



June 24, 2019

Brad Stewart Springdale Water Utilities 2910 Silent Grove Road Springdale, AR 72762

RE: Project: WET TEST

Pace Project No.: 60305252

Dear Brad Stewart:

Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeffrey Shopper

Jepy Shap

jeff.shopper@pacelabs.com

1(913)563-1408 Project Manager

Enclosures







CERTIFICATIONS

Project: WET TEST Pace Project No.: 60305252

Southeast Kansas Certification IDs

808 West McKay, Frontenac, KS 66763 Arkansas Certification #: 18-016-0

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10426

Louisiana Certification #: 03055 Oklahoma Certification #: 9935 Texas Certification #: T104704407 Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS





SAMPLE SUMMARY

Project: WET TEST Pace Project No.: 60305252

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60305252001	EFFLUENT	Water	06/10/19 08:00	06/11/19 08:00

REPORT OF LABORATORY ANALYSIS

(913)599-5665



SAMPLE ANALYTE COUNT

Project: WET TEST Pace Project No.: 60305252

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory	
60305252001	EFFLUENT	EPA 821/R-02/013	MEB	1	PASI-SE	

REPORT OF LABORATORY ANALYSIS



ANALYTICAL RESULTS

Project: WET TEST Pace Project No.: 60305252

Date: 06/24/2019 04:45 PM

Sample: EFFLUENT	Lab ID: 603	305252001	Collected: 06/10/1	9 08:00	Received:	06/11/19 08:00	Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Chronic Toxicity	Analytical Met	hod: EPA 82	21/R-02/013					
Toxicity, Chronic	Complete		1.0	1		06/11/19 10:0	00	



QUALIFIERS

Project: WET TEST Pace Project No.: 60305252

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 06/24/2019 04:45 PM

PASI-SE Pace Analytical Services - SE Kansas



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WET TEST Pace Project No.: 60305252

Date: 06/24/2019 04:45 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60305252001	EFFLUENT	EPA 821/R-02/013	591902		



Sample Condition Upon Receipt

(0030 5252

Client Name: Springdale				50
Clay □ P	EX 🗆	EC		Pace ☐ Xroads ☐ Client ☐ Other ☐
racking #: Pace	Shippir	ng Lat	oel Used	d? Yes □ No 😾
Sustody Seal on Cooler/Box Present: Yes No □	Seals	intact	Yes	NO D
Packing Material: Bubble Wrap ☐ Bubble Bags ☐	بر ا	Fo	am 🗀	None ☐ Other □
Thermometer Used: $7-24/3$ Type of	lce: We	et) BI	ue No	
Cooler Temperature (°C): As-read 2.0 Corr. Factor	r-,9	7	Correct	Date and initials of person examining contents:
emperature should be above freezing to 6°C				6/11/19
Chain of Custody present:	Yes	□'no	□ N/A	to 8:00
Chain of Custody relinquished:	□Yes	No	□N/A	£
Samples arrived within holding time:	Yes	□No	□n/a	
Short Hold Time analyses (<72hr):	Yes	□No	□N/A	
Rush Turn Around Time requested:	□Yes	No.	□n/a	
Sufficient volume	Yes	□No	□N/A	
Correct containers used	Yes	□No	□N/A	W.
Pace containers used:	Yes	□No	□N/A	
Containers intact:	Yes	□No	□N/A	
Jnpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	□Yes	□No	NA/A	
Filtered volume received for dissolved tests?	□Yes	y	 □ N/A	
	Yes		□N/A	
Sample labels match COC: Date / time / ID / analyses	1	W000 2000	•	1
Samples contain multiple phases? Matrix:	□Yes	(□N/A	
Containers requiring pH preservation in compliance?	□Yes	□No	XY/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
HNO ₃ , H₂SO ₄ , HCI<2; NaOH>9 Sulfide, NaOH>10 Cyanide) Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)				
Cyanide water sample checks:		_		
_ead acetate strip turns dark? (Record only)	□Yes	□No		
Potassium iodide test strip turns blue/purple? (Preserve)	□Yes	□No		
Trip Blank present:	□Yes	□No	-DN/A	
-leadspace in VOA vials (>6mm):	□Yes	□No	DIM/A	
Samples from USDA Regulated Area: State	□Yes	□No	DOM	
Additional labels attached to 5035A / TX1005 vials in the field?	Yes	□No	DEWA	
Copy COC to	Client?	Υ	N	Field Data Required? Y / N
Person Contacted: Date/T	ime:			
Comments/ Resolution:				
	[[9 6]			
Project Manager Review	:		Dat	e:



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT, All relevant fields must be completed accurately,

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AR			Address:						S. 8250	Requisitory Anoncy	V According	3000
Email bstewart@springdalewater.com	Purchase Order# 00.20893 00		Pace Quote:					L				on southern
Phone 479-755-3557 Fax	ame: WETTest		Pace Project	lanager	jeff.shopper	jeff.shopper@pacelabs.com	اءا			State / Lo	ocation	
Requested Due Date	Project #;	=	Pace Profile #	e# 9250, line 1		Dogue	Description Applicate Ellipsed (VIII)	Vi bosod IZ	NAT.	AR	~	
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9 of	SIGNATI	SIGNATURE of SAMPLER:	Miller	Desette grave da	14.	DATE Siç	DATE Signed: 06/10/19-0858	9-085	00		(A\N	N/A)

June 20, 2019

Brad Stewart Springdale Water Utilities 2910 Silent Grove Road Springdale, AR 72762

Re:

Lab Project Number: 60305252

Client Project ID:

Wet Test

Dear:

Enclosed are the analytical results for sample(s) received by the laboratory. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any question concerning this report, please feel free to contact me.

