

Huther and Associates, Inc.

**ECOLOGY MANAGEMENT INC.
FORT SMITH WWTF
OUTFALL 001**

48-Hour Acute Biomonitoring Report
Permit Number NPDES AR0044938
AFIN Number 66-00328

Daphnia pulex
Pimephales promelas

June 12, 2013

Reviewed by:



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48-HOUR ACUTE TOXICITY TEST REPORT

Client: Ecology Management Inc.
Facility.....Fort Smith WWTF
NPDES No.:..... AR0044938

Sample: Outfall 001
Project No.: 21046
Begin Date: June 12, 2013

Results: **Pass** *Daphnia pulex* and *Pimephales promelas* survival at the critical low flow concentration (24% effluent).

SAMPLE COLLECTION

Composite effluent samples from Ecology Management Inc., Fort Smith WWTF were delivered by Federal Express courier to Huther and Associates personnel on June 12 and June 13, 2013. The effluent samples were collected and composited from Outfall 001 using an automatic sampler. Two toxicity tests were requested: a static renewal 48-hour definitive toxicity test using *Daphnia pulex* and a static renewal 48-hour definitive toxicity test using *Pimephales promelas* (*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, EPA-821-R-02-012*).

The effluent and receiving water samples were analyzed for total residual chlorine (Standard Methods, 22nd Edition, 4500-C1 D). The receiving water samples contained <0.01 mg/L and <0.01 mg/L, respectively. The effluent samples contained <0.01 mg/L and <0.01 mg/L, respectively. Effluent and receiving water temperature, pH, conductivity, hardness, alkalinity, and dissolved oxygen data were collected and recorded.

TEST SETUP
Daphnia pulex



The 48-hour *D. pulex* toxicity test was initiated at 1610 hours, June 12, 2013. Five concentrations were prepared for testing (10%, 14%, 18%, 24%, and 32% effluent) utilizing receiving stream (Arkansas River) as dilution water. The test was conducted using 25 mL distilled water rinsed plastic beakers containing 15 mL of test solution. Eight neonates less than 24 hours old were added to each of five replicate chambers per concentration. The test was renewed with fresh solutions on June 13, 2013. The test proceeded for 48-hours during which survival and water quality were recorded daily.

A true control of five replicate chambers containing eight neonates each in receiving water was conducted concurrently with the test. There was 100% survival in the true control. In addition, a performance control of five replicate chambers containing eight neonates each in synthetic laboratory water was conducted concurrently with the test. The purpose of the performance control is to assess the health of the test organisms and to identify receiving water toxicity. The performance control data was not used in the statistical analysis of the test data. There was 100% survival in the performance control. The test ended at 1610 hours, June 14, 2013.

RESULTS***Daphnia pulex***

There was 100% survival to *D. pulex* in all of the effluent concentrations tested. Therefore, statistical analyses were not required to determine a no effect concentration.

LOEC: Not Applicable**LC50: >32% Effluent****NOEC: 32% Effluent****TEST SETUP*****Pimephales promelas***

The 48-hour *P. promelas* toxicity test was initiated at 1550 hours, June 12, 2013. Five concentrations were prepared for testing (10%, 14%, 18%, 24%, and 32% effluent) utilizing receiving stream (Arkansas River) as dilution water. The test was conducted using 300 mL distilled water rinsed plastic beakers containing 250 mL of test solution. Eight larvae, less than fourteen days old were added to each of five replicate chambers per concentration. The test was renewed with fresh solutions on June 13, 2013. The test proceeded for 48-hours during which survival and water quality were recorded daily.

A true control of five replicate chambers containing eight neonates each in receiving water was conducted concurrently with the test. There was 100% survival in the true control. In addition, a performance control of five replicate chambers containing eight larvae each in synthetic laboratory water was conducted concurrently with the test. The purpose of the performance control is to assess the health of the test organisms and to identify receiving water toxicity. The performance control data was not used in the statistical analysis of the test data. There was 100% survival in the performance control. The test ended at 1550 hours, June 14, 2013.

RESULTS***Pimephales promelas***

There was 100% survival to *P. promelas* in all of the effluent concentrations tested. Therefore, statistical analyses were not required to determine a no effect concentration.

