AMERICAN INTERPLEX CORPORATION LABORATORIES

November 13, 2012

Test Results of
Fourth Quarter
Chronic 7-Day Renewal
Biomonitoring Testing
for
Outfall 001
South Effluent

Control No. 162247-1

Prepared for:

Mr. Harold Baker
El Dorado Water Utilities
Post Office Box 1587
El Dorado, AR 71731

Prepared by:

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8600 Kanis Road
Little Rock, AR 72204-2322

AMERICAN INTERPLEX CORPORATION
LABORATORIES

El Dorado Water Utilities
ATTN: Mr. Harold Baker
Post Office Box 1587
El Dorado, AR 71731

Re: Chronic 7-Day Renewal utilizing *Pimephales promelas* (Fathead minnow)
Outfall 001 - South Effluent
NPDES Permit No. AR0033723 AFIN No. 70-00341

Dear Mr. Harold Baker:

This report is the analytical results and supporting information for the samples submitted to American Interplex Corporation (AIC). The following results are applicable only to the sample identified by the control number referenced above. Accurate assessment of the data requires access to the entire document. Each section of the report has been reviewed and approved by the laboratory director or qualified designee.

Testing procedures and Quality Assurance were in accordance with "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" EPA-821-R-02-013, Fourth Edition, October 2002. Test results are summarized below:

Method 1000.0 Chronic *Pimephales promelas* (Fathead minnow) Survival and Growth Test: The No Observable Effects Concentration (NOEC) for survival occurred at 100 % effluent, which is equal to the critical dilution of 100 %. The NOEC for growth occurred at 100 % effluent, which is equal to the critical dilution of 100 %. **The sample, therefore, PASSED both lethal and sub-lethal effects for the Fathead minnow test.**

AMERICAN INTERPLEX CORPORATION

John Overbey
Laboratory Director

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Table of Contents

I. Control Acceptance Criteria

Pimephales promelas (Fathead minnow) Method 1000.0

CRITERIA	RESULTS	PASS/FAIL
Control Survival > or = 80%	97.5	PASS
Control Growth > or = 0.25 mg per Surviving minnow	0.488	PASS
Control Growth CV < or = 40%	6.02	PASS
Growth Minimum Significant Difference 12 to 30%	14.0	PASS
Critical Dilution CV < or = 40%	11.9	PASS

II. Outlined Report

A. Introduction

1. Permit Number: AR0033723 AFIN No. 70-00341
2. Test Requirements: Chronic Biomonitoring, Quarterly
   Test Method 1000.0
3. Receiving Stream: Bayou de Loutre

B. Source of Effluent/Dilution Water

1. Effluent Samples:
   a. Sampling Point: Outfall 001
   b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	8.3	8.8	8.6
pH (standard units)	7.0	7.1	7.4
Alkalinity (mg/l as CaCO3)	54	62	61
Hardness (mg/l as CaCO3)	25	25	23
Conductivity (umhos/cm)	800	800	780
Residual Chlorine (mg/l)	<0.05	<0.05	<0.05
Ammonia as N (mg/l)	0.16	0.54	0.50

2. Dilution Water Samples: Synthetic Soft Water #3926
   a. Dates Prepared: October 24 through November 7, 2012
   b. Chemical Data:

Analysis	Sample 1	Sample 2	Sample 3
Dissolved oxygen (mg/l)	7.8	8.2	8.1
pH (standard units)	7.8	7.7	7.8
Alkalinity (mg/l as CaCO3)	30	30	30
Hardness (mg/l as CaCO3)	84	84	86
Conductivity (umhos/cm)	160	170	190
Residual Chlorine (mg/l)	<0.05	<0.05	<0.05

C. Test Methods
1. Test methods used:
Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, EPA-821-R-02-013; test Method 1000.0, Fathead Minnow Survival and Growth.
2. Endpoint: No Observable Effects Concentration (NOEC)
3. Test Conditions:

Pimephales promelas (Fathead minnow) Survival and Growth Method 1000.0

Date & Time Test Initiated:	November 6, 2012 at 1510
Date & Time Test Terminated:	November 13, 2012 at 1440
Type & Volume of Test Chamber:	500 ml disposable beaker
Volume of Sample:	250 ml
Number of Organisms per replicate:	8
Number of Replicates per dilution:	5

4. Acclimation of test organisms: Obtained from in-house cultures
5. Test Temperature: 25 +/- 1 degree Celsius

D. Test Organisms
1. Scientific Name
a. Test 1000.0 *Pimephales promelas*

III. Data Analysis

The data was analyzed using American Interplex Corporation's Laboratory Information Management Software based on Toxstat.

