

Arkansas Analytical, Inc.

Toxicity Test Results

Conway Corporation: Tupelo Bayou
NPDES Permit Number: AR0051951
Second quarter 2017
AFIN # 23-01095

Fathead Minnow, *Pimephales promelas*, Larval Survival and Growth Test
Test 1000.0

Ceriodaphnia dubia, Survival and Reproduction Test
Test 1002.0

Prepared for: **Mr. Bill Fulmer**
Conway Corporation
P.O. Box 99
Conway, Arkansas 72032

Prepared by: Arkansas Analytical, Inc.
8100 National Drive
Little Rock, Arkansas 72209
Lab Number K1706008

Monday, July 03, 2017

Plant Location

The facility is located as follows: from the intersection of Dave Ward Drive (Hwy. 60) and Lollie Road, drive approximately 1.3 miles south on Lollie Road, and the proposed facility location will be on the right (to the west) in Faulkner County, Arkansas.

Test Methods

EPA Method 1000.0 *Pimephales promelas*, Larval survival and growth test

- Test chambers: 500 mL plastic cups
- Test solution volume: 250 mL
- Number of test organisms per chamber: 10
- Number of replicates per concentration: 5
- Test temperature 25°C ± 1°C
- Test concentrations: 0%, 5%, 7%, 9%, 12%, 16%
- Dilution water: Soft synthetic
- No deviation from method

EPA Method 1002.0 *Ceriodaphnia dubia*, Survival and reproduction test

- Test chambers: 30 mL plastic cups
- Test solution volume: 15 mL
- Number of test organisms per chamber: 1
- Number of replicates per concentration: 10
- Test temperature 25°C ± 1°C
- Test concentrations: 0%, 5%, 7%, 9%, 12%, 16%
- Dilution water: Soft synthetic
- No deviation from method

Reference Toxicant Data

REFERENCE TOXICANT (Potassium Chloride)

<i>Ceriodaphnia dubia</i> 5/31/17-6/7/17		<i>Pimephales promelas</i> 5/31/17-6/7/17	
NOEC Survival:	250 ppm KCl	NOEC Survival:	500 ppm KCl
LOEC Survival:	500 ppm KCl	LOEC Survival:	1000ppm KCl
NOEC Reproduction:	250 ppm KCl	NOEC Growth:	500ppm KCl
LOEC Reproduction:	500 ppm KCl	LOEC Growth:	1000 ppm KCl

Summary of Results

Conway Corporation – Tupelo Bayou

<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>	
NOEC Survival Parameter: TOP3B	16%	NOEC Survival Parameter: TOP6C	16%
Pass/Fail Survival Parameter: TLP3B	Pass	Pass/Fail Survival Parameter: TLP6C	Pass
NOEC Reproduction Parameter: TPP3B	16%	NOEC Growth Parameter: TPP6C	16%
Pass/Fail Reproduction Parameter: TGP3B	Pass	Pass/Fail Growth Parameter: TGP6C	Pass
%CV Reproduction Parameter: TQP3B	38.1%	%CV Growth Parameter: TQP6C	8.79%
PMSD Reproduction	21.7%	PMSD Growth	15.9%

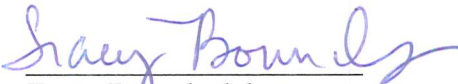
Conclusion

Pimephales promelas, (Method 1000.0): The permit issued to the Conway Corporation – Tupelo Bayou, specifies that the **critical dilution is 12% effluent**. The effluent samples **did not** exhibit lethal or sublethal effects at the critical dilution, and, as such, **passed** both portions of the test.

Ceriodaphnia dubia, (Method 1002.0): The permit issued to the Conway Corporation – Tupelo Bayou, specifies the **critical dilution is 12% effluent**. The effluent samples **did not** exhibit lethal or sublethal effects at the critical dilution, and, as such, **passed** both portions of the test.