LOEC: Not Applicable**LC50: >32% Effluent****NOEC: 32% Effluent****SUMMARY**

There was no statistically significant difference to *D. pulex* survival and *P. promelas* survival at the critical low flow concentration (24% effluent). Based on biomonitoring requirements for Outfall 001 contained in Permit Number NPDES AR0044938 for Ecology Management Inc., Fort Smith WWTF, Outfall 001 **passed** for this testing period.

48-Hour *Daphnia pulex* Acute Definitive Toxicity Test

CLIENT	EMI, Fort Smith WWTF	SAMPLE TYPE	24-Hour Composite
NPDES #	AR0044938	DATE COLLECTED	06/11/13 06/12/13
LAB ID #	21046	DATE RECEIVED	06/12/13 06/13/13
TEST TYPE	Acute Static Renewal	BEGIN DATE/TIME	06/12/13 1610
TEST ORGANISM	<i>Daphnia pulex</i>	END DATE/TIME	06/14/13 1610
ORGANISM AGE	< 24-Hours	TEST TEMPERATURE (°C)	25 ± 1
ORGANISM SOURCE	In-house	PHOTO PERIOD	16-Hr Light 8-Hr Dark
RECEIVING WATER	Arkansas River	LIGHT INTENSITY	50-100 Ft. Cndl.
DILUTION WATER	Arkansas River	TECHNICIAN	N. Lehr

SURVIVAL SUMMARY

Effluent Conc.(%)	Number of live per Rep															x % Survival	CV%
	Start					24 Hour					48 Hour						
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E		
PCon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
TCon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
10%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
14%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
18%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
24%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
32%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00

WET CHEMISTRY MEASUREMENTS

Date	Time	Temp.	Samp. No.	pH (mg/L) of Solution							Analyst
				PCon	TCon	10%	14%	18%	24%	32%	
06/12/13	Start	25.0	1	8.12	7.74	7.61	7.58	7.54	7.50	7.47	GZK
06/13/13	24 Hr.	26.0	1	8.30	8.13	8.15	8.14	8.18	8.25	8.25	GZK
06/13/13	Renew	26.0	2	8.30	7.64	7.58	7.56	7.53	7.51	7.49	GZK
06/14/13	48 Hr.	25.9	2	8.06	7.99	7.94	7.88	7.92	7.99	8.05	MJK

Date	Time	Temp.	Samp. No.	DO (mg/L) of Solution							Analyst
				PCon	TCon	10%	14%	18%	24%	32%	
06/12/13	Start	25.0	1	8.02	8.24	8.01	8.52	8.61	7.99	8.14	GZK
06/13/13	24 Hr.	26.0	1	7.87	7.92	7.88	7.72	7.88	7.71	7.68	GZK
06/13/13	Renew	26.0	2	8.00	8.24	8.03	8.53	8.51	8.03	8.06	GZK
06/14/13	48 Hr.	25.9	2	6.54	8.69	6.45	6.55	7.36	7.59	6.92	MJK

Date	Sample No.	pH ¹	DO ¹	Hardness mg/L CaCO ₃ ¹	Alkalinity mg/L CaCO ₃ ¹	Conduct. umhos/cm ¹	Resid.Cl ₂ mg/L ¹	Dechlor(mL) Na ₂ S ₂ O ₃ mg/L ¹	Analyst
06/12/13	1	7.27	7.58	160	98	808	<0.01	N/A	TN
06/13/13	2	7.27	7.59	160	98	803	<0.01	N/A	TN
06/12/13	RS1	7.70	8.20	100	74	443	<0.01	N/A	TN
06/13/13	RS2	7.71	8.22	100	74	440	<0.01	N/A	TN

¹ Measurements taken in 100% solution.

48-Hour *Pimephales promelas* Acute Definitive Toxicity Test

CLIENT	EMI, Fort Smith WWTF	SAMPLE TYPE	24-Hour Composite
NPDES #	AR0044938	DATE COLLECTED	06/11/13 06/12/13
LAB ID #	21046	DATE RECEIVED	06/12/13 06/13/13
TEST TYPE	Acute Static Renewal	BEGIN DATE/TIME	06/12/13 1550
TEST ORGANISM	<i>Pimephales promelas</i>	END DATE/TIME	06/14/13 1550
ORGANISM AGE	< 24-Hours	TEST TEMPERATURE (°C)	25 ± 1
ORGANISM SOURCE	In-house	PHOTO PERIOD	16-Hr Light 8-Hr Dark
RECEIVING WATER	Arkansas River	LIGHT INTENSITY	50-100 Ft. Cndl.
DILUTION WATER	Arkansas River	TECHNICIAN	J. Lopez