Pimephales promelas (Fathead minnow) survival data was transformed using the Arc Sine transformation. Normality and homogeneity of variance were checked using Shapiro-Wilk's. The survival data was then analyzed using Steel's Many-One Rank Test to determine the No Observable Effects Concentration (NOEC).

Fathead minnow growth data was analyzed for normality and homogeneity of variance using Shapiro-Wilk's and Bartlett's test. Dunnett's Test was used to determine the No Observable Effects Concentration (NOEC) for growth.

IV. Standard Reference Toxicants

American Interplex Corporation has an ongoing test organism culturing program. The sensitivity of the offspring is determined by performing a standard reference toxicant test with each effluent test. Sodium chloride in synthetic moderately hard water is used as prescribed in EPA-821-R-02-013.

Pimephales promelas (Fathead minnow)

Chronic reference tests are performed monthly.
A chronic reference test was performed on November 6, 2012 at 1340 to November 13, 2012 at 1340
The results were as follows: (Control No. 162257-1.)

Survival LC-50: 5479 mg/l
Growth IC-25: 4505 mg/l
Growth PMSD: 31.1

V. Chemical Analysis/Quality Control

Parameter	Method	% Recovery	Relative % Difference
Alkalinity	SM 2320 B	NA	0.00
Hardness	EPA 200.7	100	1.35
pH	SM 4500-H+ B	101	0.133
Conductivity	EPA 120.1	110	1.87

VI. Organism History

Pimephales promelas (Fathead minnow)

Date: November 6, 2012
Age: <24 hours
Source: In-house culture
Water Chemistry Record:

Alkalinity: 57-64 mg/l
Hardness: 80-100 mg/l
Temperature: 25 deg.C

VII. Results Summary *Pimephales promelas*, Fathead minnow Larval Survival and Growth Test -- Method 1000.0

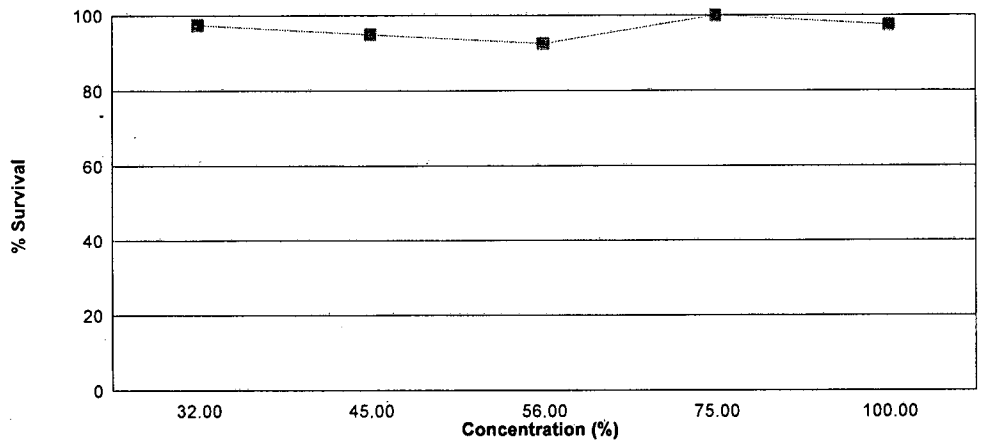
Larvae are exposed in a static renewal system for seven days to different concentrations of effluent with dilution water. Test results are based on the survival and growth (increase in weight) of the larvae.

Effluent dilutions for this test were 32 %, 45 %, 56 %, 75 %, 100 % in accordance with the NPDES permit.

The low flow or 'critical' dilution is specified in the NPDES permit as 100 % effluent.

The test was initiated on November 6, 2012 at 1510 and continued through November 13, 2012 at 1440. Statistical analyses were performed on the observed data and the no observable effects concentrations (NOECs) were as follows:

a.) NOEC survival = 100 % effluent
b.) NOEC growth = 100 % effluent



Summary of the 7-day Fathead Minnow Survival and Growth		
Concentration	Percent Survival	Mean Growth (mg)
Control	97.5	0.476
32 %	97.5	0.561
45 %	95.0	0.590
56 %	92.5	0.600
75 %	100	0.537
100 %	97.5	0.572

Appendix A1: Test 1000.0

Pimephales promelas (Fathead Minnow) 7-Day Survival

Date and Time Test Initiated: November 6, 2012 at 1510
Date and Time Test Terminated: November 13, 2012 at 1440

