9.0	8.15	8.10	7.68	7.54	7.50	7.43	12.7	13.0	12.6	13.0	11.3	11.5	315	314	298	262	27			
	B	10	10	10	10	10	8.6	8.8	8.8	9.0	9.0	7.59	7.80	7.71	7.50	7.59	7.45	12.4	13.0	11.9	13.0	11.0	11.4	241	241	298	250	27			
1875	A	10	10	10	10	10	8.5	9.1	9.3	9.0	7.74	7.85	7.66	7.48	7.62	7.79	12.6	13.0	11.8	13.0	11.0	11.1	238	236	298	256	27				
	B	10	10	10	10	10	8.7	8.6	8.4	9.0	7.80	7.64	7.62	7.49	7.79	7.80	7.66	7.48	7.62	7.79	12.9	13.0	11.8	13.0	11.0	11.1	241	236	298	256	27
ppb	A	10	10	10	10	10	8.9	9.1	9.3	9.0	7.82	7.91	7.66	7.48	7.62	7.79	13.0	13.0	11.9	13.0	11.0	11.1	241	236	298	256	27				
	B	10	10	10	10	10	8.9	8.0	8.6	9.0	7.82	7.63	7.66	7.48	7.62	7.79	13.0	13.0	11.9	13.0	11.0	11.1	241	236	298	256	27				
300	A	10	10	10	10	10	8.8	8.8	8.8	9.0	7.82	7.63	7.66	7.48	7.62	7.79	13.0	13.0	11.9	13.0	11.0	11.1	241	236	298	256	27				
	B	10	10	10	10	10	8.8	8.8	8.8	9.0	7.82	7.63	7.66	7.48	7.62	7.79	13.0	13.0	11.9	13.0	11.0	11.1	241	236	298	256	27				

Initials: JY/TR/CF/LM/CF/DF
 Time: 1230 1330 147 1140 1135
 Date: 10/31/11 11/2 11/3 11/4

Control / Diluent: 100% Effluent, 1st
 100% Effluent, 2nd
 Comments:

Hardness mg/L CaCO3
 Alkalinity mg/L CaCO3
 TRC mg/L
 Ammonia mg/L NH3N