

May 23, 2022

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

RE: Project: WET TEST Pace Project No.: 60399832

Dear Brad Stewart:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network: • Pace Analytical Services - SE Kansas

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

Sincerely,

Jelley Shap

Jeffrey Shopper jeff.shopper@pacelabs.com 1(913)563-1408 Project Manager

Enclosures





CERTIFICATIONS

Project: WET TEST Pace Project No.: 60399832

Pace Analytical Services Southeast Kansas

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 #: T104704558-21-3 Utah Certification #: KS00021



SAMPLE SUMMARY

Project:	WET TEST			
Pace Project No	o.: 60399832			
Lab ID	Sample ID	Matrix	Date Collected	Date Received
60399832001	SWWTF EFFLUENT	Water	05/09/22 08:00	05/10/22 08:00



SAMPLE ANALYTE COUNT

Project:	WET TEST	
Pace Proiect No.:	60399832	

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60399832001	SWWTF EFFLUENT	EPA 821/R-02/013	MEB	1	PASI-SE

PASI-SE = Pace Analytical Services - SE Kansas



ANALYTICAL RESULTS

J	'ET TEST)399832									
Sample: SWWTF EFF	FLUENT	Lab ID: 603	99832001	Collected:	05/09/2	2 08:00	Received:	05/10/22 08:00	Matrix: Water	
Parameter	rs	Results	Units	Report	Limit	DF	Prepared	Analyzed	CAS No.	Qual
Chronic Toxicity		Analytical Met Pace Analytic								
Toxicity, Chronic		Complete			1.0	1		05/10/22 13:0	00	



QUALIFIERS

Project: WET TEST Pace Project No.: 60399832

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.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Pace Project No.:	WET TEST 60399832				
Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Batch
60399832001	SWWTF EFFLUENT	EPA 821/R-02/013	787676		

					WO#:60399832
	Pace	DC#_Title: ENV	-FRM-LENE-00	09_Sample	
	I ANALYTICAL SERVICES	Revision: 2	Effective Date	: 01/12/2022	2
Client Nar	ne: Sol	ingdale			
Courier:	FedEx D UPS		/ 🗆 PEX 🗆	ECI D P	ace 🗆 Xroads 🗆 Client 🗆 Other 🗆
Tracking #:		1	Pace Shipping	Label Used?	Yes No 60399832
Custody Sea	l on Cooler/Box	Present: Yes 🗆 N	lo □ Seals int	act: Yes 🗆	No [] 605770Ja
Packing Mate	erial: Bubbl	e Wrap 🗆 🛛 Bubbl	e Bags 🗆	Foam 🗆	None Other
Thermomete			Type of Ice: Wet		
Cooler Temp	erature (°C):	As-read <u>5. 6</u> Co	orr. Factor <u>-0.8</u>	Corrected	5.0 examining contents:
Temperature st	nould be above free	zing to 6°C	· · · · · · · · · · · · · · · · · · ·		JS 5/10/2280
Chain of Cust	tody present:		XYes 🗀	No 🗆 N/A	
Chain of Cust	tody relinquished:		ret Yes	No 🗆 N/A	
Samples arriv	red within holding	time:	Yes 🗆	No 🗆 N/A	
Short Hold T	ime analyses (<	72hr):	XYes 🗆	No 🗆 N/A	
Rush Turn A	round Time requ	uested:	□Yes X	No □N/A	Ā
Sufficient volu	ume:		XYes 🗆	No 🗆 N/A	
Correct conta	iners used:		XYes 🗆	No 🗆 N/A	
Pace containe	ers used:		XYes 🗆	No 🗆 N/A	
Containers inf	tact:		XYes 🗆	No 🗆 N/A	
Unpreserved	5035A / TX1005/	1006 soils frozen in 48	hrs? 🗆 Yes 🗆	No XN/A	
Filtered volum	ne received for dis	ssolved tests?	□Yes □	No XN/A	к.
Sample labels	s match COC: Da	te / time / ID / analyses	; XYes □	No 🗆 N/A	×
Samples cont	ain multiple phase	es? Matrix:	□Yes X	No 🗆 N/A	
Containers re	quiring pH preser	vation in compliance?	🗌 Yes 🗋		st sample IDs, volumes, lot #'s of preservative and the
	HCl<2; NaOH>9 St OA, Micro, O&G, KS	ulfide, NaOH>10 Cyanide		da	ate/time added.
	r sample checks:		LOT#:	9	
	strip turns dark? (🗆 Yes 🗆	No	
Potassium ioc	lide test strip turn	s blue/purple? (Preser	ve) 🛛 Yes 🗆	No	
Trip Blank pre	esent:		🗌 Yes 🗌	No XN/A	
Headspace in	VOA vials (>6m	m):	🗌 Yes 🗌	No XN/A	
Samples from	USDA Regulated	d Area: State:	🗌 Yes 🗋	No XN/A	
)35A / TX1005 vials in		No XN/A	18
	ation/ Resolutio	n: Cor		Y / N	Field Data Required? Y / N
Person Conta			Date/Time:		
Comments/ R	esolution:				
	П	[]			
Project Manag		<u>ettren Shat</u>	Mer	Date:	
. sjoor mandy			T	Date	