SURVIVAL SUMMARY

Effluent Conc.(%)	Number of live per Rep															x % Survival	CV%
	Start					24 Hour					48 Hour						
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E		
PCon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
TCon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
10%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
14%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
18%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
24%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
32%	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00

WET CHEMISTRY MEASUREMENTS

Date	Time	Temp.	Samp. No.	pH (mg/L) of Solution							Analyst
				PCon	TCon	10%	14%	18%	24%	32%	
06/12/13	Start	25.0	1	8.12	7.74	7.61	7.58	7.54	7.50	7.47	GZK
06/13/13	24 Hr.	26.0	1	8.30	8.05	8.03	8.04	8.03	8.03	8.03	GZK
06/13/13	Renew	26.0	2	8.30	7.64	7.58	7.56	7.53	7.51	7.49	GZK
06/14/13	48 Hr.	26.0	2	8.13	7.88	7.82	7.88	7.88	7.88	7.88	MJK

Date	Time	Temp.	Samp. No.	DO (mg/L) of Solution							Analyst
				PCon	TCon	10%	14%	18%	24%	32%	
06/12/13	Start	25.0	1	8.02	8.24	8.01	8.52	8.61	7.99	8.14	GZK
06/13/13	24 Hr.	26.0	1	7.88	7.80	7.70	7.65	7.90	7.79	7.63	GZK
06/13/13	Renew	26.0	2	8.00	8.24	8.03	8.53	8.51	8.03	8.06	GZK
06/14/13	48 Hr.	26.0	2	7.10	7.00	6.85	6.92	6.93	6.96	6.80	MJK

Date	Sample No.	pH ¹	DO ¹	Hardness mg/L CaCO ₃ ¹	Alkalinity mg/L CaCO ₃ ¹	Conduct. umhos/cm ¹	Resid.Cl ₂ mg/L ¹	Dechlor(mL) Na ₂ S ₂ O ₃ mg/L ¹	Analyst
06/12/13	1	7.27	7.58	160	98	808	<0.01	N/A	TN
06/13/13	2	7.27	7.59	160	98	803	<0.01	N/A	TN
06/12/13	RS1	7.70	8.20	100	74	443	<0.01	N/A	TN
06/13/13	RS2	7.71	8.22	100	74	440	<0.01	N/A	TN

¹ Measurements taken in 100% solution.

**APPENDIX A:
RAW DATA**

48-HOUR DAPHNIA PULEX SURVIVAL

CLIENT: Fort Smith

PROJECT#: 21046

CONC. (%)	NUMBER ORGANISMS, 0 HRS					NUMBER ORGANISMS, 24 HRS					NUMBER ORGANISMS, 48 HRS					MEAN	CV%	
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E			
Con	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
Tcon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
24	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
32	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	100.0	0.00
TECHNICIAN	NL					MH					NL							
DATE/TIME	6-12-13 1610					6-13-13 1610					6-14-13 1610							

Huther and Associates, Inc.

environmental toxicologists, biologists, consultants

48-HOUR PIMEPHALES PROMELAS SURVIVAL

CLIENT: Fort Smith

PROJECT#: 21046

CULTURE #: PP0-13-154

CONC. (%)	NUMBER ORGANISMS, 0 HRS					NUMBER ORGANISMS, 24 HRS					NUMBER ORGANISMS, 48 HRS					MEAN	CV%
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E		
Pcon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
Tcon	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
24	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
32	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	1000	0.00
TECHNICIAN	JL					JL					JL						
DATE/TIME	6-12-13 1550					6-13-13 1550					6-14-13 1550						

48- Hour Acute Toxicity Summary Form

Permittee: FORT SMITH

Organism: PULEX

Outfall: 001

Lab ID No. : 21046

Begin Time/ Date 6-12-13 1610

End Date/Time 6-14-13 1610

Date	Time	Temp	Samp. No.	pH (mg/L) of Solution							Analyst
				P _{con}	T _{con}	10	14	18	24	32	
6/12	Start	25.0	1	8.12	7.74	7.61	7.58	7.54	7.50	7.47	BZK
6/13	24 Hr	26.0	1	8.30	8.13	8.15	8.14	8.18	8.25	8.25	BZK
6/13	Renew	26.0	2	8.30	7.64	7.58	7.56	7.53	7.51	7.49	BZK
6/14	48 Hr.	7.5.9	2	8.06	7.99	7.94	7.88	7.92	7.99	8.05	MJK

