

# Arkansas Analytical, Inc.

## Toxicity Test Results

**City of Hope**  
**Permit Number: AR0038466**  
**AFIN # 29-00034**  
**Second Quarter Test 2020**

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

*Ceriodaphnia dubia*, Survival and Reproduction Test  
Test 1002.0

Prepared for: **Bobby Arney**  
**City of Hope**  
**P.O. Box 667**  
**Hope, Arkansas 71802**

Prepared by: Arkansas Analytical, Inc.  
8100 National Drive  
Little Rock, Arkansas 72209  
**Lab Number K2006004**

Friday, June 26, 2020

## Plant location

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City of Hope WWTP: 3307 Hwy 67 West, Hope, AR 71801, West on Highway 67 to County Road 381, then 1 mile south on 381 to WWTP in Hempstead County, Arkansas.

## Test Methods

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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%, 32%, 42%, 56%, 75%, 100%
- Dilution water: Moderately hard 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%, 32%, 42%, 56%, 75%, 100%
- Dilution water: Moderately hard synthetic
- No deviation from method

## Reference Toxicant Data

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### REFERENCE TOXICANT (Potassium Chloride)

<i>Ceriodaphnia dubia</i> 5/6/20-5/13/20		<i>Pimephales promelas</i> 5/6/20-5/13/20	
NOEC Survival:	500 ppm KCl	NOEC Survival:	500 ppm KCl
LOEC Survival:	1000 ppm KCl	LOEC Survival:	1000 ppm KCl
NOEC Reproduction:	250 ppm KCl	NOEC Growth:	500 ppm KCl
LOEC Reproduction:	500 ppm KCl	LOEC Growth:	1000 ppm KCl

## Summary of Results

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### City of Hope

<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>	
NOEC Survival Parameter: <b>TOP3B</b>	100%	NOEC Survival Parameter: <b>TOP6C</b>	100%
Pass/Fail Survival Parameter: <b>TLP3B</b>	Pass	Pass/Fail Survival Parameter: <b>TLP6C</b>	Pass
NOEC Reproduction Parameter: <b>TPP3B</b>	100%	NOEC Growth Parameter: <b>TPP6C</b>	100%
Pass/Fail Reproduction Parameter: <b>TGP3B</b>	Pass	Pass/Fail Growth Parameter: <b>TGP6C</b>	Pass
%CV Reproduction Parameter: <b>TQP3B</b>	34.1%	%CV Growth Parameter: <b>TQP6C</b>	10.2%
PMSD Reproduction	32.7%	PMSD Growth	12.2%

## Conclusion

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*Pimephales promelas*, (Method 1000.0): The permit issued to the City of Hope, specifies that the **critical dilution is 100% 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 City of Hope, specifies that the **critical dilution is 100% 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, Emily Nichols, Jettie Parnell, Sean Stokes

Reviewed by:

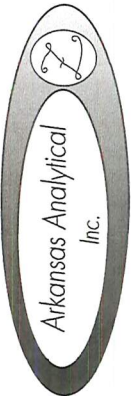
  
Melissa Bird

## Appendices

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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  
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# CHAIN OF CUSTODY RECORD

CLIENT INFORMATION		BILLING INFORMATION		Project Description		Turnaround Time		Preservation Codes:					
City of Hope 1603 West 3rd St. Hope, AR 71801		City of Hope P.O. Box 667 Hope, AR 71801		West Plant Toxicity Sample		1 Day (100%) 2 Day (50%) 3 Day (25%) 5 Day (routine)		1. Cool, 4 Degrees Centigrade 2. Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> ), pH < 2 3. Nitric Acid (HNO <sub>3</sub> ), pH < 2		4. Thiosulfate for Dechlorination 5. Hydrochloric Acid(HCl) 6. Sodium Hydroxide (NaOH), pH > 12			
Attn: Bobby Arney		Telephone: 870-722-8644 Fax: 870-722-2511 Email: wwlab@hopearkansas.net		Reporting Information		Preservative Code: Bottle Type:		1 P		TEST PARAMETERS			
Sampler(s) Signature		Auto Sampler (Manning)		Sample(s) Printed		Sample		Chronic Toxicity		Arkansas Analytical Work Order Number: K2006004			
Field Number	Date/s	Time/s	Grab	Comp	Number of Bottles	Sample Matrix	IDENTIFICATION/ DESCRIPTION						
	6/16/20-6/17/20	7AM-7AM	X	X	Water	Final Effluent Composite - Day	2						
1. Relinquished by: (Signature)		Date/Time	2. Received by: (Signature)		SAMPLE CONDITION UPON RECEIPT IN LAB		REMARKS / SAMPLE COMMENTS						
<i>[Signature]</i>		6-17-20 10:00	<i>[Signature]</i> 6-17-2020/1000		1. CUSTODY SEALS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
3. Relinquished by: (Signature)		Date/Time	4. Received by lab: (Signature)		2. CONTAINERS CORRECT: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No								
<i>[Signature]</i>		6-17-2020 1415	<i>[Signature]</i>		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: 1°C								
					6. TEMPERATURE GUN ID: HH#2								
					FOR COMPLETION BY LAB ONLY								