Pace Analytical

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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	Company:	Springdale Water Utilities	Report To:	Brad S	Stewart					Attenti	on:									Γ						
	Address:	2910 Silent Grove Road	Copy To:							Comp	any Nar	me:														
Construction Description Texture Description Description Construction Exercision Exercision </td <td>Springdale, AF</td> <td>R 72762</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Addres</td> <td>SS:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>102.00</td> <td>1</td> <td>Redu</td> <td>latory A</td> <td>BUCV</td> <td>a south</td>	Springdale, AF	R 72762								Addres	SS:										102.00	1	Redu	latory A	BUCV	a south
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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 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

May 19, 2022

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REFERENCE #60399832

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 May 9, 2022 to May 13, 2022. 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 <u>EPA 821-R-02-013</u>, November 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 100% 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 100% for survival. No significant reduction in growth was observed in the 100% effluent concentration. The Toxic Units is <1. The IC25 is >100. The NOEC for growth in effluent was determined to be 100%. The PMSD is 15.9.

In Cladoceran section of testing, it was observed that the effluent had no significant effect on the survival of the organisms in the 100% 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 100% for survival. No significant reduction in reproduction was observed in the 100% effluent concentrations. The Toxic Units is <1. The IC25 is >100. The NOEC for reproduction in effluent was determined to be 100%. The PMSD is 11.5.

The chronic toxicity exhibited by the fathead minnows and the <u>Ceriodaphnia</u> treated by the effluent sampled from May 9 to May 13 from the SPRINGDALE WATER UTILITIES. effluent discharge, is acceptable as described in <u>EPA 821-</u><u>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</u> <u>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 5-10-22. Subsequent samples followed by delivery on 5-12-22, and on 5-14-22. 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 <u>EPA 821-R-02-013</u>.

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 5-10-22 and carried out until 5-17-22. The Pimephales tests were conducted in 500 ml plastic jars with 250 ml of test solution. Ten larvae were placed in each of at least 5 replicates to make a total of 50 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

Organisms used in these tests were cultured at Pace under controlled temperature and photo period conditions and/or were purchased from an external supplier. Pace maintains records of culture techniques for all organisms, whether produced in house or purchased.

Results

TABLE 1

Permittee: SPRINGDALE WATER UTILITIES. Effluent discharge,

Date Sampled	No. 1: 5-9-22	8:00
	No. 2: 5-11-22	8:00
	No. 3: 5-13-22	8:00
Test Initiated: 13:00 Test End: 13:15	Date: 5-10-22 Date: 5-17-22	

Critical Dilution:	100%
Ceriodaphnia dubia	Results
TLP3B	0
TGP3B	0
ТОРЗВ	100
ТРРЗВ	100
TQP3B	10.85
Pimephales promelas	Results
TLP6C	0
TGP6C	0
TOP6C	100
ТРР6С	100
ТДР6С	4.44

REFERENCE #60399832

Dilution Water used: Moderately Hard Synthetic Water

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL (<u>Pimephales promelas</u>)

	DATA	IABLE F	OR GROV		ATHEAD	MINNOVVS	
Effluent Concentration	Averag		eight in Mi te Chamb	÷		Mean Dry Weight	CV% *
(%)	A	В	С	D	E	(mg)	
Control 0%	0.546	0.494	0.527	0.524	0.533	0.525	3.65
Dilution 1 32%	0.549	0.587	0.494	0.469	0.408	0.501	13.90
Dilution 2 42%	0.597	0.575	0.605	0.426	0.533	0.547	13.39
Dilution 3 56%	0.516	0.481	0.614	0.578	0.576	0.573	6.19
Dilution 4 75%	0.625	0.502	0.498	0.412	0.452	0.498	16.09
Dilution 5 100%	0.552	0.538	0.478	0.547	0.511	0.545	4.44

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

* Coefficient of Variation = Standard Deviation X 100 / Mean

FATHEAD MINNOW SURVIVAL

Conc. %	Percent Survival in Replicate Chambers			Mean Percent Survival			CV %		
	Α	В	С	D	E	24hr	48hr	7 day	
Control 0%	100	100	100	100	100	100	100	100	0.00
Dilution 1 32%	100	100	100	100	90	100	100	98.0	5.28
Dilution 2 42%	100	100	100	90	100	100	100	98.0	5.28
Dilution 3 56%	100	100	100	100	100	100	100	100	0.00
Dilution 4 75%	100	100	100	80	90	100	100	94.0	10.44
Dilution 5 100%	100	100	100	100	100	100	100	100	0.00

Permittee: SPRINGDALE WATER UTILITIES. Effluent discharge.