Date	Time	Temp	Samp. No.	DO (mg/L) of Solution							Analyst
				P _{con}	T _{con}	10	14	18	24	32	
6/12	Start	25.0	1	8.02	8.24	8.01	8.52	8.61	7.99	8.14	BZK
6/13	24 Hr	26.0	1	7.87	7.92	7.88	7.72	7.88	7.71	7.68	BZK
6/13	Renew	26.0	2	8.00	8.24	8.03	8.53	8.51	8.03	8.06	BZK
6/14	48 Hr.	25.9	2	6.54	6.69	6.45	6.55 7.36	7.36	7.59	6.92	MJK

Begin Time/ Date 6-12-13 1550

Organism: FATHEAD
End Date/Time 6-14-13 1550

Date	Time	Temp	Samp. No.	pH (mg/L) of Solution							Analyst
				P _{con}	T _{con}	10	14	18	24	32	
6/12	Start	25.0	1	8.12	7.74	7.61	7.58	7.54	7.50	7.47	BZK
6/13	24 Hr	26.0	1	8.30	8.05	8.03	8.04	8.04 ³	8.03	8.03	BZK
6/13	Renew	26.0	2	8.30	7.64	7.58	7.56	7.53	7.51	7.49	BZK
6/14	48 Hr.	26.0	2	8.13	7.88	7.82	7.88	7.88	7.82	7.88	MJK

Date	Time	Temp	Samp. No.	DO (mg/L) of Solution							Analyst
				P _{con}	T _{con}	10	14	18	24	32	
6/12	Start	25.0	1	8.02	8.24	8.01	8.52	8.61	7.99	8.14	BZK
6/13	24 Hr	26.0	1	7.88	7.80	7.70	7.65	7.90	7.79	7.63	BZK
6/13	Renew	26.0	2	8.00	8.24	8.03	8.53	8.51	8.03	8.06	BZK
6/14	48 Hr.	26.0	2	7.10	7.00	6.85	6.92	6.93	6.96	6.80	MJK

Date	Samp. No.	PH	DO	Hardness mg/L CaCO ₃ ¹	Alkalinity mg/L CaCO ₃ ¹	Conduct umhos/cm ¹	Resid Cl ₂ mg/L ¹	Dechlor (mL) Na ₂ S ₂ O ₃ mg/L ¹	Analyst
6/12	1	7.27	7.58	160	98	808	20.01	Na	TJ
6/13	2	7.27	7.59	160	98	803			
6/12	R81	7.70	8.20	100	74	443			
6/13	R82	7.71	8.22	100	74	440			

**APPENDIX B:
REFERENCE TOXICANTS**

ACUTE REFERENCE TOXICANT TEST RESULTS

SPECIES: *Daphnia pulex*
 CHEMICAL: Sodium Chloride
 DURATION: 48-Hours
 TEST NUMBER: 6
 TEST DATE: 05/30/13 - 06/01/13
 1030 - 1030
 STATISTICAL METHOD: Spearman-Karber