Sincerely,

In Hanly

Tim Harrell

Tim.Harrell@pacelabs.com

Technical Director

Enclosures

CHRONIC TOXICITY TEST FOR SPRINGDALE WATER UTILITIES

PERMIT # AR 0022063 AFIN # 72-00003

PERFORMED ON:

Pimephales promelas

and

Ceriodaphnia dubia

PREPARED FOR:

Springdale Water Utilities Brad Stewart 2910 Silent Grove Road Springdale, AR 72762 479-756-3657

PREPARED BY:
Pace Analytical Services, Inc.
808 West McKay
Frontenac, KS 66763
1-620-235-0003

June 20, 2019

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SUMMARY

A Chronic Whole Effluent Toxicity Test using the 7-day chronic fathead minnows (<u>Pimephales promelas</u>), static renewal larval survival and growth test, and three brood 7-day chronic Cladoceran (<u>Ceriodaphnia dubia</u>), static renewal survival and reproduction test, was conducted on effluent discharge water collected at the SPRINGDALE WATER UTILITIES effluent discharge from June 10, 2019 to June 14, 2019. All the test methods followed are as listed in <u>EPA 821-R-02-013</u>, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms."

Statistically significant (p<0.05) mortality is determined by Dunnet's procedure using average percent survival of each test concentration versus the average survival of the controls. If significant mortality occurs, median lethal concentrations are calculated using effluent concentrations and their corresponding percent mortality data. The 95% confidence intervals are calculated where appropriate by the Spearman-Karber method. Statistical analysis is accomplished by following steps in EPA 821-R-02-013, February 2002 and by use of Toxstat version 3.4.

In minnow section of testing, it was observed that the effluent had no significant effect on the survival of the larvae at the 97% concentration. No significant mortality was observed in the other effluent concentrations after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 97% for survival. No significant reduction in growth was observed in the 97% effluent concentration. The Toxic Units is <1.03. The IC25 is >97. The NOEC for growth in effluent was determined to be 97%. The PMSD was 15.2. The COV is 14.09

In Cladoceran section of testing, it was observed that the effluent had no significant effect on the survival of the organisms in the 97% effluent concentration. No significant mortality was observed in the other effluent concentrations after the 7-day exposure period. The No Observed Effect Concentration (NOEC) was determined to be 97% for survival. No significant reduction in reproduction was observed in the 97% effluent concentrations. The Toxic Units is <1.03. The IC25 is >97. The NOEC for reproduction in effluent was determined to be 97%. The PMSD was 16.9. The COV is 18.93

The chronic toxicity exhibited by the fathead minnows and the <u>Ceriodaphnia</u> treated by the effluent sampled from June 10 to June 14 from the SPRINGDALE WATER UTILITIES effluent discharge, is acceptable as described in <u>EPA 821-R-02-013</u>.

INTRODUCTION

Pace Analytical was contracted to perform this chronic toxicity test on effluent from the SPRINGDALE WATER UTILITIES effluent discharge. Chronic toxicity was measured using the <u>Pimephales promelas</u> at larval for survival and growth test and the <u>Ceriodaphnia dubia</u> survival and reproduction test described in <u>EPA 821-R-02-013</u>, "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms." The raw data of the study is stored at Pace Analytical Services, INC. 808 West McKay, Frontenac, KS 66763.

TEST MATERIAL

SPRINGDALE WATER UTILITIES personnel collected sampling of the effluent. A sample of the effluent was delivered to Pace by commercial carrier on 6-11-19. Subsequent samples followed by delivery on 6-13-19 and on 6-15-19. All samples were stored at \leq 6° Celsius. Moderately Hard Synthetic Water was used as a control and also to make the required dilutions in the test as described in EPA 821-R-02-013.

TEST METHODS

Pace used EPA test method 1000.0 for conducting the Fathead Minnow, <u>Pimephales promelas</u>, Larval Survival and Growth Test. EPA test method 1002.0 was used for conducting the Cladoceran, <u>Ceriodaphnia dubia</u>, Survival and Reproduction Test. The tests were conducted to estimate the NOEC, and LOEC for survival, growth, and reproduction of these test species.

The <u>Pimephales</u> and <u>Ceriodaphnia</u> tests were initiated on 6-11-19 and carried out until 6-18-19. The Pimephales tests were conducted in 500 ml plastic jars with 250 ml of test solution. Eight larvae were placed in each of at least 5 replicates to make a total of 40 larvae per sample concentration. The <u>Ceriodaphnia</u> tests were carried out in 35ml vials containing 25 ml of test solution. One Neonate was placed in each of 10 replicates to make a total of 10 neonates per sample concentration.

TEST ORGANISMS

The organisms used in these tests were cultured at Pace under controlled temperature and photoperiod conditions and/or were purchased from an external supplier. Pace maintains records of all culture techniques used in producing organisms.