Biomonitoring Analysts: Melissa Bird, Shelby Chappell, Hallie Freyaldenhoven, Sam Petty

Reviewed by:


Tracy Bounds, lab manager

Appendices

Appendix A.....	Chains of custody
Appendix B.....	Fathead minnow data & statistics
Appendix C.....	<i>Ceriodaphnia dubia</i> data & statistics
Appendix D.....	Water chemistry data
Appendix E.....	Reference toxicant control charts



8100 National Dr.
 Little Rock, AR 72209
 PHONE: 501-455-3233
 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:					
Conway Corporation		Conway Corporation		Chronic Toxicity		1 Day (100%)		1. Cool, 6 Degrees Centigrade					
800 South Harkrider		P.O. Box 99		Tupelo Bayou		2 Day (50%)		2. Sulfuric Acid (H ₂ SO ₄), pH < 2					
Conway, AR 72032		Conway, AR 72032		Reporting Information		3 Day (25%)		3. Nitric Acid (HNO ₃), pH < 2					
Attn: Bill Fulmer		Telephone: 501-733-4495		Routine		TEST PARAMETERS		4. Thiosulfate for Dechlorination					
Email: Bill.Fulmer@conwaycorp.com		Email: trey.lieblong@conwaycorp.com		Preservative Code: 1		P		5. Hydrochloric Acid(HCl)					
Bottle Type:		P		Arkansas Analytical Work Order Number: K1700008		A		6. Sodium Hydroxide (NaOH), pH > 12					
V = Siphon; A = Amber		G = Glass; P = Plastic		Sampler(s) Signature: <i>Bill Fulmer</i>		Sampler(s) Printed: <i>Bill Fulmer</i>		Bottle Type Code					
Field Number	SAMPLE COLLECTION Dates	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	IDENTIFICATION/ DESCRIPTION	SAMPLE CONDITION UPON RECEIPT IN LAB					
	6-18-17	8 AM - 8 AM		X	1	Water	Chronic Toxicity	1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
								2. CONTAINERS CORRECT: <input type="checkbox"/> Yes <input type="checkbox"/> No					
								3. COC/LABELS AGREE: <input type="checkbox"/> Yes <input type="checkbox"/> No					
								4. RECEIVED ON ICE: <input type="checkbox"/> Yes <input type="checkbox"/> No					
								5. TEMPERATURE ON RECEIPT: <input checked="" type="checkbox"/> 4 °C					
								6. TEMPERATURE GUN ID: HHT# <input checked="" type="checkbox"/> 2					
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		REMARKS / SAMPLE COMMENTS							
<i>Bill Fulmer</i>		6-19-17 9 AM											
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)									
		6-19-17 9:00 AM		<i>Frank Johnson</i>									



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CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:	
Conway Corporation		Conway Corporation		Chronic Toxicity		1 Day (100%)		1. Cool, 6 Degrees Centigrade	
800 South Hartrider		P.O. Box 99		Tupelo Bayou		2 Day (50%)		2. Sulfuric Acid (H ₂ SO ₄), pH < 2	
Conway, AR 72032		Conway, AR 72032		Reporting Information		3 Day (25%)		3. Nitric Acid (HNO ₃), pH < 2	
Attn: Bill Fulmer		Telephone: 501-733-4495		Routine		TEST PARAMETERS		4. Thiosulfate for Dechlorination	
Email: Bill.Fulmer@conwaycorp.com		Preservative Code: P		1				5. Hydrochloric Acid(HCl)	
Email: trey.leblong@conwaycorp.com		Bottle Type:						6. Sodium Hydroxide (NaOH), pH > 12	
Sampler(s) Signature: <i>Bill Fulmer</i>		Sampler(s) Printed: <i>Bill Fulmer</i>		SAMPLE IDENTIFICATION/ DESCRIPTION		Chronic Toxicity		Arkansas Analytical Work Order Number: <i>K1700008</i>	
Field Number	SAMPLE COLLECTION Dates	Times/s	Grab	Comp	Number of Bottles	Sample Matrix	Water	Outfall 001	
	<i>6-20-21-17</i>	<i>8:24am-8:24am</i>		X	1				<i>B</i>
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB		REMARKS / SAMPLE COMMENTS	
<i>Bill Fulmer</i>		<i>6-21-17 9:16 AM</i>				1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes ___ No 2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes ___ No 3. COC/LABELS AGREE: <input checked="" type="checkbox"/> Yes ___ No 4. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes ___ No 5. TEMPERATURE ON RECEIPT: <i>1</i> °C 6. TEMPERATURE GUN ID: <i>HHT# 2</i>			
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)		FOR COMPLETION BY LAB ONLY			
		<i>6-21-17 9:16</i>		<i>Trey Leblong</i>					