Concentration	Replicate	Number of Survivors						
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Control	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	7	7	7	7
	E	8	8	8	8	8	8	8
32 %	A	8	7	7	7	7	7	7
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8
45 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	7	7	7	7	7	7
	E	8	7	7	7	7	7	7
56 %	A	8	7	7	7	7	7	7
	B	8	8	8	8	8	8	8
	C	8	7	7	7	7	7	7
	D	8	8	8	8	8	8	8
	E	8	7	7	7	7	7	7
75 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	8	8	8	8	8
100 %	A	8	8	8	8	8	8	8
	B	8	8	8	8	8	8	8
	C	8	8	8	8	8	8	8
	D	8	8	8	8	8	8	8
	E	8	8	7	7	7	7	7

Appendix A1: Test 1000.0

Pimephales promelas (Fathead Minnow) 7-Day Growth

Test Initiated: November 6, 2012 at 1510
Test Terminated: November 13, 2012 at 1440
Drying Started: November 12, 2012 at 1030
Drying Ended: November 14, 2012 at 1115

Concentration	Replicate	Weight of pan	Weight of pan + fish	Total weight of fish (g)	Original # of fish	Mean dry weight (mg)
Control	A	.93114	.93510	0.00396	8	0.495
	B	.92990	.93377	0.00387	8	0.484
	C	.92970	.93371	0.00401	8	0.501
	D	.93058	.93435	0.00377	8	0.471
	E	.93003	.93346	0.00343	8	0.429
32 %	A	.93278	.93714	0.00436	8	0.545
	B	.92915	.93424	0.00509	8	0.636
	C	.92900	.93303	0.00403	8	0.504
	D	.93194	.93619	0.00425	8	0.531
	E	.93023	.93496	0.00473	8	0.591
45 %	A	.93372	.93823	0.00451	8	0.564
	B	.93307	.93771	0.00464	8	0.580
	C	.93746	.94242	0.00496	8	0.620
	D	.93578	.94030	0.00452	8	0.565
	E	.93015	.93512	0.00497	8	0.621
56 %	A	.93346	.93798	0.00452	8	0.565
	B	.92904	.93355	0.00451	8	0.564
	C	.93628	.94090	0.00462	8	0.578
	D	.92826	.93362	0.00536	8	0.670
	E	.92899	.93398	0.00499	8	0.624
75 %	A	.93071	.93490	0.00419	8	0.524
	B	.93256	.93660	0.00404	8	0.505
	C	.93270	.93693	0.00423	8	0.529
	D	.93129	.93561	0.00432	8	0.540
	E	.93315	.93783	0.00468	8	0.585
100 %	A	.93432	.93835	0.00403	8	0.504
	B	.93444	.93918	0.00474	8	0.592
	C	.93402	.93896	0.00494	8	0.618
	D	.93540	.93938	0.00398	8	0.498
	E	.92995	.93513	0.00518	8	0.648

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Survival

		Transformation of Data		Transform: Arc Sin(Square Root(Y))
Group	Identification	Rep	Value	Transformed
1	Control	1	1.00000	1.39310
1	Control	2	1.00000	1.39310
1	Control	3	1.00000	1.39310
1	Control	4	0.87500	1.20940
1	Control	5	1.00000	1.39310
2	32 %	1	0.87500	1.20940
2	32 %	2	1.00000	1.39310
2	32 %	3	1.00000	1.39310
2	32 %	4	1.00000	1.39310
2	32 %	5	1.00000	1.39310
3	45 %	1	1.00000	1.39310
3	45 %	2	1.00000	1.39310
3	45 %	3	1.00000	1.39310
3	45 %	4	0.87500	1.20940
3	45 %	5	0.87500	1.20940
4	56 %	1	0.87500	1.20940
4	56 %	2	1.00000	1.39310
4	56 %	3	0.87500	1.20940
4	56 %	4	1.00000	1.39310
4	56 %	5	0.87500	1.20940
5	75 %	1	1.00000	1.39310
5	75 %	2	1.00000	1.39310
5	75 %	3	1.00000	1.39310
5	75 %	4	1.00000	1.39310
5	75 %	5	1.00000	1.39310
6	100 %	1	1.00000	1.39310
6	100 %	2	1.00000	1.39310
6	100 %	3	1.00000	1.39310
6	100 %	4	1.00000	1.39310
6	100 %	5	0.87500	1.20940

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Survival

Shapiro - Wilk's Test for Normality		Transform: Arc Sin(Square Root(Y))
D = 0.162		
W = 0.862		
Critical W = 0.9	(alpha = 0.01, N = 30)	
Critical W = 0.927	(alpha = 0.05, N = 30)	

Data FAIL normality test (alpha = 0.01).

