

Arkansas Analytical, Inc.

Toxicity Test Results

City of Hope
Permit Number: AR0038466
AFIN # 29-00034
Third 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 K2009004

Thursday, October 08, 2020

Plant location

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

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

REFERENCE TOXICANT (Potassium Chloride)

<i>Ceriodaphnia dubia</i> 8/25/20-9/1/20		<i>Pimephales promelas</i> 8/25/20-9/1/20	
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

City of Hope

<i>Ceriodaphnia dubia</i>		<i>Pimephales promelas</i>	
NOEC Survival Parameter: TOP3B	100%	NOEC Survival Parameter: TOP6C	100%
Pass/Fail Survival Parameter: TLP3B	Pass	Pass/Fail Survival Parameter: TLP6C	Pass
NOEC Reproduction Parameter: TPP3B	100%	NOEC Growth Parameter: TPP6C	100%
Pass/Fail Reproduction Parameter: TGP3B	Pass	Pass/Fail Growth Parameter: TGP6C	Pass
%CV Reproduction Parameter: TQP3B	32.8%	%CV Growth Parameter: TQP6C	22.7%
PMSD Reproduction	45.5%	PMSD Growth	19.8%

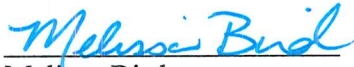
Conclusion

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, Chris Turney

Reviewed by:


Melissa Bird

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:			
City of Hope		City of Hope		West Plant Toxicity Sample		1 Day (100%)		1. Cool, 6 Degrees Centigrade		4. Thiosulfate for Dechlorination	
1603 West 3rd St.		P.O. Box 667		Reporting Information		2 Day (50%)		2. Sulfuric Acid (H ₂ SO ₄), pH < 2		5. Hydrochloric Acid(HCl)	
Hope, AR 71801		Hope, AR 71801		Telephone: 870-722-8644		3 Day (25%)		3. Nitric Acid (HNO ₃), pH < 2		6. Sodium Hydroxide (NaOH), pH > 12	
Attn: Bobby Arney		Fax: 870-722-2511		Email: wwiab@hopearkansas.net		5 Day (routine)		TEST PARAMETERS			
Sampler(s) Signature		Sampler(s) Printed		AUTO SAMPLER		Preservative Code: 1					
Field Number		Date/s		Time/s		Grab		Number of Bottles		Sample Matrix	
9/17/20-9/18/20		7AM-7AM		X		3		Water		Final Effluent Composite	
Date/Time		Date/Time		Date/Time		Date/Time		Date/Time		Date/Time	
1. Relinquished by: (Signature)		2. Received by: (Signature)		3. Relinquished by: (Signature)		4. Received by lab: (Signature)		5. Temperature on Receipt: 1 °C		6. Temperature Gun ID: HHT# 2	
9-18-2020		9-18-2020		1005		Sydney James		1 °C		HHT# 2	
Signature		Signature		Signature		Signature		Signature		Signature	
REMARKS / SAMPLE COMMENTS		REMARKS / SAMPLE COMMENTS		REMARKS / SAMPLE COMMENTS		REMARKS / SAMPLE COMMENTS		REMARKS / SAMPLE COMMENTS		REMARKS / SAMPLE COMMENTS	
Arkansas Analytical Work Order Number: K2009-0040		Chronic Toxicity		X							

CETIS Summary Report

Report Date: 08 Oct-20 11:10 (p 1 of 2)
 Test Code/ID: K2009004FH / 00-3996-4194

Fathead Minnow 7-d Larval Survival and Growth Test

Arkansas Analytical

Batch ID: 14-0787-0394	Test Type: Growth-Survival (7d)	Analyst: Melissa Bird
Start Date: 15 Sep-20 11:40	Protocol: EPA/821/R-02-013 (2002)	Diluent: Mod-Hard Synthetic Water
Ending Date: 22 Sep-20 11:05	Species: Pimephales promelas	Brine: Not Applicable
Test Length: 6d 23h	Taxon: Actinopterygii	Source: Aquatox, AR Age: <24
Sample ID: 03-3147-3630	Code: K2009004FH	Project: WET Quarterly Compliance Test (3Q)
Sample Date: 14 Sep-20 07:00	Material: POTW Effluent	Source: Hope (AR0038466)
Receipt Date: 14 Sep-20 10:13	CAS (PC):	Station:
Sample Age: 29h (1 °C)	Client: Hope	