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CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:	
Conway Corporation		Conway Corporation		Chronic Toxicity		1 Day (100%)		1. Cool, 6 Degrees Centigrade	
800 South Harkrider		P.O. Box 99		Tupelo Bayou		2 Day (50%)		2. Sulfuric Acid (H ₂ SO ₄), pH < 2	
Conway, AR 72032		Conway, AR 72032		Reporting Information		3 Day (25%)		3. Nitric Acid (HNO ₃), pH < 2	
		Telephone: 501-733-4495		Routine				4. Thiosulfate for Dechlorination	
Attn: Bill Fulmer		Email: Bill.Fulmer@conwaycorp.com		Preservative Code:		1		5. Hydrochloric Acid(HCl)	
		Email: troy.bleblong@conwaycorp.com		Bottle Type:		P		6. Sodium Hydroxide (NaOH), pH > 12	
								TEST PARAMETERS	
								Bottle Type Code	
Sampler(s) Signature		Bill Fulmer		Sampler(s) Printed		Bill Fulmer		Arkansas Analytical Work Order Number:	
Field Number		SAMPLE COLLECTION		Grab		Number of Bottles		K1700008	
		Dates Times/s		Comp		Sample Matrix			
		6-22-23-17 8:55Am-8:25Am		X		1		Water	
								Outfall 001	
								Chronic Toxicity	
1. Relinquished by: (Signature)		Date/Time		2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB		REMARKS / SAMPLE COMMENTS	
B. Scio Fulmer		6-23-17 9:27AM				1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 3. COC/LABELS AGREE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 4. RECEIVED ON ICE: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 5. TEMPERATURE ON RECEIPT: <input checked="" type="checkbox"/> 1 °C 6. TEMPERATURE GUN ID: HHT# 2			
3. Relinquished by: (Signature)		Date/Time		4. Received by lab: (Signature)		FOR COMPLETION BY LAB ONLY			
		0627 6-23-17		[Signature]					

CETIS Summary Report

Report Date: 03 Jul-17 14:20 (p 1 of 2)
 Test Code: K1706008FH | 01-2613-2755

Fathead Minnow 7-d Larval Survival and Growth Test

Arkansas Analytical, Inc.

Batch ID: 12-3763-7070 Test Type: Growth-Survival (7d) Analyst: Shelby Chappell
 Start Date: 20 Jun-17 14:30 Protocol: EPA/821/R-02-013 (2002) Diluent: Soft Synthetic Water
 Ending Date: 27 Jun-17 14:10 Species: Pimephales promelas Brine: Not Applicable
 Duration: 7d Source: Aquatox, AR Age: <24

Sample ID: 18-9529-9133 Code: 70F7F83D Client: Conway-Tupelo Bayou
 Sample Date: 19 Jun-17 08:00 Material: Industrial Effluent Project: WET Quarterly Compliance Test (2Q)
 Receipt Date: 19 Jun-17 09:00 Source: Conway-Tupelo Bayou (AR0051951)
 Sample Age: 30h (4 °C) Station: Outfall 001

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K1706008B	21 Jun-17 08:12	21 Jun-17 09:16	22 Jun-17 00:00	1
2	K1706008C	23 Jun-17 08:25	23 Jun-17 09:27	24 Jun-17 00:00	1

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
04-4207-9133	7d Survival Rate	Steel Many-One Rank Sum Test	16	> 16	n/a	6.25	5.46%
18-5469-3710	Mean Dry Weight-mg	Dunnett Multiple Comparison Test	16	> 16	n/a	6.25	15.9%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
04-4207-9133	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
5		5	0.9600	0.8920	1.0000	0.9000	1.0000	0.0245	0.0548	5.71%	4.00%
7		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
9		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
16		5	0.9600	0.8920	1.0000	0.9000	1.0000	0.0245	0.0548	5.71%	4.00%