RESULTS

Ceriodaphnia dubia	Results				
TLP3B	0				
TGP3B	0				
ТОРЗВ	97				
ТРРЗВ	97				
TQP3B	18.93				
Pimephales promelas	Results				
TLP6C	0				
TGP6C	0				
TOP6C	97				
TPP6C	97				
TQP6C	14.09				

TABLE 1

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

Date Sampled

No. 1: 6-10-19

8:00

No. 2: 6-12-19

8:00

No. 3: 6-14-19

8:00

Test Initiated: 10:00

Date: 6-11-19

Dilution Water used: Moderately Hard Synthetic Water

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL (Pimephales promelas)

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Concentration	Averag		eight in Mi te Chamb	lligrams in ers		Mean Dry Weight	CV% *
(%)	Α	В	С	D	E	(mg)	
Control 0%	0.362	0.401	0.377	0.312	0.396	0.370	9.67
Dilution 1 31%	0.342	0.329	0.347	0.394	0.372	0.337	8.48
Dilution 2 41%	0.367	0.378	0.293	0.329	0.398	0.353	11.87
Dilution 3 55%	0.336	0.320	0.383	0.395	0.369	0.361	8.78
Dilution 4 73%	0.302	0.332	0.369	0.384	0.377	0.353	9.85
Dilution 5 97%	0.333	0.329	0.354	0.431	0.301	0.350	14.09

^{*} Coefficient of Variation = Standard Deviation X 100 / Mean

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

FATHEAD MINNOW SURVIVAL

Conc. %	Pe		urvival i	n Replica	ate	Mean	CV %		
	Α	В	С	D	E	24hr	48hr	7 day	
Control 0%	100	100	100	87.5	100	100	100	97.5	4.79
Dilution 1 31%	100	100	100	100	100	100	100	100	0.00
Dilution 2 41%	100	100	100	100	100	100	100	100	0.00
Dilution 3 55%	100	87.5	100	100	100	100	100	97.5	4.79
Dilution 4 73%	87.5	100	100	100	100	100	100	97.5	4.79
Dilution 5 97%	100	100	100	100	87.5	100	100	97.5	4.79

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

CERIODAPHNIA SURVIVAL AND REPRODUCTION

DATA TABLE FOR CERIODAPHNIA YOUNG PRODUCTION

Replicate	Control	Dilution 1	Dilution 2	Dilution 3	Dilution 4	Dilution 5
	0%	31%	41%	55%	73%	97%
1	22	26	21	25	21	18
2	21	24	27	16	23	25
3	17	20	23	25	15	23
4	27	25	18	25	22	18
5	18	23	25	26	21	22
6	23	24	22	21	24	17
7	24	26	24	19	23	24
8	18	19	26	23	24	28
9	20	28	15	16	18	25
10	26	24	23	28	20	16
Mean	21.6	23.9	22.4	22.4	21.1	21.6
SD	3.438	2.726	3.658	4.222	2.846	4.088
CV %	15.92	11.41	16.33	18.85	13.49	18.93

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

CERIODAPHNIA MEAN PERCENT SURVIVAL

		Perd	ent Effluent	: (%)		
Time	Control	Dilution 1	Dilution 2	Dilution 3	Dilution 4	Dilution 5
Elapsed	0%	31%	41%	55%	73%	97%
24 hrs	100	100	100	100	100	100
48 hrs	100	100	100	100	100	100
7-day	100	100	100	100	100	100
SD	0.000	0.000	0.000	0.000	0.000	0.000
CV %	0.00	0.00	0.00	0.00	0.000	0.000

TABLE 2 SUMMARY OF TEST CONDITIONS FOR THE FATHEAD MINNOW (<u>Pimephales</u> promelas) LARVAL SURVIVAL AND GROWTH TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	500 ml
7. Test solution volume	250 ml
8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	8
11. No. replicates/concentration	5
12. No. larvae/concentration	40
13. Feeding regime	Feed 0.15 g newly hatched brine shrimp nauplii two times daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None

TABLE 2 (CONT.)

16. Dilution Water	Moderately Hard Synthetic Water prepared with MILLI-Q deionized water and reagent grade chemicals
17. Effluent concentrations	0%, 31%, 41%, 55%, 73%, 97%
18. Test duration	7 days
19. Endpoints	Survival and growth
20. Test acceptability	80% or greater survival in the controls, Average dry weight in controls >0.25 mg, Coefficient of variation in the control must not exceed 40%.

TABLE 2 (CONT.) SUMMARY OF TEST CONDITIONS FOR THE CLADOCERAN (Ceriodaphnia dubia) SURVIVAL AND REPRODUCTION TEST

1. Test type	Static renewal
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	30 ml
7. Test solution volume	25 ml

TABLE 2 (CONT.)

8. Renewal of test concentrations	Daily
9. Age of test organism	< 24 hours
10. No. larvae/chamber	1
11. No. replicates/concentration	10
12. No. larvae/concentration	10
13. Feeding regime	Feed 0.1 ml YCT and 0.1 ml of Algae daily. Larvae are not fed 12 hours prior to termination of test.
14. Cleaning	Siphon daily, immediately before test solution renewal
15. Aeration	None
16. Dilution Water	Moderately Hard Synthetic Water prepared with MILLI-Q deionized water and reagent grade chemicals
17. Effluent concentrations	0%, 31%, 41%, 55%, 73%, 97%
18. Test duration	Until 60% or more surviving control females have three broods or a maximum of 8 days.
19. Endpoints	Survival and Reproduction
20. Test acceptability	80% or greater survival in the controls, Average reproduction rate of 15 young / adult. Coefficient of variation in the control must not exceed 40%.