Steel's Many-One Rank Test					Transform: Arc Sin(Square Root(Y))
Ho:Control<Treatment					
Group	Identification	Rank Sum	Critical Value	DF	Sig 0.05
1	Control				
2	32 %	27.50	16.00	5.00	
3	45 %	25.00	16.00	5.00	
4	56 %	22.50	16.00	5.00	
5	75 %	30.00	16.00	5.00	
6	100 %	27.50	16.00	5.00	

Critical values are 1 tailed (k=5)

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Growth

Shapiro - Wilk's Test for Normality		No Transformation
D = 0.04792		
W = 0.9696		
Critical W = 0.9	(alpha = 0.01, N = 30)	
Critical W = 0.927	(alpha = 0.05, N = 30)	
Data PASS normality test (alpha = 0.01).		

Bartlett's Test for Homogeneity of Variance		No Transformation
Calculated B1 statistic = 5.036		
Critical B = 15.086	(alpha = 0.01, df = 5)	
Data PASS B1 homogeneity test at 0.01 level.		

Appendix A2: Statistics

Pimephales promelas (Fathead minnow) Growth

ANOVA Table				No Transformation
SOURCE	DF	SS	MS	F
Between	5	0.05086	0.01017	5.095
Within (Error)	24	0.04791	0.001996	
Total	29	0.09877		

Critical F = 3.9 (alpha = 0.01, df = 5,24)
2.62 (alpha = 0.05, df = 5,24)

Since F > Critical F REJECT Ho: All equal (alpha = 0.05)

Dunnett's Test - Table 1 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Transformed Mean	Mean In Original Units	T Stat	Sig 0.05
1	Control	0.476	0.476		
2	32 %	0.5614	0.5614	-3.022	
3	45 %	0.59	0.59	-4.035	
4	56 %	0.6002	0.6002	-4.396	
5	75 %	0.5366	0.5366	-2.145	
6	100 %	0.572	0.572	-3.398	

Dunnett's critical value = 2.36 (1 Tailed, alpha = 0.05, df = 5,24)

Dunnett's Test - Table 2 of 2					No Transformation
Ho:Control<Treatment					
Group	Identification	Num of Reps	Min Sig Diff (In Orig. Units)	% of Control	Difference From Control
1	Control	5			
2	32 %	5	0.06668	14	-0.0854
3	45 %	5	0.06668	14	-0.114
4	56 %	5	0.06668	14	-0.1242
5	75 %	5	0.06668	14	-0.0606
6	100 %	5	0.06668	14	-0.096

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: November 6, 2012 at 0855
Date and Time Test Terminated: November 13, 2012 at 1440

Effluent Conc.: Control		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.8	8.1	8.2	8.0	8.1	8.0	8.1
	Final	7.4	7.0	7.2	6.9	6.0	7.0	7.0
pH, units	Initial	7.8	7.8	7.7	7.8	7.8	7.8	8.0
	Final	7.9	7.3	7.6	7.4	7.4	7.7	7.6
Alkalinity, mg CaCO3/l		30	NA	30	NA	30	NA	NA
Hardness, mg CaCO3/l		84	NA	84	NA	86	NA	NA
Conductivity, umhos/cm		160	160	170	170	190	180	180
Res. Chlorine, mg/l		<0.05	NA	<0.05	NA	<0.05	NA	NA

Effluent Conc.: 32 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	7.9	7.9	8.2	8.1	7.6	8.0	8.3
	Final	7.8	6.5	6.9	6.9	6.5	6.4	6.3
pH, units	Initial	7.4	7.6	7.5	7.6	7.6	7.8	8.0
	Final	7.9	7.3	7.6	7.5	7.6	7.6	7.6

Effluent Conc.: 45 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.1	8.1	8.0	8.0	7.8	8.1	8.2
	Final	7.6	6.7	7.2	6.7	6.6	6.6	5.9
pH, units	Initial	7.3	7.6	7.4	7.6	7.6	7.8	8.0
	Final	7.9	7.4	7.7	7.5	7.6	7.7	7.5

Appendix A3: Water Chemistry

Routine Chemical and Physical Data

Date and Time Test Initiated: November 6, 2012 at 0855
Date and Time Test Terminated: November 13, 2012 at 1440

Effluent Conc.: 56 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.3	7.9	8.1	7.8	2.5	7.8	7.8
	Final	7.6	6.9	7.2	6.5	6.8	6.1	5.7
pH, units	Initial	7.2	7.5	7.4	7.6	7.9	7.8	7.9
	Final	8.0	7.5	7.7	7.5	7.7	7.7	7.5