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K2009004B	16 Sep-20 07:00	16 Sep-20 12:55	16 Sep-20 00:00	1
2	K2009004C	18 Sep-20 07:00	18 Sep-20 10:05	18 Sep-20 00:00	1

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
18-6703-1907	7d Survival Rate	Steel Many-One Rank Sum Test	100	>100	n/a	1	9.51%	1
08-7129-0955	Mean Dry Weight-mg	Dunnett Multiple Comparison Test	100	>100	n/a	1	19.8%	1

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits		Overlap	Decision
				Lower	Upper		
18-6703-1907	7d Survival Rate	Control Resp	0.98	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	L	5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	0.00%
32		5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	0.00%
42		5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	0.00%
56		5	0.9200	0.8645	0.9755	0.9000	1.0000	0.0200	0.0447	4.86%	6.12%
75		5	0.9400	0.7734	1.0000	0.7000	1.0000	0.0600	0.1342	14.27%	4.08%
100		5	0.9800	0.9245	1.0000	0.9000	1.0000	0.0200	0.0447	4.56%	0.00%

Mean Dry Weight-mg Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	5	0.4588	0.3297	0.5879	0.368	0.59	0.04649	0.104	22.66%	0.00%
32		5	0.4068	0.3039	0.5097	0.33	0.509	0.03706	0.08287	20.37%	11.33%
42		5	0.4344	0.402	0.4668	0.405	0.465	0.01165	0.02606	6.00%	5.32%
56		5	0.4162	0.3783	0.4541	0.378	0.452	0.01367	0.03056	7.34%	9.29%
75		5	0.4142	0.3518	0.4766	0.368	0.486	0.02246	0.05023	12.13%	9.72%
100		5	0.3806	0.3576	0.4036	0.359	0.4	0.008285	0.01853	4.87%	17.04%

CETIS Summary ReportReport Date: 08 Oct-20 11:10 (p 2 of 2)
Test Code/ID: K2009004FH / 00-3996-4194**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	0.9000
32		1.0000	0.9000	1.0000	1.0000	1.0000
42		1.0000	1.0000	1.0000	1.0000	0.9000
56		0.9000	1.0000	0.9000	0.9000	0.9000
75		1.0000	1.0000	1.0000	1.0000	0.7000
100		1.0000	1.0000	1.0000	1.0000	0.9000

Mean Dry Weight-mg Detail

Conc-%	Code	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	L	0.401	0.552	0.59	0.383	0.368
32		0.509	0.365	0.483	0.347	0.33
42		0.405	0.465	0.451	0.41	0.441
56		0.441	0.378	0.452	0.397	0.413
75		0.446	0.486	0.377	0.394	0.368
100		0.367	0.4	0.378	0.359	0.399

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	9/10
32		10/10	9/10	10/10	10/10	10/10
42		10/10	10/10	10/10	10/10	9/10
56		9/10	10/10	9/10	9/10	9/10
75		10/10	10/10	10/10	10/10	7/10
100		10/10	10/10	10/10	10/10	9/10

CETIS Summary Report

Report Date: 08 Oct-20 11:01 (p 1 of 2)
 Test Code/ID: K2009004CD / 12-6027-7013

Ceriodaphnia 7-d Survival and Reproduction Test

Arkansas Analytical

Batch ID: 01-8936-0587 Test Type: Reproduction-Survival (7d) Analyst: Melissa Bird
 Start Date: 15 Sep-20 11:11 Protocol: EPA/821/R-02-013 (2002) Diluent: Mod-Hard Synthetic Water
 Ending Date: 21 Sep-20 09:30 Species: Ceriodaphnia dubia Brine: Not Applicable
 Test Length: 5d 22h Taxon: Branchiopoda Source: In-House Culture Age: <24

Sample ID: 18-9950-5570 Code: K2009004CD Project: WET Quarterly Compliance Test (3Q)
 Sample Date: 14 Sep-20 07:00 Material: POTW Effluent Source: Hope (AR0038466)
 Receipt Date: 14 Sep-20 10:13 CAS (PC): Station:
 Sample Age: 28h (1 °C) Client: Hope

Sample Renewals

Renewal	Sample Code	Sample Date	Receive Date	Renewal Date	Temp °C
1	K2009004B	16 Sep-20 07:00	16 Sep-20 12:55	16 Sep-20 00:00	1
2	K2009004C	18 Sep-20 07:00	18 Sep-20 10:05	18 Sep-20 00:00	1