Mean Dry Weight-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	5	0.6142	0.5627	0.6657	0.548	0.655	0.01855	0.04148	6.75%	0.00%
5		5	0.4878	0.453	0.5226	0.456	0.521	0.01254	0.02803	5.75%	20.58%
7		5	0.4626	0.3596	0.5656	0.396	0.599	0.03711	0.08299	17.94%	24.68%
9		5	0.6286	0.5601	0.6971	0.581	0.719	0.02466	0.05515	8.77%	-2.35%
12		5	0.6162	0.5489	0.6835	0.541	0.694	0.02422	0.05416	8.79%	-0.33%
16		5	0.6398	0.5148	0.7648	0.538	0.788	0.04502	0.1007	15.73%	-4.17%

CETIS Summary Report

Report Date: 03 Jul-17 14:20 (p 2 of 2)
 Test Code: K1706008FH | 01-2613-2755

Fathead Minnow 7-d Larval Survival and Growth Test

Arkansas Analytical, Inc.

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	D	1.0000	1.0000	1.0000	1.0000	1.0000
5		0.9000	1.0000	0.9000	1.0000	1.0000
7		1.0000	1.0000	1.0000	1.0000	1.0000
9		1.0000	1.0000	1.0000	1.0000	1.0000
12		1.0000	1.0000	1.0000	1.0000	1.0000
16		1.0000	0.9000	1.0000	1.0000	0.9000

Mean Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	D	0.604	0.655	0.625	0.639	0.548
5		0.521	0.513	0.479	0.456	0.47
7		0.599	0.421	0.483	0.396	0.414
9		0.596	0.641	0.719	0.581	0.606
12		0.619	0.612	0.541	0.615	0.694
16		0.695	0.588	0.538	0.59	0.788

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	D	10/10	10/10	10/10	10/10	10/10
5		9/10	10/10	9/10	10/10	10/10
7		10/10	10/10	10/10	10/10	10/10
9		10/10	10/10	10/10	10/10	10/10
12		10/10	10/10	10/10	10/10	10/10
16		10/10	9/10	10/10	10/10	9/10

CETIS Summary Report

Report Date: 05 Jul-17 09:36 (p 1 of 2)

Test Code: K1706008CD | 15-0126-4964

Cladoceran 7-d Survival and Reproduction Test

Arkansas Analytical, Inc.

Batch ID: 07-2990-6070	Test Type: Reproduction-Survival (7d)	Analyst: Melissa Bird
Start Date: 20 Jun-17 11:15	Protocol: EPA/600/4-91/002 (1994)	Diluent: Soft Synthetic Water
Ending Date: 28 Jun-17 10:10	Species: Ceriodaphnia dubia	Brine: Not Applicable
Duration: 7d 23h	Source: In-House Culture	Age: <24
Sample ID: 10-1075-2738	Code: 3C3EDCE2	Client: Conway-Tupelo Bayou
Sample Date: 19 Jun-17 08:00	Material: Industrial Effluent	Project: WET Quarterly Compliance Test (2Q)
Receipt Date: 19 Jun-17 09:00	Source: Conway-Tupelo Bayou (AR0051951)	
Sample Age: 27h (4 °C)	Station: Outfall 001	

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K1706008B	21 Jun-17 08:12	21 Jun-17 09:16	22 Jun-17 00:00	1
2	K1706008C	23 Jun-17 08:25	23 Jun-17 09:27	24 Jun-17 00:00	1

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	NOEL	LOEL	TOEL	TU	PMSD ✓
18-7432-8015	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	16	> 16	n/a	6.25	n/a
17-9494-3268	Reproduction	Steel Many-One Rank Sum Test	16	> 16	n/a	6.25	21.7%

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
18-7432-8015	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
17-9494-3268	Reproduction	Control Resp	16.1	15	>>	Yes	Passes Criteria