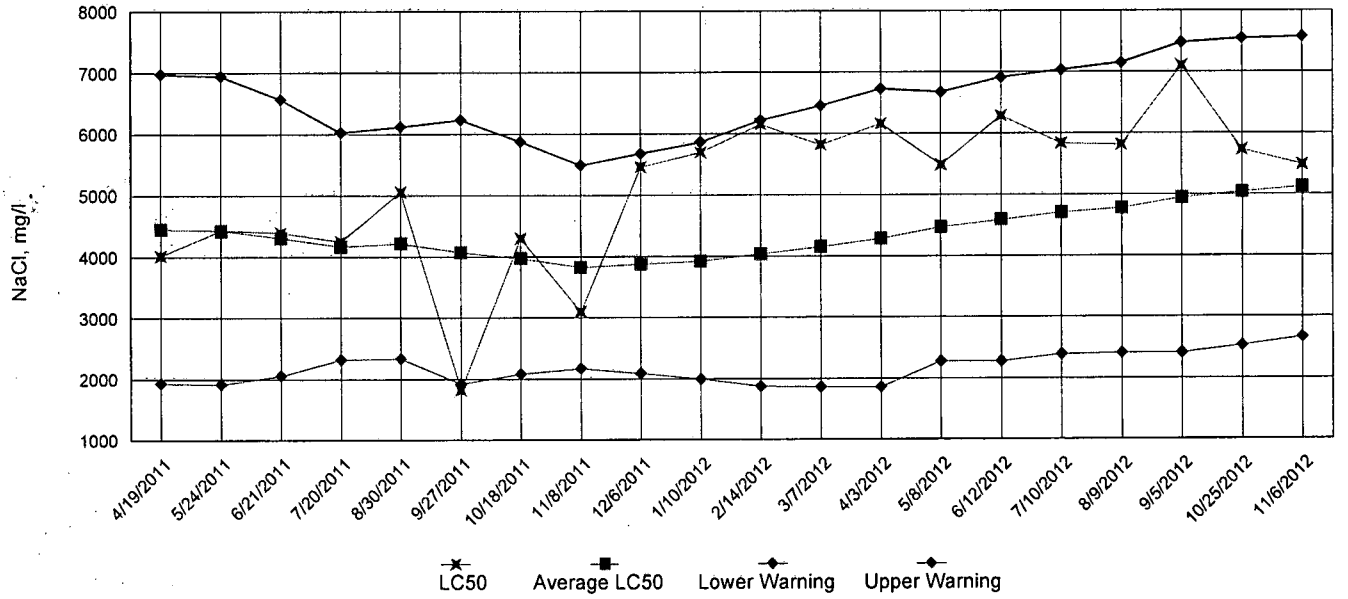
Effluent Conc.: 75 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.3	8.0	8.1	7.9	7.3	8.0	8.1
	Final	7.1	6.7	6.9	7.2	6.8	6.6	6.3
pH, units	Initial	7.0	7.5	7.3	7.5	7.6	7.6	7.8
	Final	7.9	7.4	7.8	7.7	7.7	7.8	7.6

Effluent Conc.: 100 %		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
DO, mg/l	Initial	8.3	8.4	8.8	8.2	8.6	7.7	8.4
	Final	7.5	7.0	7.5	6.6	6.7	6.4	5.5
pH, units	Initial	7.0	7.1	7.1	7.4	7.4	7.8	7.7
	Final	8.0	7.5	7.9	7.6	7.8	7.8	7.6
Alkalinity, mg CaCO3/l		54	NA	62	NA	61	NA	NA
Hardness, mg CaCO3/l		25	NA	25	NA	23	NA	NA
Conductivity, umhos/cm		800	780	800	800	780	790	780
Res. Chlorine, mg/l		<0.05	NA	<0.05	NA	<0.05	NA	NA