Multiple Comparison Summary

Analysis ID	Endpoint	Comparison Method	✓ NOEL	LOEL	TOEL	TU	PMSD	S
16-8546-6710	7d Survival Rate	Fisher Exact/Bonferroni-Holm Test	100	>100	n/a	1	n/a	1
02-2485-2872	Reproduction	Dunnett Multiple Comparison Test	100	>100	n/a	1	45.5%	1

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits			Decision
				Lower	Upper	Overlap	
16-8546-6710	7d Survival Rate	Control Resp	0.9	0.8	>>	Yes	Passes Criteria
02-2485-2872	Reproduction	Control Resp	15.14.1	15	>>	Yes	Below-Criteria <i>passes</i>
02-2485-2872	Reproduction	PMSD	0.4551	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	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
32		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
42		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
56		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%
75		10	0.8000	0.4984	1.0000	0.0000	1.0000	0.1333	0.4216	52.70%	11.11%
100		10	0.9000	0.6738	1.0000	0.0000	1.0000	0.1000	0.3162	35.14%	0.00%

Reproduction Summary

Conc-%	Code	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	L	10	14.1	10.2	18	6	22	1.722	5.446	38.62%	0.00%
32		10	16.8	13.4	20.2	9	23	1.504	4.756	28.31%	-19.15%
42		10	16.9	13.84	19.96	11	25	1.354	4.28	25.33%	-19.86%
56		10	18.9	14.93	22.87	11	28	1.754	5.547	29.35%	-34.04%
75		10	19.6	12.55	26.65	0	31	3.117	9.857	50.29%	-39.01%
100		10	20.5	16.14	24.86	6	27	1.928	6.096	29.74%	-45.39%

Reproduction:

0%. $\bar{X} = 15.0$ CV = 32.8%

100%. $\bar{X} = 22.1$ CV = 16.1%

10-8-20
mlb

CETIS Summary Report

Report Date: 08 Oct-20 11:01 (p 2 of 2)
 Test Code/ID: K2009004CD / 12-6027-7013

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	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
32		1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
42		1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000
56		1.0000	1.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000	1.0000
75		1.0000	1.0000	0.0000	1.0000	1.0000	0.0000	1.0000	1.0000	1.0000	1.0000
100		1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	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	8	22	6	17	12	17	8	17	14	20
32		20	17	9	15	10	21	18	21	23	14
42		15	16	14	23	11	14	19	16	25	16
56		23	14	22	15	11	14	17	25	28	20
75		28	21	0	17	27	6	20	20	26	31
100		24	23	15	24	20	19	23	6	27	24

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	0/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
32		1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1
42		1/1	1/1	1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1
56		1/1	1/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1	1/1
75		1/1	1/1	0/1	1/1	1/1	0/1	1/1	1/1	1/1	1/1
100		1/1	1/1	1/1	1/1	1/1	1/1	1/1	0/1	1/1	1/1