**CETIS Summary Report**

Report Date: 26 Jun-20 12:31 (p 1 of 2)  
 Test Code/ID: K2006004FH / 02-2043-8121

**Fathead Minnow 7-d Larval Survival and Growth Test**

Arkansas Analytical

Batch ID: 02-7517-9753	Test Type: Growth-Survival (7d)	Analyst: Emily Nichols
Start Date: 16 Jun-20 09:00	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 23 Jun-20 10:34	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 7d 2h	Taxon: Actinopterygii	Source: Aquatox, AR
		Age: <48
Sample ID: 13-5231-1509	Code: K2006004FH	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 15 Jun-20 07:00	Material: POTW Effluent	Source: Hope (AR0038466)
Receipt Date: 15 Jun-20 09:41	CAS (PC):	Station:
Sample Age: 26h (3 °C)	Client: Hope	

**Sample Renewals**

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K2006004B	17 Jun-20 07:00	17 Jun-20 14:15	18 Jun-20 00:00	1
2	K2006004C	19 Jun-20 07:00	19 Jun-20 09:22	20 Jun-20 00:00	4

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
09-2012-9146	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	n/a	1	4.83%	1
21-1611-9697	Mean Dry Biomass-mg	Dunnett Multiple Comparison Test	100	>100	n/a	1	12.2%	1

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
09-2012-9146	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
21-1611-9697	Mean Dry Biomass-mg	Control Resp	0.5638	0.25	>>	Yes	Passes Criteria
21-1611-9697	Mean Dry Biomass-mg	PMSD	0.1216	0.12	0.3	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
32		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
42		5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	2.00%
56		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
75		5	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	2.00%

**Mean Dry Biomass-mg Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	0.5638	0.4924	0.6352	0.5	0.657	0.02572	0.0575	10.20%	0.00%
32		5	0.5792	0.4815	0.677	0.46	0.672	0.03521	0.07872	13.59%	-2.73%
42		5	0.4924	0.4484	0.5364	0.45	0.543	0.01583	0.0354	7.19%	12.66%
56		5	0.4886	0.4529	0.5243	0.448	0.527	0.01286	0.02876	5.89%	13.34%
75		5	0.4826	0.4508	0.5144	0.462	0.527	0.01144	0.02559	5.30%	14.40%
100		5	0.5118	0.4872	0.5364	0.482	0.534	0.008868	0.01983	3.87%	9.22%



**CETIS Summary Report**

Report Date: 26 Jun-20 12:31 (p 2 of 2)  
 Test Code/ID: K2006004FH / 02-2043-8121

**Fathead Minnow 7-d Larval Survival and Growth Test**

Arkansas Analytical

**7d Survival Rate Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	1.0000	1.0000	1.0000	1.0000	1.0000
32		1.0000	1.0000	1.0000	1.0000	1.0000
42		1.0000	0.9000	1.0000	1.0000	1.0000
56		1.0000	1.0000	1.0000	1.0000	1.0000
75		1.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	0.9000	1.0000	1.0000	1.0000

**Mean Dry Biomass-mg Detail**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	0.543	0.559	0.56	0.5	0.657
32		0.672	0.622	0.46	0.572	0.57
42		0.51	0.45	0.543	0.477	0.482
56		0.479	0.448	0.498	0.491	0.527
75		0.478	0.47	0.462	0.476	0.527
100		0.525	0.482	0.508	0.534	0.51

**7d Survival Rate Binomials**

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	10/10	10/10	10/10	10/10	10/10
32		10/10	10/10	10/10	10/10	10/10
42		10/10	9/10	10/10	10/10	10/10
56		10/10	10/10	10/10	10/10	10/10
75		10/10	10/10	10/10	10/10	10/10
100		10/10	9/10	10/10	10/10	10/10