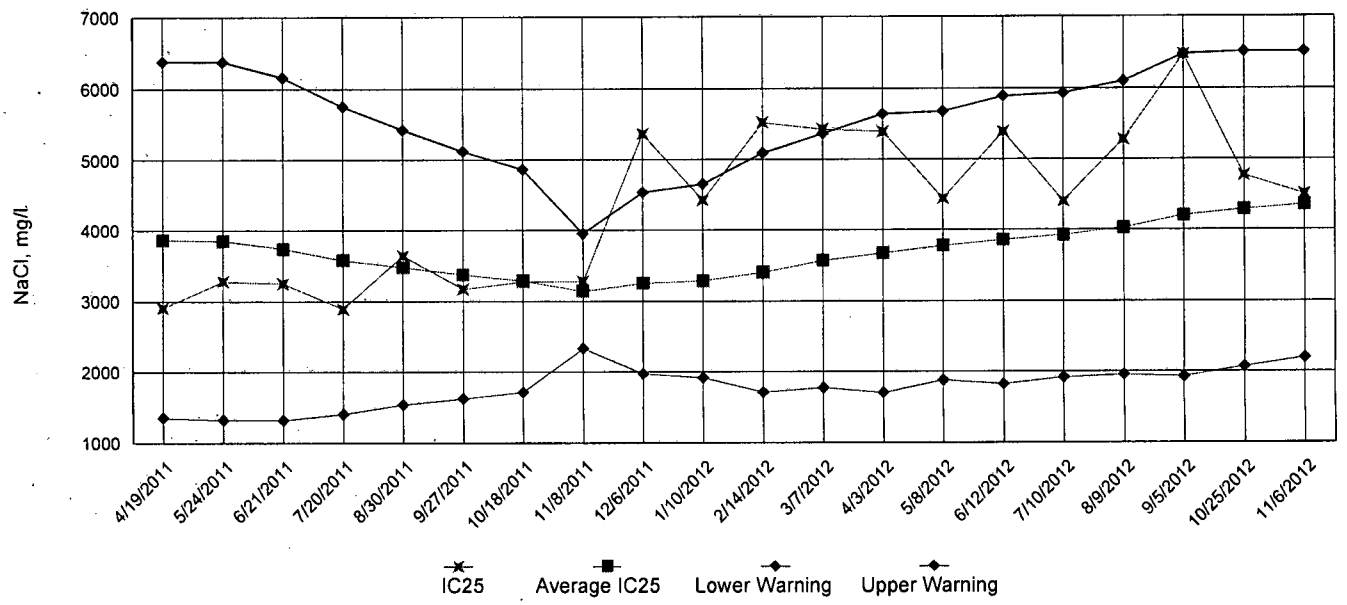
Appendix A4: Test 1000.0

Chronic Reference Toxicant, *Pimephales promelas* (Fathead Minnow)

LC50 Survival Data



IC25 Growth Data



Appendix B: Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead Minnow)
SURVIVAL AND GROWTH

Permittee: El Dorado Water Utilities

NPDES No.: AR0033723 AFIN No. 70-00341

Date and Time Test Initiated: November 6, 2012 at 1510
Date and Time Test Terminated: November 13, 2012 at 1440
Dilution water used: Synthetic Soft Water #3926

DATA TABLE FOR SURVIVAL

Effluent Conc. %	Percent Survival in replicate chambers A	B	C	D	E	Mean percent survival 24 hr	48 hr	7 days	CV%
Control	100	100	100	87.5	100	100	100	97.5	5.73
32 %	87.5	100	100	100	100	100	97.5	97.5	5.73
45 %	100	100	100	87.5	87.5	100	95.0	95.0	7.21
56 %	87.5	100	87.5	100	87.5	100	92.5	92.5	7.40
75 %	100	100	100	100	100	100	100	100	0.00
100 %	100	100	100	100	87.5	100	100	97.5	5.73

DATA TABLE FOR GROWTH

Effluent Conc. %	Average dry weight, mg replicate chambers A	B	C	D	E	Mean dry weight, mg	CV%
Control	0.495	0.484	0.501	0.471	0.429	0.476	6.02
32 %	0.545	0.636	0.504	0.531	0.591	0.561	9.31
45 %	0.564	0.580	0.620	0.565	0.621	0.59	4.84
56 %	0.565	0.564	0.578	0.670	0.624	0.6	7.67
75 %	0.524	0.505	0.529	0.540	0.585	0.537	5.57
100 %	0.504	0.592	0.618	0.498	0.648	0.572	11.9

CV = Coefficient of variation = standard deviation * 100 / mean

Appendix B: Test 1000.0

SUMMARY REPORTING FORMS
CHRONIC BIOMONITORING
Pimephales promelas (Fathead Minnow)
SURVIVAL AND GROWTH