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Fathead Minnow

Lab # / Sample ID K2009004

Test Start (Date/Time) 9/15/20 1140

Client: Hope

Test End (Date/Time) 9/22/20 1105

Day of Test

		1	2	3	4	5	6	7	notes
Control	MHS083	9/15	9/16	9/17	9/18	9/19	9/20	9/21	MHS084
D.O. (mg/L)	INITIAL	8.4	8.3	8.2	8.5	8.2	8.1	8.3	9/21
	FINAL	7.5	7.0	7.9	8.0	7.9	8.1	7.9	
pH (s.u.)	INITIAL	8.1	8.0	8.0	8.2	8.1	8.1	8.1	
	FINAL	7.8	7.9	7.9	8.0	7.9	8.0	7.9	
temp (C)	INITIAL	21	22	22	21	23	23	22	
	FINAL	25	25	25	25	25	25	25	
ALKALINITY (mg/L)		70						70	
HARDNESS (mg/L)		100						90	
CONDUCTIVITY (umhd)		325						307	
CHLORINE (mg/L)		0.05						0.05	
CONC:	32%								
D.O. (mg/L)	INITIAL	8.5	8.1	8.6	7.4	8.3	8.3	8.4	
	FINAL	7.3	7.9	7.7	8.0	8.0	8.1	7.8	
pH (s.u.)	INITIAL	8.2	8.1	8.2	8.3	8.1	8.1	8.1	
	FINAL	7.9	8.1	8.0	8.2	8.2	8.2	8.1	
temp (C)	INITIAL	21	22	21	22	25	24	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	42%								
D.O. (mg/L)	INITIAL	8.4	8.2	8.6	7.9	8.5	8.5	8.4	
	FINAL	7.1	7.9	7.6	8.0	8.0	8.1	7.7	
pH (mg/L)	INITIAL	8.1	8.0	8.2	8.1	8.2	8.1	8.2	
	FINAL	8.0	8.1	8.1	8.3	8.2	8.2	8.2	
temp (C)	INITIAL	21	23	21	23	25	24	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	56%								
D.O. (mg/L)	INITIAL	8.5	8.2	8.5	8.1	8.5	8.5	8.4	
	FINAL	7.1	7.9	7.6	7.7	8.0	8.0	7.6	
pH (s.u.)	INITIAL	8.1	8.0	8.2	8.1	8.2	8.1	8.1	
	FINAL	8.1	8.2	8.1	8.2	8.3	8.3	8.2	
temp (C)	INITIAL	21	23	21	23	25	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	75%								
D.O. (mg/L)	INITIAL	8.4	8.1	8.5	8.2	8.5	8.5	8.4	
	FINAL	7.0	7.9	7.5	7.6	8.0	8.0	7.7	
pH (s.u.)	INITIAL	8.1	8.1	8.2	8.1	8.1	8.1	8.2	
	FINAL	8.2	8.2	8.2	8.3	8.3	8.3	8.3	
temp (C)	INITIAL	21	23	21	23	26	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	100%								
D.O. (mg/L)	INITIAL	8.5	8.1	8.6	8.2	8.5	8.6	8.4	
	FINAL	6.9	7.9	7.4	7.7	7.9	8.0	7.7	
pH (s.u.)	INITIAL	8.1	8.0	8.3	8.1	8.1	8.0	8.2	
	FINAL	8.2	8.3	8.3	8.4	8.5	8.4	8.4	
temp (C)	INITIAL	21	24	21	24	26	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	100%	A	B	A	C	B	C	C	
ALKALINITY (mg/L)		186	192	186	178	192	178		
HARDNESS (mg/L)		44	62	44	48	62	48		
CONDUCTIVITY (umhd)		956	992	956	1055	992	1055		
CHLORINE (mg/L)		0.05	0.05	0.05	0.05	0.05	0.05		