CONCENTRATION (g/L)	NUMBER EXPOSED	NUMBER DEAD
1.0	20	0
2.0	20	1
2.5	20	7
3.0	20	19
4.0	20	20
5.0	20	20

LC50	95% LOWER CONFIDENCE LIMITS	95% UPPER CONFIDENCE LIMITS
2.52 g/L	2.36 g/L	2.70 g/L

ACUTE REFERENCE TOXICANT TEST RESULTS

SPECIES: *Pimephales promelas*

CHEMICAL: Copper Nitrate

DURATION: 48-Hours

TEST NUMBER: 6

TEST DATE: 05/29/13 - 05/31/13
1425 - 1425

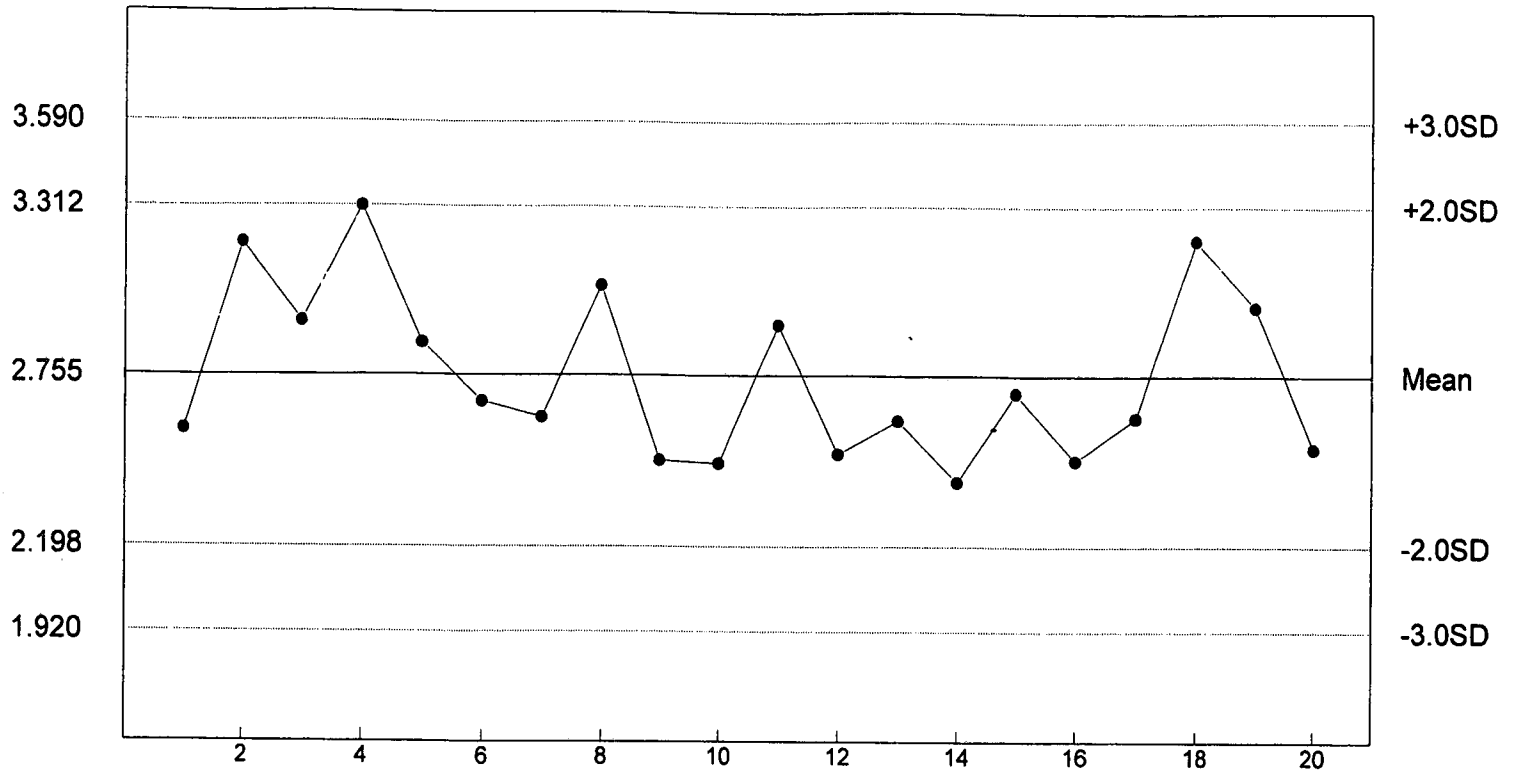
STATISTICAL METHOD: Spearman-Karber

CONCENTRATION (ug/L)	NUMBER EXPOSED	NUMBER DEAD
25	40	0
50	40	0
100	40	3
200	40	11
400	40	21
800	40	32

LC50	95% LOWER CONFIDENCE LIMITS	95% UPPER CONFIDENCE LIMITS
366.14 ug/L	289.05 ug/L	463.75 ug/L

Ref. Toxicant Sodium chloride g/L

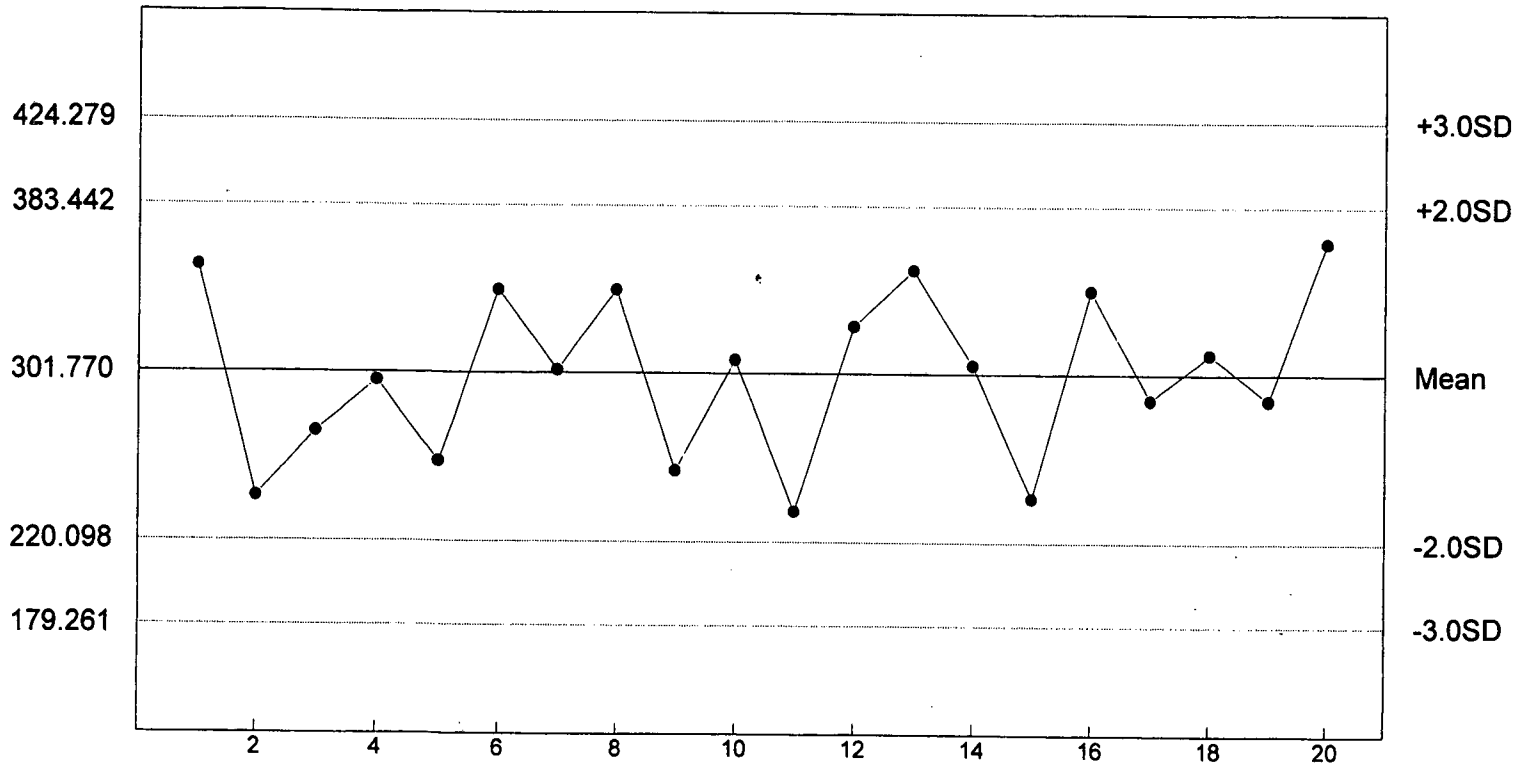
Daphnia pulex LC50