7d Survival Rate Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
5		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
7		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
9		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
12		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	10.00%
16		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	D	10	16.1	15.12	17.08	15	19	0.4333	1.37	8.51%	0.00%
5		10	18.4	16.81	19.99	16	22	0.7024	2.221	12.07%	-14.29%
7		10	17.5	16.06	18.94	13	20	0.6368	2.014	11.51%	-8.70%
9		10	17.3	14.82	19.78	10	23	1.096	3.466	20.03%	-7.45%
12		10	17.4	12.65	22.15	0	23	2.099	6.637	38.14%	-8.07%
16		10	19.4	18.22	20.58	17	22	0.5207	1.647	8.49%	-20.50%

CETIS Summary Report

Report Date: 05 Jul-17 09:36 (p 2 of 2)
 Test Code: K1706008CD | 15-0126-4964

Cladoceran 7-d Survival and Reproduction Test

Arkansas Analytical, Inc.

7d Survival Rate Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
9		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
12		1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
16		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Reproduction Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	18	15	15	15	16	16	16	15	16	19
5		17	21	17	19	17	16	21	18	16	22
7		19	17	20	18	17	17	19	16	13	19
9		20	23	10	16	19	17	15	16	18	19
12		20	21	16	20	16	0	23	17	18	23
16		18	19	22	21	20	18	20	17	18	21

7d Survival Rate Binomials

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	Rep 8	Rep 9	Rep 10
0	D	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
5		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
7		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
9		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
12		1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1
16		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Fathead Minnow

Lab # / Sample ID ~~Tupelo~~ K1706108 Test Start (Date/Time) 6/20/17 1430

Client: Tupelo Bayou Test End (Date/Time) 6/27/17 1410

Day of Test

	1	2	3	4	5	6	7	notes
Control	340							
D.O. (mg/L)	INITIAL 8.3	8.4	8.5	8.2	8.4	8.8	8.8	
	FINAL 7.8	7.6	7.87	7.8	8.0	6.9	8.3	
pH (s.u.)	INITIAL 7.6	7.4	7.3	7.3	7.3	6.9	6.8	
	FINAL 7.3	7.4	7.0	7.2	7.1	7.1	6.9	
temp (C)	INITIAL 23	23	23	23	23	20	21	
	FINAL 25	25	25	25	25	25	25	
ALKALINITY (mg/L)	41			30				
HARDNESS (mg/L)	68			58				
CONDUCTIVITY (umhc)	176			128				
CHLORINE (mg/L)	<0.05			<0.05				
CONC:	5							
D.O. (mg/L)	INITIAL 8.3	8.4	8.2	8.2	7.9	8.4	8.9	
	FINAL 7.2	7.5	7.5	7.6	7.6	6.9	8.2	
pH (s.u.)	INITIAL 7.5	7.3	7.4	7.5	7.5	7.0	6.8	
	FINAL 7.2	7.4	7.0	7.2	7.0	7.2	7.0	
temp (C)	INITIAL 23	23	23	23	24	21	21	
	FINAL 25	25	25	25	25	25	25	
CONC:	7							
D.O. (mg/L)	INITIAL 8.3	8.5	8.3	8.2	8.2	8.4	8.9	
	FINAL 7.3	7.5	7.4	7.4	7.5	6.9	7.0	
pH (mg/L)	INITIAL 7.9	7.3	7.4	7.5	7.4	7.0	7.0	
	FINAL 7.2	7.4	7.0	7.2	7.0	7.2	7.1	
temp (C)	INITIAL 23	23	23	23	23	21	21	
	FINAL 25	25	25	25	25	25	25	
CONC:	9							
D.O. (mg/L)	INITIAL 8.3	8.6	8.3	8.4	8.3	8.9	8.9	
	FINAL 7.4	7.5	7.1	7.1	7.5	6.9	7.0	
pH (s.u.)	INITIAL 7.5	7.3	7.4	7.4	7.4	7.0	7.0	
	FINAL 7.2	7.4	7.0	7.2	7.0	7.1	7.1	
temp (C)	INITIAL 23	23	23	23	23	21	21	
	FINAL 25	25	25	25	25	25	25	
CONC:	12							
D.O. (mg/L)	INITIAL 8.2	8.8	8.4	8.4	8.4	8.9	8.9	
	FINAL 7.5	7.4	7.2	7.0	7.5	6.3	6.4	
pH (s.u.)	INITIAL 7.5	7.3	7.3	7.5	7.3	7.0	7.1	
	FINAL 7.3	7.4	7.0	7.1	7.0	7.1	7.2	
temp (C)	INITIAL 24	22	23	23	23	21	21	
	FINAL 25	25	25	25	25	25	25	
CONC:	16							
D.O. (mg/L)	INITIAL 8.3	8.8	8.4	8.4	8.4	8.9	8.9	
	FINAL 7.5	7.4	7.3	6.6	7.4	6.2	6.4	
pH (s.u.)	INITIAL 7.6	7.5	7.3	7.4	7.3	7.0	7.1	
	FINAL 7.3	7.3	7.1	7.1	7.0	7.1	7.2	
temp (C)	INITIAL 23	22	23	23	24	22	22	
	FINAL 25	25	25	25	25	25	25	
CONC: 100 %	A	A	B	B	C	C	C	
ALKALINITY (mg/L)	64		64		42			
HARDNESS (mg/L)	98		100		94			
CONDUCTIVITY (umhc)	540		438		444			
CHLORINE (mg/L)	0.05		0.05		<0.05			