TABLE 2 (SECTION 2)

BIOMONITORING CHRONIC TOXICITY REPORT FATHEAD MINNOW (Pimephales promelas) CHEMICAL PARAMETERS CHART

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

ANALYSTS: Pace Analytical Services, Inc.

Timothy Harrell Mike Bollin

SAMPLE NO. 1 COLLECTED: DATE: 6-10-18

SAMPLE NO. 2 COLLECTED: DATE: 6-12-18

SAMPLE NO. 3 COLLECTED: DATE: 6-14-18

TABLE 2 (SECTION 2) INITIAL WATER QUALITY EFFLUENT CONCENTRATION

	Control	97%
PH	7.59	7.94
D.O.	8.10	8.80
Temp	25.0	25.0
Alk	64	102
Hard	90	134
Cond	331	617
Chlorine	<0.1	<0.1

* D.O. is reported as mg/L
Alkalinity is reported as mg/L CaCO3
Hardness is reported as mg/L CaCO3
Conductance is reported as umhos
Ammonia is reported as mg/L
Chlorine is reported as mg/L

TEST WATER QUALITY

24-Hour Water Quality Measurements

ZT-11001 VValor Qua	ity woodarament		
Effluent	PH	D.O.	Temperature
Concentration (%)		(mg/l)	(C)
0% Control	7.73	7.50	25.2
31% Effluent	7.86	7.50	24.9
41% Effluent	7.94	7.40	24.9
55% Effluent	8.06	7.40	24.9
73% Effluent	8.16	7.40	24.9
97% Effluent	8.22	7.40	24.9

48-Hour Water Quality Measurements

40-11001 Water Qua	ity wicasarcinente		
Effluent	PH	D.O.	Temperature
Concentration (%)		(mg/l)	(C)
0% Control	7.76	7.30	25.2
31% Effluent	7.88	7.30	25.0
41% Effluent	7.96	7.30	25.0
55% Effluent	8.08	7.30	25.0
73% Effluent	8.15	7.30	25.0
97% Effluent	8.23	7.30	25.0

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Control	97%
рН	7.66	8.33
D.O.	7.10	6.70
Temp	24.8	25.0
Alk	62	100
Hard	92	136
Cond	421	739

* D.O. is reported as mg/L Alkalinity is reported as mg/L CaCO3 Hardness is reported as mg/L CaCO3 Conductance is reported as umhos

TEST VALIDITY

The <u>Pimephales promelas</u> control survival rate was 97.5%. The mean dry weight (growth) of the <u>Pimephales promelas</u> was determined at 0.370 mg/organism in the controls. The percent coefficient of variation (%CV) values for the fathead minnow control for survival and growth were 4.79 and 9.67. The <u>Ceriodaphnia dubia</u> survival rates were 100% in the control. The <u>Ceriodaphnia</u> in the control produced an average of 21.6 young over the seven-day exposure period. Percent CV values for <u>Ceriodaphnia dubia</u> control survival and reproduction was 0.00 and 15.92. Control data met or exceeded all criteria set out by <u>EPA 821-R-02-013</u> for test acceptance.

CONCLUSIONS

The No Observed Effect Concentration (NOEC) for <u>Pimephales promelas</u> was 97% for survival and 97% for growth. The No Observed Effect Concentration (NOEC) for <u>Ceriodaphnia dubia</u> was 97% for Survival and 97% for Reproduction. The tests were ran using a synthetic control against effluent concentrations of 31%, 41%, 55%, 73%, and 97%. The effluent sampled on 6-10-19, 6-12-19, and 6-14-19 exhibited acceptable chronic toxicity in <u>Pimephales promelas</u> and in <u>Ceriodaphnia dubia</u> during the exposure period as described in <u>EPA 821-R-02-013</u>.

APPENDIX C

REFERENCE TOXICANTS

The absence of significant control mortality during this test indicated the health of the organisms and indicated that any significant mortality in the test concentrations was not due to contaminants or variations in testing conditions.

Reference toxicity testing is routinely performed by staff members in our biomonitoring - bioassay laboratory.

Start: 5/21/19 11:45

End: 5/28/19 11:00

Reference Toxicant (NaCl) Pimephales promelas

TOTOTOTO TOXIC	ant (Nach)	<u>i imepitatee</u>	promoteo	
Concentration		Avg. # of Live Org	anisms/replicate	
of Toxicant	0 6	24 bro	10 hra	7 days
	0 hrs	24 hrs	48 hrs	7 days
10 g/l	40	7	2	0
8 g/l	40	32	24	6
6 g/l	40	34	32	25
4 g/l	40	40	40	40
2 g/l	40	40	40	40

IC25 (5.09 g/l Sodium Chloride)

Survival NOEC: 4.0 g/l

Reference Toxicant (NaCl) Ceriodaphnia Dubia

TOTOTOTIOG TOXIS	ount (maon)	00110000		
Concentration		Avg. # of Live Or	ganisms/replicate	9
of Toxicant				
	0 hrs	24 hrs	48 hrs	7 days
2.5 g/l	10	4	0	0
2.0 g/l	10	10	7	1
1.5 g/l	10	10	10	10
1.0 g/l	10	10	10	10
0.5 g/l	10	10	10	10

IC25 (1.22 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: Timothy Harrell, Technical Director

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
	-			-	2
EXPECTED OBSERVED	2.010 4	7.260 0	11.460 26	7.260 0	2.010 0

Calculated Chi-Square goodness of fit test statistic = 36.9480 Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The first three homogeneity tests are sensitive to non-normal data and should not be performed.