**CETIS Summary Report**

Report Date: 26 Jun-20 12:42 (p 1 of 2)  
 Test Code/ID: K2006004CD / 06-9012-1429

**Ceriodaphnia 7-d Survival and Reproduction Test**

Arkansas Analytical

Batch ID: 05-3481-5789	Test Type: Reproduction-Survival (7d)	Analyst: Emily Nichols
Start Date: 16 Jun-20 08:30	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 22 Jun-20 08:54	Species: Ceriodaphnia dubia	Brine: Not Applicable
Test Length: 6d 0h	Taxon: Branchiopoda	Source: In-House Culture
		Age: <24
Sample ID: 11-8675-7039	Code: K2006004CD	Project: WET Quarterly Compliance Test (2Q)
Sample Date: 15 Jun-20 07:00	Material: POTW Effluent	Source: Hope (AR0038466)
Receipt Date: 15 Jun-20 09:41	CAS (PC):	Station:
Sample Age: 26h (3 °C)	Client: Hope	

**Sample Renewals**

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K2006004B	17 Jun-20 07:00	17 Jun-20 14:15	18 Jun-20 00:00	1
2	K2006004C	19 Jun-20 07:00	19 Jun-20 09:22	20 Jun-20 00:00	4

**Multiple Comparison Summary**

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
21-1158-2296	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	n/a	1	n/a	1
12-9748-4146	Reproduction	Steel Many-One Rank Sum Test	100	>100	n/a	1	32.7%	1

**Test Acceptability**

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
21-1158-2296	7d Survival Rate	Control Resp	1	0.8	>>	Yes	Passes Criteria
12-9748-4146	Reproduction	Control Resp	30.6	15	>>	Yes	Passes Criteria
12-9748-4146	Reproduction	PMSD	0.3273	0.13	0.47	Yes	Passes Criteria

**7d Survival Rate Summary**

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
32		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
42		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
56		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
75		10	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.00%	0.00%
100		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	L	10	30.6	23.13	38.07	15	44	3.301	10.44	34.11%	0.00%
32		10	35.5	28.98	42.02	19	46	2.88	9.107	25.65%	-16.01%
42		10	39.3	32.06	46.54	21	49	3.201	10.12	25.76%	-28.43%
56		10	37.5	29.36	45.64	16	48	3.6	11.38	30.36%	-22.55%
75		10	34	28.43	39.57	19	44	2.463	7.789	22.91%	-11.11%
100		10	30.9	24.13	37.67	14	42	2.994	9.469	30.64%	-0.98%

**CETIS Summary Report**

Report Date: 26 Jun-20 12:42 (p 2 of 2)  
 Test Code/ID: K2006004CD / 06-9012-1429

**Ceriodaphnia 7-d Survival and Reproduction Test**

**Arkansas Analytical**

**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	L	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
32		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
42		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
56		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
75		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100		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	L	44	37	30	15	19	41	20	36	24	40
32		40	46	44	19	26	39	25	36	37	43
42		39	48	46	45	21	49	23	43	34	45
56		47	47	45	16	22	45	34	40	31	48
75		40	35	29	19	40	44	27	42	31	33
100		32	30	36	14	24	41	18	35	37	42

**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	L	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
32		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
42		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
56		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
75		1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
100		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 *K2006004*