*HTF
6-24-17

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Ceriodaphnia Dubia

Lab # / Sample ID K17016008

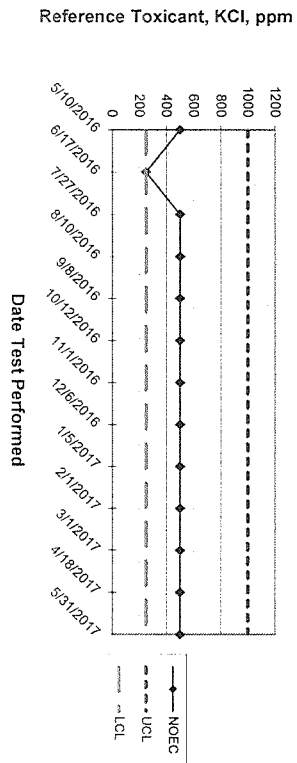
Test Start (Date/Time) 6/20/17 1115

Client: Tupelo

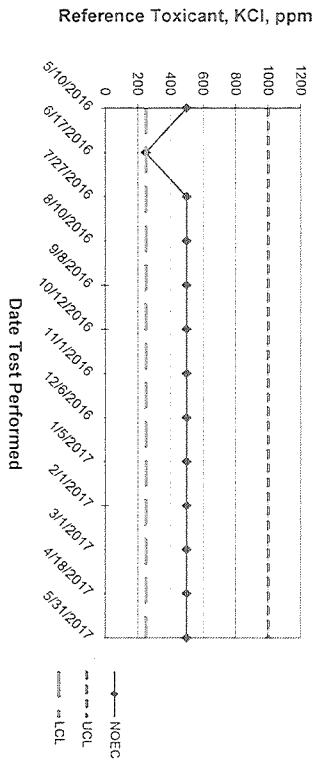
Test End (Date/Time) 6/28/17 1010

		Day of Test							
SS 340		1	2	3	4	5	6	7	notes
Control	0	6/20	6/21	6/22	6/23	6/24	6/25	6/26	
D.O. (mg/L)	INITIAL	8.3	8.4	8.5	8.2	8.4	8.8	8.8	
	FINAL	8.2	8.4	8.5	8.1	8.0	8.2	8.0	
pH (s.u.)	INITIAL	7.6	7.4	7.3	7.3	7.3	6.9	6.8	
	FINAL	7.9	7.8	7.8	7.6	7.8	6.9	7.2	
temp (C)	INITIAL	23	23	23	23	23	20	21	
	FINAL	25	25	25	25	25	25	25	
ALKALINITY (mg/L)		41	→	→	30	→	→	→	
HARDNESS (mg/L)		68	→	→	58	→	→	→	
CONDUCTIVITY (umhc)		176	→	→	128	→	→	→	
CHLORINE (mg/L)		<0.05	→	→	<0.05	→	→	→	
CONC:	5								
D.O. (mg/L)	INITIAL	8.3	8.4	8.2	8.2	7.9	8.9	8.9	
	FINAL	8.3	8.5	8.4	8.1	7.9	8.2	8.0	
pH (s.u.)	INITIAL	7.5	7.3	7.4	7.5	7.5	7.0	6.8	
	FINAL	7.8	7.8	7.8	7.6	7.8	7.0	7.7	
temp (C)	INITIAL	23	23	23	23	24	21	21	
	FINAL	25	25	25	25	25	25	25	
CONC:	7								
D.O. (mg/L)	INITIAL	8.3	8.5	8.3	8.2	8.2	8.9	8.9	
	FINAL	8.4	8.5	8.4	8.1	7.9	8.1	8.0	
pH (mg/L)	INITIAL	7.5	7.3	7.4	7.5	7.4	7.0	7.0	