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

D = 0.043

W = 0.596

Critical W (P = 0.05) (n = 30) = 0.927Critical W (P = 0.01) (n = 30) = 0.900

Data FAIL normality test. Try another transformation.

Warning - The first three homogeneity tests are sensitive to non-normal data and should not be performed.

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	0.991	1.107	1.084
	• • • • • • • • • • • • • • • • • • • •	_	1.107	1.107	1.107
2	31%	5	1.10/	1.10/	
3	41%	5	1.107	1.107	1.107
4	FF0	_	0.991	1.107	1.084
4	55%	5	0.991	1.10/	
5	73%	5	0.991	1.107	1.084
_	0.79	_	0 001	1.107	1.084
6	97%	5	0.991	1.10/	1.004
				나는 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그 그	

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VAR	IANCE	SD	SEM	C.V. %
1	CONTROL		0.003	0.052	0.023	4.79
2	31%		0.000	0.000	0.000	0.00
3	41%	6:	0.000	0.000	0.000	0,00
4	55%		0.003	0.05	2 0.023	4.79
5	73%		0.003	0.05	0.023	4.79
6	97%		0.003	0.05	0.023	4.79

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

7.5.7.5.				
SOURCE	DF	SS	MS	F
Between	5	0.004	0.001	0.400
Within (Error)	24	0.043	0.002	
Total	29	0.047		

Critical F value = 2.62 (0.05, 5, 24)

Since F < Critical F FAIL TO REJECT Ho: All equal

60305252 Springdale FATHEAD SURVIVAL

File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S	TEST	TABLE	1	OF	2	Ho:Control <treatment< th=""></treatment<>

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	1.084	0.780		
2	31%	1.107	0.800	-0.866	
3	41%	1.107	0.800	-0.866	
4	55%	1.084	0.780	0.000	
5	73%	1.084	0.780	0.000	
6	97%	1.084	0.780	0.000	

Dunnett table value = 2.36 (1 Tailed Value, P=0.05, df=24,5)

60305252 Springdale FATHEAD SURVIVAL File: 6305252A Transform: ARC SINE(SQUARE ROOT(Y))

	DUNNETT'S TEST -	TABLE 2 O	F 2 Ho	:Control<	Treatment
GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	3.1%	5	0.054	7.0	-0.020
3	41%	5	0.054	7.0	-0.020
4	55%	5	0.054	7.0	0.000
5	73%	5	0.054	7.0	0.000
6	97%	5	0.054	7.0	0.000

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.034

W = 0.965

Critical W (P = 0.05) (n = 30) = 0.927Critical W (P = 0.01) (n = 30) = 0.900

Critical W (P = 0.01) (N = 30) \leq 0.900

Data PASS normality test at P=0.01 level. Continue analysis.

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

Downlottle test for homogeneity of variance

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 1.45

Table Chi-square value = 15.09 (alpha = 0.01, df = 5) Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	0.312	0.401	0.370
2	31%	5	0.294	0.372	0.337
3	41% 55%	5 5	0.293 0.320	0.398 0.395	0.353 0.361
5	73%	5	0.302	0.384	0.353
6	97%	5	0.301	0.431	0.350

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1 2 3 4 5	CONTROL 31% 41% 55% 73%	0.001 0.001 0.002 0.001 0.001 0.002	0.036 0.029 0.042 0.032 0.035 0.049	0.016 0.013 0.019 0.014 0.016 0.022	9.67 8.48 11.87 8.78 9.85 14.09

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.003	0.001	0.427
Within (Error)	24	0.034	0.001	
Total	29	0.037		

Critical F value = 2.62 (0.05,5,24)

Since F < Critical F FAIL TO REJECT Ho: All equal

60305252 Springdale FATHEAD GROWTH

File: 6305252B Transform: NO TRANSFORMATION

LE 1 OF 2 Ho:Control<Treatment

DUNNETT'S TEST - T.	ABLE	1	OF
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GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	0.370	0.370		
2	31%	0.337	0.337	1.379	
3	41%	0.353	0.353	0.698	
4	55%	0.361	0.361	0.378	
5	73%	0.353	0.353	0.706	
6	97%	0.350	0.350	0.841	

Dunnett table value = 2.36 (1 Tailed Value, P=0.05, df=24,5)

60305252 Springdale FATHEAD GROWTH
File: 6305252B Transform: NO TRANSFORMATION

	DUNNETT'S TEST -	TABLE 2 O	F 2 Ho	:Control<	Treatment
GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	31%	5	0.056	15.2	0.033
3	41%	5	0.056	15.2	0.017
4	55%	5	0.056	15.2	0.009
5	73 %	5	0.056	15.2	0.017
6	97%	5	0.056	15.2	0.020
0	3,0	_			

FISHER'S EXACT TEST

	NUMBER OF				
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS		
CONTROL	10	0	10		
31%	10	0	10		

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10. Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

TOTAL

FISHER'S EXACT TEST

			NUMBER OF		
IDENTIFICA	ATION	ALIVE	DEAD	TOTAL ANIMALS	
	CONTROL	10	0	10	
	41%	10	0	10	
	TOTAL	20	^	20	
=======================================	101AL	 :==========	:========	=======================================	

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10. Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

	NUMBER OF				
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS		
CONTROL	10	0	10		
55%	10	0	10		
			Page 34 of 47		

20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10. Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

	NUMBER OF		
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
73%	10	0	10
TOTAL	20	0	20

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10. Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

FISHER'S EXACT TEST

=======================================	NUMBER OF		
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
97.%	10	0	10
TOTAL	20 =======	0	20 ====================================

CRITICAL FISHER'S VALUE (10,10,10) (p=0.05) IS 6. b VALUE IS 10. Since b is greater than 6 there is no significant difference between CONTROL and TREATMENT at the 0.05 level.