Test Start (Date/Time) *6-16-2020/0900*

Client: *Hope*

Test End (Date/Time) *6-23-2020/1034*

Day of Test

		1	2	3	4	5	6	7	notes
<b>Control</b>	MHS072	6/16	6/17	6/18	6/19	6-20	6-21	6-22	MHS073
D.O. (mg/L)	INITIAL	7.5	8.4	8.1	8.1	8.2	8.2	8.4	6/21
	FINAL	7.0	7.3	7.3	7.9	8.1	7.9	7.1	
pH (s.u.)	INITIAL	8.2	8.2	8.3	8.2	8.1	8.1	7.1	
	FINAL	7.9	7.9	7.9	8.0	8.0	8.1	7.9	
temp (C)	INITIAL	21	24	24	22	24	23	27	
	FINAL	25	25	25	25	25	25	25	
ALKALINITY (mg/L)		64					62		
HARDNESS (mg/L)		110					96		
CONDUCTIVITY (umho)		394					338		
CHLORINE (mg/L)		40.05					40.05		
<b>CONC: 32%</b>									
D.O. (mg/L)	INITIAL	7.3	8.3	8.6	8.2	8.4	8.2	8.2	
	FINAL	7.4	7.4	7.3	7.6	8.0	7.6	7.3	
pH (s.u.)	INITIAL	8.2	8.1	8.1	8.3	8.1	8.3	7.4	
	FINAL	8.1	8.1	8.1	8.1	8.1	8.1	8.1	
temp (C)	INITIAL	21	25	23	22	23	22	21	
	FINAL	25	25	25	25	25	25	25	
<b>CONC: 42%</b>									
D.O. (mg/L)	INITIAL	7.7	8.2	8.4	8.3	8.4	8.3	8.2	
	FINAL	7.4	7.4	7.4	7.7	8.0	7.6	7.3	
pH (mg/L)	INITIAL	8.2	8.1	8.1	8.2	8.1	8.3	8.3	
	FINAL	8.1	8.1	8.2	8.2	8.3	7.2	8.2	
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25	25	
<b>CONC: 56%</b>									
D.O. (mg/L)	INITIAL	7.8	8.1	8.4	8.2	8.4	8.3	8.3	
	FINAL	7.5	7.9	7.5	7.7	8.1	7.6	7.4	
pH (s.u.)	INITIAL	8.2	8.2	8.1	8.2	8.1	8.2	8.3	
	FINAL	8.3	8.3	8.3	8.3	8.3	8.4	8.2	
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25	25	
<b>CONC: 75%</b>									
D.O. (mg/L)	INITIAL	7.8	8.1	8.5	8.3	8.5	8.2	8.3	
	FINAL	7.5	7.6	7.5	7.8	7.8	7.5	7.5	
pH (s.u.)	INITIAL	8.2	8.2	8.1	8.2	8.1	8.2	8.3	
	FINAL	8.3	8.3	8.4	8.4	8.4	8.4	8.3	
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25	25	
<b>CONC: 100%</b>									
D.O. (mg/L)	INITIAL	7.8	8.1	8.6	8.4	8.6	8.6	8.7	
	FINAL	7.5	7.6	7.5	7.7	7.8	7.5	7.5	
pH (s.u.)	INITIAL	8.2	8.1	8.0	8.2	8.1	8.2	8.3	
	FINAL	8.4	8.4	8.5	8.4	8.4	8.3	8.4	
temp (C)	INITIAL	21	27	24	22	24	23	21	
	FINAL	25	25	25	25	25	25	25	
<b>CONC: 100%</b>		A	A	B	B	<del>B</del> C	C	C	
ALKALINITY (mg/L)		224	224	238	238	234 6700	224	224	
HARDNESS (mg/L)		76	76	72	72	68	68	68	
CONDUCTIVITY (umho)		1040	1040	1057	1057	995	995	995	
CHLORINE (mg/L)		40.05	40.05	40.05	40.05	40.05	40.05	40.05	