CHEMICAL DATA SHEET FOR CHRONIC TOXICITY TESTING

Ceriodaphnia Dubia

Lab # / Sample ID K2009004

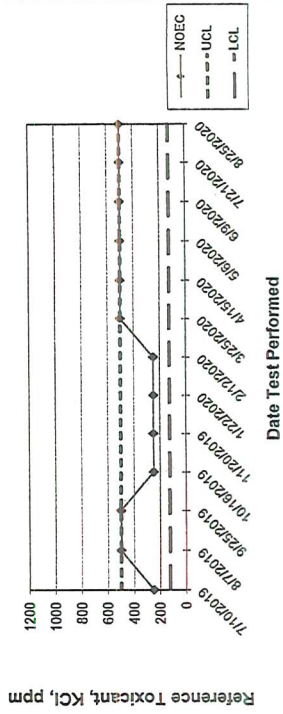
Test Start (Date/Time) 9-15-20/1111

Client: Hope

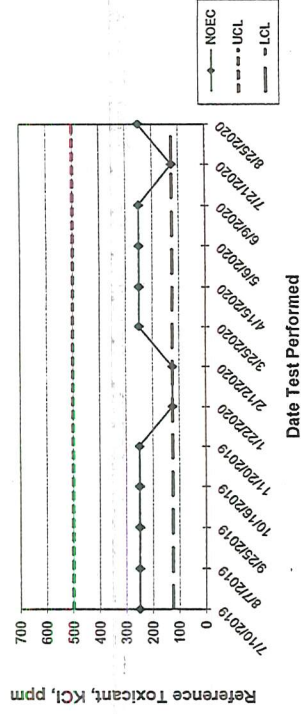
Test End (Date/Time) 9-21-20/0930

		Day of Test							notes/remarks
		1	2	3	4	5	6	7	
Control	MH3 083	9/15	9/16	9/17	9/18	9/19	9/20	9/21	MH3083 9/21
D.O. (mg/L)	INITIAL	8.4	8.3	8.2	8.5	8.2	8.1	8.3	
	FINAL	8.5	8.7	8.5	8.3	8.1	8.00	8.0	
pH (s.u.)	INITIAL	8.1	8.0	8.0	8.2	8.1	8.1	8.1	
	FINAL	8.16	8.5	8.3	8.0	8.1	8.06	8.0	
temp (C)	INITIAL	21	22	22	21	23	22	22	
	FINAL	25	25	25	25	25	25	25	
ALKALINITY (mg/L)		70						70	
HARDNESS (mg/L)		100						90	
CONDUCTIVITY (umhos/cm)		325						307	
CHLORINE (mg/L)		0.05						0.05	
CONC:	32%								
D.O. (mg/L)	INITIAL	8.5	8.1	8.6	7.4	8.3	8.3	8.4	
	FINAL	8.7	8.7	8.5	8.2	8.0	7.99	8.0	
pH (s.u.)	INITIAL	8.2	8.1	8.2	8.3	8.1	8.11	8.1	
	FINAL	8.5	8.4	8.4	8.2	8.1	8.25	8.2	
temp (C)	INITIAL	21	22	21	22	25	24	22	
	FINAL	25	25	25	22	25	25	25	
CONC:	42%								
D.O. (mg/L)	INITIAL	8.4	8.2	8.6	7.9	8.5	8.5	8.4	
	FINAL	9.1	8.8	8.5	8.2	8.0	8.04	8.0	
pH (mg/L)	INITIAL	8.1	8.0	8.2	8.1	8.2	8.1	8.2	
	FINAL	8.7	8.6	8.4	8.3	8.2	8.32	8.2	
temp (C)	INITIAL	21	23	21	23	25	24	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	56%								
D.O. (mg/L)	INITIAL	8.5	8.2	8.5	8.1	8.5	8.5	8.4	
	FINAL	9.7	8.9	8.5	8.3	8.0	7.99	8.0	
pH (s.u.)	INITIAL	8.1	8.0	8.2	8.1	8.2	8.1	8.1	
	FINAL	8.9	8.8	8.5	8.3	8.3	8.35	8.3	
temp (C)	INITIAL	21	23	21	23	25	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	75%								
D.O. (mg/L)	INITIAL	8.4	8.1	8.5	8.2	8.5	8.5	8.4	
	FINAL	9.8	8.9	8.5	8.2	8.0	6.48	7.9	
pH (s.u.)	INITIAL	8.1	8.1	8.2	8.1	8.1	8.1	8.2	
	FINAL	8.8	8.7	8.5	8.5	8.4	8.35	8.3	
temp (C)	INITIAL	21	23	21	23	26	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	100%								
D.O. (mg/L)	INITIAL	8.5	8.1	8.6	8.2	8.5	8.6	8.4	
	FINAL	10.3	8.9	8.5	8.2	8.1	8.01	7.9	
pH (s.u.)	INITIAL	8.1	8.0	8.3	8.1	8.1	8.0	8.2	
	FINAL	9.0	8.9	8.6	8.5	8.6	8.49	8.4	
temp (C)	INITIAL	21	24	21	24	26	25	22	
	FINAL	25	25	25	25	25	25	25	
CONC:	100%	A	B	A	C	B	C	C	
ALKALINITY (mg/L)		186	192	186	178	192	178	---	
HARDNESS (mg/L)		44	62	44	48	62	48	---	
CONDUCTIVITY (umhos/cm)		950	992	950	1055	992	1055	---	
CHLORINE (mg/L)		0.05	0.05	0.05	0.05	0.05	0.05	---	

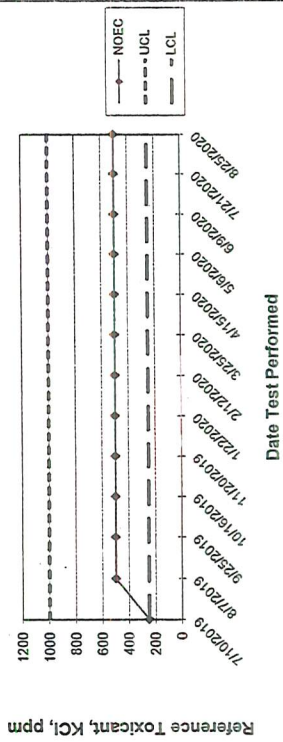
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