n= 20 Mean= 2.755 SD= 0.278 CV= 10.10% Min= 2.410 Max= 3.310

Ref. Toxicant Copper Nitrate ug/L

Pimephales promelas LC50



n= 20 Mean= 301.770 SD= 40.836 CV= 13.53% Min= 235.110 Max= 366.140

**APPENDIX C:
CHAIN OF CUSTODY SHEETS**

HUTHER & ASSOCIATES
 1156 NORTH BONNIE BRAE STREET
 DENTON, TX 76201
 (940) 387-1025 • FAX (940) 387-1036

CHAIN OF CUSTODY RECORD

PROJECT # 21046 PROJECT NAME Fort Smith PERMIT# NPDES AR0044938

OUTFALL SAMPLES

24-Hr Flow Weighted Composite Other _____

OUTFALL NUMBER	PERSON TAKING SAMPLE	START DATE/TIME	END DATE/TIME	# OF PORTIONS COMPOSITED	METHODS OF COLLECTION AND COMPOSITE			# OF CONTAINERS TO BE SHIPPED
					AUTO COLL. AUTO COMP.	MANUAL COLL. MANUAL COMP.	AUTO COLL. MANUAL COMP.	
001	Anthony Lackie	6/10/13 / 1000	6/11/13 / 1000	104	X			