SUMMARY OF	FISHER'S	EXACT	TESTS
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GROUP	IDENTIFICATION	EXPOSED	DEAD	(P=.05)
	CONTROL	10	0	
1	31%	10	0	
2	41%	10	0	
3	55%	10	0	
4	73%	10	0	
5	97%	10	0	

60305252 Springdale CERIODAPHNIA DUBIA SURVIVA File: 6305252D Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	1.000	1.000	1.000
2	31%	10	1.000	1.000	1.000
3	41%	10	1.000	1.000	1.000
4	55%	10	1.000	1.000	1.000
5	73%	10	1.000	1.000	1.000
6	97%	10	1.000	1.000	1.000

60305252 Springdale CERIODAPHNIA DUBIA SURVIVA File: 6305252D Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.000	0.000	0.000	0.00
2	31%	0.000	0.000	0.000	0.00
วี	4 1 원	0.000	0.000	0.000	0.00
4	55%	0.000	0.000	0.000	0.00
5	73%	0.000	0.000	0.000	0.00
6	97%	0.000	0.000	0.000	0.00

60305252 Springdale CERIODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED OBSERVED	4.020	14.520 11	22.920	14.520 19	4.020

Calculated Chi-Square goodness of fit test statistic = 2.7702 Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60305252 Springdale CERIODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 2.74

Table Chi-square value = 15.09 (alpha = 0.01, df = 5) Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

60305252 Springdale CERIODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
====					
1	CONTROL	10	17.000	27.000	21.600
2	31%	10	19.000	28.000	23.900
3	41%	10	15.000	27.000	22.400
4	55%	10	16.000	28.000	22.400
5	73%	10	15.000	24.000	21.100
6	97%	10	16.000	28.000	21.600

60305252 Springdale CERIODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	V	ARIANCE	SD	SEM	C.V. %
1	CONTROL		11.822	3.438	1.087	15.92
2	31%		7.433	2.726	0.862	11.41
3	41%	*:	13.378	3.658	1.157	16.33
4	55%		17.822	4.222	1.335	18.85
5	73%		8.100	2.846	0.900	13.49
6	97%		16.711	4.088	1.293	18.93

60305252 Springdale CERIODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	48.933	9.787	0.780
Within (Error)	54	677.400	12.544	
Total	59	726.333		

Critical F value = 2.45 (0.05, 5, 40)

Since F < Critical F FAIL TO REJECT Ho: All equal

60305252 Springdale CERTODAPHNIA DUBIA REPRODU

File: 6305252E Transform: NO TRANSFORMATION

DUNNETT'S	TEST		TABLE	1	OF	1

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	21.600	21.600		
2	31%	23.900	23.900	-1.452	
3	41%	22.400	22.400	-0.505	
4	55%	22.400	22.400	-0.505	
5	73%	21.100	21.100	0.316	
6	97%	21.600	21.600	0.000	

Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5)

60305252 Springdale CERIODAPHNIA DUBIA REPRODU File: 6305252E Transform: NO TRANSFORMATION

	DUNNETT'S TEST -	TABLE 2 O	F 2 Ho	:Control<	Treatment
GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
$\omega = -\infty$					
1	CONTROL	10			
2	3.1%	10	3.659	16.9	-2.300
3	41%	10	3.659	16.9	-0.800
4	55%	10	3.659	16.9	-0.800
5	73%	10	3.659	16.9	0.500
6	97%	10	3.659	16.9	0.000

Conc. ID		1	2	3	4	5	6
Conc. Tes	ted	0	31	41	55	73	97
Response Response Response Response Response	1 2 3 4 5	.362 .401 .377 .312 .396	.342 .329 .347 .394 .372	.367 .378 .293 .329	.336 .320 .383 .395	.302 .332 .369 .384	.333 .329 .354 .431

*** Inhibition Concentration Percentage Estimate ***

Toxicant/Effluent: Springdale Test Start Date: 6/11/19 Test Ending Date: 6/18/19

Test Species: Fathead

7 day Test Duration:

DATA FILE:

Conc.	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1 2 3 4 5	5 5 5 5 5 5	0.000 31.000 41.000 55.000 73.000 97.000	0.370 0.357 0.353 0.361 0.353 0.350	0.036 0.026 0.042 0.032 0.035 0.049	0.370 0.357 0.357 0.357 0.353 0.350

^{***} No Linear Interpolation Estimate can be calculated from the input data since none of the (possibly pooled) group response means were less than 75% of the control response mean.