1. Steel's Many-One Rank Test:

   Is the mean survival significantly different (p=0.05) than the control survival for the % effluent corresponding to (lethality):

   a.) LOW FLOW OR CRITICAL DILUTION (100 %) ____YES __X__NO
   b.) 1/2 LOW FLOW DILUTION (NA) ____YES ____NO

2. Dunnett's Test:

   Is the mean dry weight (growth) significantly different (p=0.05) than the control's dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

   a.) LOW FLOW OR CRITICAL DILUTION (100 %) ____YES __X__NO
   b.) 1/2 LOW FLOW DILUTION (NA) ____YES ____NO

3. If you answered NO to 1.a) enter [0] otherwise enter [1]: 0 (TLP6C)

4. If you answered NO to 2.a) enter [0] otherwise enter [1]: 0 (TGP6C)

5. NOEC Pimephales Lethality: 100 % (TOP6C)

6. LOEC Pimephales Lethality: 100 % (TXP6C)

7. NOEC Pimephales Sublethality: 100 % (TPP6C)

8. LOEC Pimephales Sublethality: 100 % (TYP6C)

9. Coefficient of variation for Pimephales growth: 11.9 (TQP6C)

AMERICAN INTERPLEX CORPORATION
LABORATORIES

Appendix B: Test 1000.0

CHRONIC TOXICITY SUMMARY FORM
Pimephales promelas (Fathead minnow)
CHEMICAL PARAMETERS CHART

PERMITTEE: El Dorado Water Utilities
NPDES NO.: AR0033723 AFIN No. 70-00341
CONTACT: Mr. Harold Baker
ANALYST: 275, 280, 298, 304

Test Initiated: DATE: November 6, 2012 TIME: 1510
Test Terminated: DATE: November 13, 2012 TIME: 1440

DILUTION	DAY						
Control	1	2	3	4	5	6	7
D.O. Initial	7.8	8.1	8.2	8.0	8.1	8.0	8.1
Final	7.4	7.0	7.2	6.9	6.0	7.0	7.0
pH Initial	7.8	7.8	7.7	7.8	7.8	7.8	8.0
Final	7.9	7.3	7.6	7.4	7.4	7.7	7.6
Alkalinity	30	NA	30	NA	30	NA	NA
Hardness	84	NA	84	NA	86	NA	NA
Conductivity	160	160	170	170	190	180	180
Chlorine	<0.05	NA	<0.05	NA	<0.05	NA	NA

DILUTION	DAY						
32 %	1	2	3	4	5	6	7
D.O. Initial	7.9	7.9	8.2	8.1	7.6	8.0	8.3
Final	7.8	6.5	6.9	6.9	6.5	6.4	6.3
pH Initial	7.4	7.6	7.5	7.6	7.6	7.8	8.0
Final	7.9	7.3	7.6	7.5	7.6	7.6	7.6
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	370	360	370	370	380	470	460
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION	DAY						
45 %	1	2	3	4	5	6	7
D.O. Initial	8.1	8.1	8.0	8.0	7.8	8.1	8.2
Final	7.6	6.7	7.2	6.7	6.6	6.6	5.9
pH Initial	7.3	7.6	7.4	7.6	7.6	7.8	8.0
Final	7.9	7.4	7.7	7.5	7.6	7.7	7.5
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	420	420	420	440	430	520	510
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION	DAY						
56 %	1	2	3	4	5	6	7
D.O. Initial	8.3	7.9	8.1	7.8	2.5	7.8	7.8
Final	7.6	6.9	7.2	6.5	6.8	6.1	5.7
pH Initial	7.2	7.5	7.4	7.6	7.9	7.8	7.9
Final	8.0	7.5	7.7	7.5	7.7	7.7	7.5
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	520	510	520	520	520	580	570
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION	DAY						
75 %	1	2	3	4	5	6	7
D.O. Initial	8.3	8.0	8.1	7.9	7.3	8.0	8.1
Final	7.1	6.7	6.9	7.2	6.8	6.6	6.3
pH Initial	7.0	7.5	7.3	7.5	7.6	7.6	7.8
Final	7.9	7.4	7.8	7.7	7.7	7.8	7.6
Alkalinity	NA	NA	NA	NA	NA	NA	NA
Hardness	NA	NA	NA	NA	NA	NA	NA
Conductivity	640	620	640	640	650	670	660
Chlorine	NA	NA	NA	NA	NA	NA	NA

DILUTION	DAY						
100 %	1	2	3	4	5	6	7
D.O. Initial	8.3	8.4	8.8	8.2	8.6	7.7	8.4
Final	7.5	7.0	7.5	6.6	6.7	6.4	5.5
pH Initial	7.0	7.1	7.1	7.4	7.4	7.8	7.7
Final	8.0	7.5	7.9	7.6	7.8	7.8	7.6
Alkalinity	54	NA	62	NA	61	NA	NA
Hardness	25	NA	25	NA	23	NA	NA
Conductivity	800	780	800	800	780	790	780
Chlorine	<0.05	NA	<0.05	NA	<0.05	NA	NA