RECEIVING WATER SAMPLES

SAMPLE IDENTIFICATION (FOR REC'NG) H ₂ O GRABS, GIVE NAME OF STREAM AND LOCATION	PERSON TAKING SAMPLE	DATE	TIME	# OF CONTAINERS TO BE SHIPPED
Arkansas River Fort Smith, AR	Anthony Lackie	6/11/13	0915	1

TYPE OF TEST 48hr. P/F

NAME OF RECEIVING WATER Arkansas River

DILUTION WATER USED FOR THIS TEST PS

RELINQUISHED BY: Anthony Lackie DATE: 6/11/13 TIME: 1700 RECEIVED BY AT THIS DATE/TIME _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____ RECEIVED BY AT THIS DATE/TIME _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____ RECEIVED BY AT THIS DATE/TIME _____

METHOD OF SHIPMENT: Greyhound _____ Pick Up _____ Client Delivered _____ Other FedEx

RECEIVED: Matt Horner DATE: 6-12-13 TIME: 1020 SAMPLE TEMP. @ RECEIPT. 2.9

HUTHER & ASSOCIATES
 1156 NORTH BONNIE BRAE STREET
 DENTON, TX 76201
 (940) 387-1025 • FAX (940) 387-1036

CHAIN OF CUSTODY RECORD

PROJECT # 21046 PROJECT NAME Fort Smith PERMIT# NPDES AR0044938

OUTFALL SAMPLES

24-Hr Flow Weighted Composite Other _____

OUTFALL NUMBER	PERSON TAKING SAMPLE	START DATE/TIME	END DATE/TIME	# OF PORTIONS COMPOSITED	METHODS OF COLLECTION AND COMPOSITE			# OF CONTAINERS TO BE SHIPPED
					AUTO COLL. AUTO COMP.	MANUAL COLL. MANUAL COMP.	AUTO COLL. MANUAL COMP.	
001	Anthony Lackie	6/11/13/1000	6/12/13/1000	104	X			

RECEIVING WATER SAMPLES

SAMPLE IDENTIFICATION (FOR REC'NG) H ₂ O GRABS, GIVE NAME OF STREAM AND LOCATION	PERSON TAKING SAMPLE	DATE	TIME	# OF CONTAINERS TO BE SHIPPED
Arkansas River Fort Smith, AR	Anthony Lackie	6/12/13	0945	1

TYPE OF TEST 48hr. P/F

NAME OF RECEIVING WATER Arkansas River

DILUTION WATER USED FOR THIS TEST RS

RELINQUISHED BY: Anthony Lackie DATE: 6/12/13 TIME: 1700 RECEIVED BY AT THIS DATE/TIME _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____ RECEIVED BY AT THIS DATE/TIME _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____ RECEIVED BY AT THIS DATE/TIME _____

METHOD OF SHIPMENT: Greyhound _____ Pick Up _____ Client Delivered _____ Other Fed Ex

RECEIVED: Matt Horner DATE: 6-13-13 TIME: 1010 SAMPLE TEMP. @ RECEIPT. 2.0

**ECOLOGY MANAGEMENT INC.
 FORT SMITH WWTF
 PERMIT NO. NPDES AR0044938
 DMR REPORTING REQUIREMENTS
 TEST DATE: 06/12/13**

Daphnia pulex

Result

a. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM3D.

0

b. Report the NOEC value for survival, Parameter No. TOM3D.

32%

c. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM3D.

0.00%

Pimephales promelas (Fathead minnow)

Result

a. If the No Observed Effect Concentration (NOEC) for survival is less than the critical dilution, enter a "1"; otherwise, enter a "0" for Parameter No. TEM6C.

0

b. Report the NOEC value for survival, Parameter No. TOM6C.

32%

c. Report the highest (critical dilution or control) Coefficient of Variation, Parameter No. TQM6C.

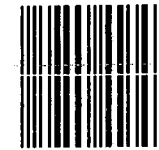
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