	FINAL	7.8	7.8	7.8	7.6	7.8	7.1	7.2	
temp (C)	INITIAL	23	23	23	23	23	21	21	
	FINAL	25	25	25	25	25	25	25	
CONC:	9								
D.O. (mg/L)	INITIAL	8.3	8.6	8.3	8.4	8.3	8.9	8.9	
	FINAL	8.3	8.6	8.4	8.0	7.9	8.1	8.0	
pH (s.u.)	INITIAL	7.5	7.3	7.4	7.4	7.4	7.0	7.0	
	FINAL	7.8	7.9	7.8	7.6	7.6	7.1	7.2	
temp (C)	INITIAL	23	23	23	23	23	21	21	
	FINAL	25	25	25	25	25	25	25	
CONC:	12								
D.O. (mg/L)	INITIAL	8.2	8.8	8.4	8.4	8.4	8.9	8.9	
	FINAL	8.5	8.6	8.5	8.1	7.9	8.1	8.0	
pH (s.u.)	INITIAL	7.5	7.3	7.3	7.5	7.3	7.0	7.1	
	FINAL	7.8	7.9	7.8	7.6	7.7	7.1	7.3	
temp (C)	INITIAL	24	22	23	23	23	21	21	
	FINAL	25	25	25	25	25	25	25	
CONC:	16								
D.O. (mg/L)	INITIAL	8.3	8.8	8.4	8.4	8.4	8.9	8.9	
	FINAL	8.5	8.6	8.5	8.0	7.9	8.1	7.9	
pH (s.u.)	INITIAL	7.6	7.5	7.3	7.4	7.3	7.0	7.1	
	FINAL	7.8	7.9	7.8	7.6	7.7	7.1	7.3	
temp (C)	INITIAL	23	22	23	23	24	22	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	100 %	A	A	B	B	C	C	C	
ALKALINITY (mg/L)		64	→	64	→	42	→	→	
HARDNESS (mg/L)		98	→	100	→	94	→	→	
CONDUCTIVITY (umhc)		446	→	438	→	444	→	→	
CHLORINE (mg/L)		0.05	→	0.05	→	<0.05	→	→	

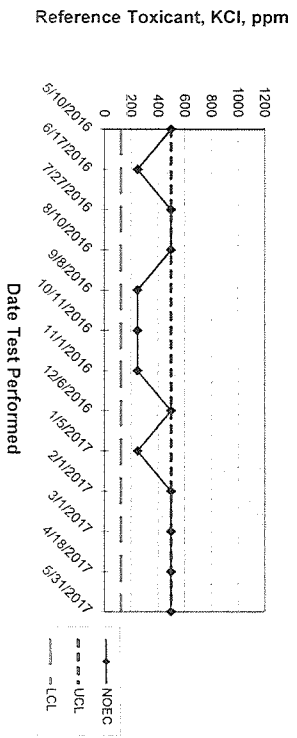
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