AMERICAN INTERPLEX CORPORATION
LABORATORIES

8600 Kanis Road
Little Rock, AR 72204-2322
(501) 224-5060
FAX (501) 224-5072

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: EL DORADO WATER UTILITIES
Project Reference: SOUTH EFFLUENT
Project Manager: HAROLD BAKER
Sampled By: JOHN M. PEPPERS
PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	SAMPLE MATRIX: WATER	SOIL	NO OF BOTTLES	ANALYSES REQUESTED: FA ONLY BIOMONITORING
2	SE-1616	0930 11-7-12		24h	✓			3
		Container Type						P
		Preservative						NO

AIC CONTROL NO: 162247
AIC PROPOSAL NO:
Carrier: Fed-Ex
Received Temperature C: 2
Remarks
Field pH calibration on _____ @ _____ Buffer:

G = Glass, NO = none, P = Plastic, S = Sulfuric acid pH2, V = VOA vials, N = Nitric acid pH2, H = HCl to pH2, B = NaOH to pH12, T = Sodium Thiosulfate, Z = Zinc acetate

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ___ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: JOHN M. PEPPERS
Phone: 870-814-1764 LAB # 870-862-0421
Report Attention to: HAROLD BAKER
Report Address to: P.O. BOX 1587
EL DORADO, AR 71731

Relinquished By:	Date/Time	Received By:	Date/Time
JOHN M. PEPPERS / John M. Peppers	1600 11-7-12	FED EX	1615
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Lugen Hopton	11-8-12 0800

Comments:
8017 1179.8459

AMERICAN INTERPLEX CORPORATION LABORATORIES

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Little Rock, AR 72204-2322
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CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: EL DORADO WATER UTILITIES
Project Reference: SOUTH EFFLUENT
Project Manager: HAROLD BAKER
Sampled By: JOHN M. PEPPERS

PO No.

SAMPLE MATRIX: WATER, SOIL

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	NO OF BOTTLES	FH ONLY Biomonitoring
1	SE-1615	0930 11-5-12		ZN	3	
		Container Type			P	
		Preservative			NO	

AIC CONTROL NO: 162247
AIC PROPOSAL NO:
Carrier: Fed-X
Received Temperature C: 2
Remarks
Field pH calibration on _____ @ _____ Buffer:

G = Glass, P = Plastic, V = VOA vials, H = HCl to pH2, T = Sodium Thiosulfate
NO = none, S = Sulfuric acid pH2, N = Nitric acid pH2, B = NaOH to pH12, Z = Zinc acetate

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ___ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: JOHN M. PEPPERS
Phone: 870-814-1764 LAB # 870-862-0421
Report Attention to: HAROLD BAKER
Report Address to: P.O. BOX 1587
EL DORADO, AR 71731

Relinquished By:	Date/Time	Received By:	Date/Time
JOHN M. PEPPERS	1615 11-5-12	FED EX	1625
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
			11-6-12 0800

Comments: 8764 3753 5908

2-Aug

FORM 0060

AMERICAN INTERPLEX CORPORATION
LABORATORIES

8600 Kanis Road
Little Rock, AR 72204-2322
(501) 224-5060
FAX (501) 224-5072

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Client: EL DORADO WATER UTILITIES
Project Reference:
Project Manager: HAROLD BAKER
Sampled By: JOHN M. PEPPERS

PO No.

SAMPLE MATRIX

NO OF BOTTLES

ANALYSES REQUESTED

AIC CONTROL NO: 116247
AIC PROPOSAL NO:
Carrier: FedEx
Received Temperature C: 2°
Remarks

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	WATER	SOIL		NO OF BOTTLES	FH ONLY Biomonitoring
3	SE-1617	0930 11-9-12		JHN	✓			3	
		Container Type							P
		Preservative							No

Field pH calibration on _____ @ _____
Buffer:

G = Glass, NO = none, P = Plastic, S = Sulfuric acid pH2, V = VOA vials, N = Nitric acid pH2, H = HCl to pH2, B = NaOH to pH12, T = Sodium Thiosulfate, Z = Zinc acetate

Turnaround Time Requested: (Please circle)
(NORMAL) or EXPEDITED IN ___ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: JOHN M. PEPPERS
Phone: 870-814-1764 Fax: LAB # 870-862-0421
Report Attention to: HAROLD BAKER
Report Address to: P.O. BOX 1587
EL DORADO, AR 71731

Relinquished By:	Date/Time	Received By:	Date/Time
JOHN M. PEPPERS	1600 11-9-12	FED EX	1615
Relinquished By:	Date/Time	Received in Lab By:	Date/Time
		Shawn Worin	11-10-12 (0830)

Comments:

2-Aug

FORM 0060