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Ceriodaphnia Dubia

Lab # / Sample ID K2006004

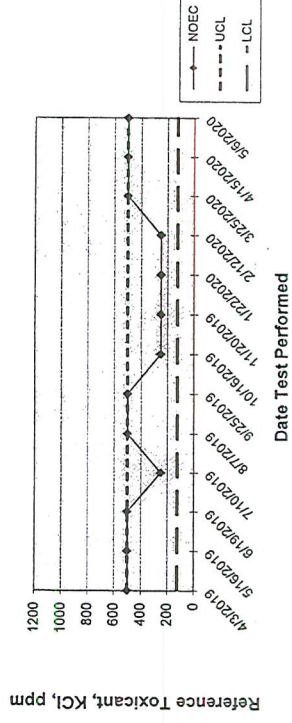
Test Start (Date/Time) 6-16-2020/0830

Client: Hope

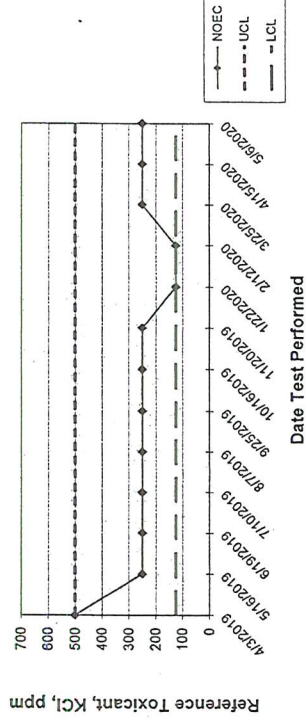
Test End (Date/Time) 6-22-2020/0854

		Day of Test							notes/remarks
		1	2	3	4	5	6	7	
Control	MHS 072	6/16	6/17	6/18	6/19	6/20	6/21	6/22	MHS073 6/21
D.O. (mg/L)	INITIAL	7.5	8.4	8.1	8.1	8.2	8.2	8.4	
	FINAL	8.0	8.0	6.8	2.3	8.2	8.4		
pH (s.u.)	INITIAL	8.2	8.2	8.3	8.2	8.1	8.1	9.1	
	FINAL	8.4	8.3	7.6	8.2	8.3	8.3		
temp (C)	INITIAL	21	24	24	22	24	23	22	
	FINAL	25	25	25	25	25	25		
ALKALINITY (mg/L)		64					62		
HARDNESS (mg/L)		110					96		
CONDUCTIVITY (umhos/cm)		394					338		
CHLORINE (mg/L)		40.05					40.05		
CONC:	32%								
D.O. (mg/L)	INITIAL	7.3	8.3	8.6	8.2	8.4	8.2	8.2	
	FINAL	8.1	8.5	7.5	8.3	8.2	8.2		
pH (s.u.)	INITIAL	8.2	8.1	8.1	8.3	8.1	8.3	8.4	
	FINAL	8.4	8.4	8.4	8.4	8.4	8.4		
temp (C)	INITIAL	21	25	23	22	23	22	21	
	FINAL	25	25	25	25	25	25		
CONC:	42%								
D.O. (mg/L)	INITIAL	7.7	8.2	8.4	8.3	8.4	8.3	8.2	
	FINAL	8.2	8.6	7.7	8.2	8.2	8.2		
pH (mg/L)	INITIAL	8.2	8.1	8.1	8.2	8.2	8.3	8.3	
	FINAL	8.5	8.5	8.5	8.4	8.4	8.5		
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25		
CONC:	56%								
D.O. (mg/L)	INITIAL	7.8	8.1	8.4	8.2	8.4	8.3	8.3	
	FINAL	8.3	8.6	7.9	8.3	8.2	8.2		
pH (s.u.)	INITIAL	8.2	8.2	8.1	8.2	8.1	8.2	8.3	
	FINAL	8.6	8.5	8.5	8.5	8.5	8.5		
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25		
CONC:	76%								
D.O. (mg/L)	INITIAL	7.8	8.1	8.5	8.3	8.5	8.2	8.3	
	FINAL	8.4	8.7	8.0	8.2	8.2	8.2		
pH (s.u.)	INITIAL	8.2	8.2	8.1	8.2	8.1	8.2	8.3	
	FINAL	8.6	8.6	8.6	8.6	8.6	8.6		
temp (C)	INITIAL	21	26	23	22	23	22	21	
	FINAL	25	25	25	25	25	25		
CONC:	100%								
D.O. (mg/L)	INITIAL	7.8	8.1	8.6	8.4	8.6	8.6	8.4	
	FINAL	8.4	8.8	8.0	8.3	8.2	8.2		
pH (s.u.)	INITIAL	8.2	8.1	8.0	8.2	8.1	8.2	8.3	
	FINAL	8.6	8.6	8.7	8.7	8.7	8.6		
temp (C)	INITIAL	21	21	24	22	24	23	21	
	FINAL	25	25	25	25	25	25		
CONC:	100%	A	A	B	B	C	C	C	
ALKALINITY (mg/L)		224		238		224			
HARDNESS (mg/L)		76		72		68			
CONDUCTIVITY (umhos/cm)		1040		1057		995			
CHLORINE (mg/L)		40.05		40.05		40.05			

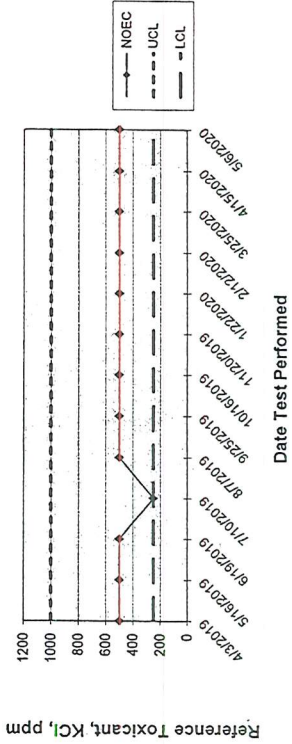
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