Conc. ID		1	2	3	4	5	6
Conc. Tes	sted	0	31	41	55	73	97
Response	1	22	26	21	25	21	18
Response	2	21	24	27	16	23	25
Response	3	17	20	23	25	15	23
Response	4	27	25	18	25	22	18
Response	5	18	23	25	26	21	22
Response	6	23	24	22	21	24	17
Response	7	24	26	24	19	23	24
Response	8	18	19	26	23	24	28
Response	9	20	28	15	16	18	25
Response	10	26	24	23	28	20	16

*** Inhibition Concentration Percentage Estimate ***

Toxicant/Effluent: Springdale Test Start Date: 6/11/19 Test Ending Date: 6/18/19

Test Species: Dubia

Test Duration: 7 day

DATA FILE:

Conc.	Number	Concentration	Response	Std.	Pooled
ID	Replicates		Means	Dev.	Response Means
1 2 3 4 5	10 10 10 10 10 10	0.000 31.000 41.000 55.000 73.000 97.000	21.600 23.900 22.400 22.400 21.100 21.600	3.438 2.726 3.658 4.222 2.846 4.088	22.750 22.750 22.400 22.400 21.350 21.350

^{***} No Linear Interpolation Estimate can be calculated from the input data since none of the (possibly pooled) group response means were less than 75% of the control response mean.



CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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				ADDITIONAL COMMENTS												EFFLUENT	SAMPLE ID One Character per box. (A-Z, 0-91, , -) Sample Ids must be unique			Phone: 479-756-3657 Fax:	Springdale, AR 72762 Fmail: hstewart@springdalewaler.com	2910 Silent Grove Road		Section A Required Client Information:
				RE												iva	MATRIX Dinking Water DW Water WW Water WM Product P Sol/Solid OL Wipe Arr Other OT Tissue TS MATRIX MATRIX MATRIX MATRIX MATRIX MATRIX MATRIX DOE Is see valid codes to	41	Project #:	Project Name:	Purchase Order	Copy To:	Report To: Br	Section B Required Project Information:
PRINT Na SIGNATU	SAMPLER NAM			RELINQUISHED BY / AFFILIATION												~ C 06/04/19 0500 06/10/19	SAMPLE TYPE (G=GRAB C=COMP COLLECTED DATE TIME DATE	-		Project Name: WET Test	# 00 00 00 00 00 00 00 00 00 00 00 00 00		Brad Stewart	tt Information:
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Frank Pigtkows		(Martos														H2SO4 HNO3 Preservatives NaOH Na2S2O3 Methanol Other), line	t Manager:	luote:	Address:	n:	Section C Invoice Information:
DATE Signed: 26/10/19-		-	and love	CCEPTED BY I AFFILLATION												×	Analyses Test Y/N Chronic Wet Test	Requested Analysis		eff shopper@pacelabs.com				
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8580			8:68	TIME														(Y/N)		DION D				٩
TEMP in	С		1.0													2	Residual Chlorine (Y/N)			State /		Regulato		Page:
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Cooler (Y/N) Samples Intact (Y/N)			Y	SNO												D	352							1

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

				12	11	10	9	œ	7	თ	(J)	4	ω	2	1	ITEM#		Requested	Phone:	Email: b	Springdale	Address:	Company	Section A
			ADDITIONAL COMMENTS												EFFLUENT (SWWTP	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample ids must be unique		Requested Due Dale:	479-756-3657 Fax	Email: bslewart@springdalewater.com	Springdale, AR 72762	2910 Silent Grove Road	Company: Springfold Webs Helition	Client Information:
			RELI												P) WW	MATRIX CODE Dinking Water DW Water WW Water WW Work Soll/Solid S OI OI Other TS Sue MATRIX CODE MATRIX CODE MATRIX CODE MATRIX CODE	left)	Project #:	Project Name:	Purchase Order #:		- 1	Report To: Brad	Section B Required Project Information:
PRINT	SAMPLER		RELINQUISHED BY I AFFILIATION												C 06/14/19 0800	SAMPLE TYPE (G=GRAB C=COLLECTED START DATE TIME DAT	MP)		WET Test	Purchase Order #: 0020883 00		Commis	Stewart	Information:
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	THOM WELL	13/19 8:00 2	DATE TIME	H														Filtered (Y/N)			Re			Page:
Received of loce (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)		N X X	SAMPLE CONDITIONS												NJab-cc/	Residual Chlorine (Y/N)	1 10		State / Location		Regulatory Agency			1 Of 1

Sample Condition Upon Receipt

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:e]sd			Project Manager Review:
				Comments/ Resolution:
			:əu	Person Contacted: Date/Tir
Field Data Required? Y / N	N /	Х		Client Notification/ Resolution: Copy COC to C
	AIN	oN□	S∋Y□	Additional labels attached to 5035A / TX1005 vials in the field?
	ANN	oN□	S∌Y□	Samples from USDA Regulated Area: State:
	ANN	oN□	∆Yes	Headspace in VOA vials (>6mm):
	ANN	oN□	sə从□	Trip Blank present:
		oN□	sə人	Potassium iodide test strip turns blue/purple? (Preserve)
		oN□	sə从□	Lead acetate strip turns dark? (Record only)
				Cyanide water sample checks:
				(Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)
date/time added.	V			(HNO ₅ , H ₂ SO ₄ , HCK2; NaOH>9 Sulfide, NaOH>10 Cyanide)
List sample IDs, volumes, lot #'s of preservative and the	ANN	oN□	S∌从□	Containers requiring pH preservation in compliance?
	A\N □	oN X	S∋√□	Samples contain multiple phases? Matrix:
	A\N 🗆	oN□	SƏAX	Sample labels match COC: Date / time / ID / analyses
	ANN	oN□	s∋Y□	Filtered volume received for dissolved tests?
	ANN	oN□	S∋Y□	Sand84 ni nasoni alioa 3001/3001XT \ A3603 bavresenqnU
	A/N 🗆	oN□	SƏAX	Containers intact:
	A\N 📋	oN□	SƏA	Pace containers used:
	A\N□	oN□	səA	Correct containers used:
	∀/N □	oN□	SƏA	Sufficient volume:
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	A\N□	oN□	, kes	Short Hold Time analyses (<72hr):
	A∖N□	oN□	SOL	
	A∖N□	ON	□Yes	Chain of Custody relinquished:
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W/51/9				C°0 of gniseart evods ed bluods enutraeqmeT
ed & O be	Correct	0	1	Cooler Temperature (°C): As-read O-7 Corr. Factor
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lò ႓ez ☐ No 📶	el Used	дет в	niqqida	Tracking #:
Pace \(\text{\tint{\text{\tin}}\text{\tex{\tex		ECI		
				Client Name:

CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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					ADDITIONAL COMMENTS												EFFLUEIVT (SWWTP)	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample ids must be unique		on services	Requested Due Date:	ringdalewater.c	Springdale, AR 72762	2910 Silent Grove Road	Company: Springdale Water Utilities	Q Client Information:
					RE												W	MATRIX CODE (see valid cod	CODE		"Toject#	Purchase Order #:		11	Report To: Br	Section B Required Project Information:
				1	LINQUI			-		-		-					D MM	SAMPLE TYPE (G=GRAB C			44.	# C)		Brad Stewart	et Info
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ω P	SAMP				RELINQUISHED BY I AFFILIATION												119 0300	START	COL			2883	3			2
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MANIS	20				TIME			L		1	-	\perp	-		-	-	X	Unpreserved H2SO4		П	Pace Profile #:	Pace Project Manager:	SS:	Company Name:	lion:	Section C Invoice Information:
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TEMP in	С			0/	1		_			_					34		Z	Residual Chlorine (Y/N)		W	$\ \ $	State /	eguiac	and a		e
Received Ice	l on		7	_	SAMP																Ŗ	State / Location	Regulatory Agency	2		_
(Y/N) Custody				Ľ	SAMPLE CONDITIONS																	lon	епсу			
Sealed Cooler			1		NDITIO																					ರ
(Y/N)			-	-	SNO																					
Samples Intact)	1	1																П	8				
(Y/N)														_1_				.L			ш					

Sample Condition Upon Receipt



3	əjs0			Project Manager Review:
*				
		4		
				omments/ Resolution:
			niT\ətsQ	erson Contacted:
Field Data Required? Y / N	N/A		Copy COC to	Slient Notification/ Resolution:
	AND OND	\$9Y	OO5 vials in the field?	XT \ A2603 of bedastis aledal lanoitibb/
		sə∀□	State	samples from USDA Regulated Area:
	AND ON [S∋Y□		:(mm6<) alsiv AOV ni əpsqabsəf
	AVANCE ON [∆es		rip Blank present:
	oN□	S∌Y□	ole? (Preserve)	otassium iodide test strip turns blue/purp
	ON [\$⊕\□	المار)	-ead acetate strip turns dark? (Record or
				Syanide water sample checks:
				Exceptions: VOA, Micro, O&G, KS TPH, OK-
date/time added		00117		HNO3, H ₂ SO4, HCI<2; NaOH>9 Sulfide, NaOH
List sample IDs, volumes, lot #'s of preservative and the		\Yes \		Sontainers requiring pH preservation in c
		. sə∧[]	Yatrix: LTC	
	A\N□ oÿ□	NY es	sagylsns / Ol	Sample labels match COC: Date / time /
	AND ON 🗆	\$∂A□/	4	-iltered volume received for dissolved tea
	A\M ON	, Alves	frozen in 48hrs?	Jnpreserved 5035A / TX1005/1006 soils
	AND OND	SƏĀZ		tostni anenistnoC
	AND OND	SOAD		bace containers used
, .	AND OND	XAGS		Correct containers used:
	A\N ON	Ayes		λυfficient volume
	AIN ON	. □Yes		Sush Turn Around Time requested:
	A\N ON	Kkes	,	short Hold Time analyses (<72hr):
NATIONAL PROPERTY OF THE PROPE	AND OND	5924	51/1	samples arrived within holding time:
	AIN ON	52)	- EN	bedsiupriller ybotsuO to nisdC
008,0, EU	A\N ON	səX		Chain of Custody present:
6//5//9				Comperature should be above freezing to 6°C
fed // examining contents:	Correct	710	/ Corr. Facto	Sooler Temperature (°C): As-read
Date and initials of person	0		7) /	
	,	محسنيات	Type of	hermometer Used: 1-243
None ズ Other □	_ mso∃		/	□ Sacking Material: Bubble Wrap
Seal on Cooler/Box Present: Yes Y 🗅 🗅 Seals intact: Yes 🛣 No 🗆				
qs √es □ No 🗖	ng Label Use	iiqqiA2 e	posq ,	racking #:
□ Sace □ Xroads □ Client □ Other □	ECI [□ X∃	Clay 🗆 P	ourier: FedEx □ UPS □ VIP
			9/16	Slient Name: Spring
			7	