CERIODAPHNIA SURVIVAL AND REPRODUCTION

DATA TABLE FOR <u>CERIODAPHNIA</u> YOUNG PRODUCTION

Replicate	Control	Dilution 1	Dilution 2	Dilution 3	Dilution 4	Dilution 5
	0%	32%	42%	56%	75%	100%
1	23	22	24	23	19	20
2	21	19	18	18	23	25
3	21	23	20	20	22	19
4	16	22	21	25	21	22
5	22	20	25	23	22	18
6	20	21	21	22	18	21
7	20	22	22	20	20	23
8	19	16	23	19	22	24
9	22	23	16	21	25	19
10	21	17	19	21	21	21
Mean	20.5	20.5	20.9	21.2	21.3	21.2
SD	1.958	2.461	2.767	2.098	2.003	2.300
CV %	9.55	12.00	13.24	9.89	9.40	10.85

CERIODAPHNIA MEAN PERCENT SURVIVAL

	Percent Effluent (%)						
Time	Control Dilution 1 Dilution 2 Dilution 3 Dilution 4 Dilutio						
Elapsed	0%	32%	42%	56%	75%	100%	
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	0.0	0.0	0.0	0.0	0.0	0.0	
CV %	0.0	0.0	0.0	0.0	0.0	0.0	

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

	AL 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	10
11. No. replicates/concentration	5
12. No. larvae/concentration	50
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
16. Dilution Water	Moderately Hard Synthetic Water prepared with MILLI-Q deionized water and reagent grade chemicals
17. Effluent concentrations	0%, 32%, 42%, 56%, 75%, 100%
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
	25 degrade Calaina
2. Temperature	25 degrees Celsius
3. Light quality	Ambient laboratory light
4. Light intensity	Ambient laboratory levels
	Ambient laboratory levels
5. Photoperiod	16 hr light, 8 hr dark
6. Test chamber size	30 ml
7. Test solution volume	25 ml
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%, 32%, 42%, 56%, 75%, 100%
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 (<u>Pimephales promelas</u>) CHEMICAL PARAMETERS CHART

Permittee: SPRINGDALE WATER UTILITIES Effluent discharge.

ANALYSTS: Pace Analytical Services, Inc. Timothy Harrell Mike Bollin

TABLE 2 (SECTION 2)

INITIAL WATER QUALITY EFFLUENT CONCENTRATION

	Control	100%
PH	7.6	8.4
D.O.	8.0	7.7
Temp	25.0	25.0
Alk	60	118
Hard	90	134
Cond	344	505
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 Chlorine is reported as mg/L

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.2	6.9	25.1
32% Effluent	7.3	6.9	25.0
42% Effluent	7.4	6.8	25.0
56% Effluent	7.5	6.8	25.0
75% Effluent	7.6	6.8	25.0
100% Effluent	7.6	6.8	25.0

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.4	6.9	25.0
32% Effluent	7.6	6.9	24.9
42% Effluent	7.6	6.9	24.9
56% Effluent	7.7	7.0	24.9
75% Effluent	7.8	7.1	24.9
100% Effluent	8.1	7.2	24.9

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Control	100%
рН	7.5	7.9
D.O.	7.1	7.3
Temp	25.1	25.0
Alk	62	122
Hard	94	110
Cond	384	568

* 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 100. The mean dry weight (growth) of the <u>Pimephales promelas</u> was determined at 0.525 g/organism in the controls. The percent coefficient of variation (%CV) values for the fathead minnow control for survival and growth were 0.00 and 3.65. The <u>Ceriodaphnia</u> dubia survival rates were 100 in the control. The <u>Ceriodaphnia</u> in the control produced an average of 20.5 young over the seven-day exposure period. Percent CV values for <u>Ceriodaphnia dubia</u> control survival and reproduction was 0.00 and 9.55. Control data met or exceeded all criteria set out by <u>EPA 821-R-02-013</u> for test acceptance.

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: 4/5/22 11:30 End: 4/12/22 11:00

Reference Toxica	ant (NaCl)	Pimephales				
Concentration of Toxicant		Avg. # of Live Organisms/replicate				
	0 hrs	7 days				
10 g/l	40	5	3	0		
8 g/l	40	31	21	7		
6 g/l	40	37	29	25		
4 g/l	40	40	40	40		
2 g/l	40	40	40	38		

IC25 (5.11 g/l Sodium Chloride)

Survival NOEC: 4.0 g/l

Reference Toxica	nt (NaCl)					
Concentration of Toxicant		Avg. # of Live Organisms/replicate				
	0 hrs	24 hrs	48 hrs	7 days		
2.5 g/l	10	3	0	0		
2.0 g/l	10	8	7	3		
1.5 g/l	10	10	10	9		
1.0 g/l	10	10	10	9		
0.5 g/l	10	10	10	10		

IC25 (1.15 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: Jim Harrell

Timothy Harrell, Technical Director

60399832 SPRINGDALE FATHEAD SURVIVAL File: 6399832A Transform: ARC SINE(SQUARE ROOT(Y))								
Chi-square test for normality: actual and expected frequencies								
		-1.5 to <-0.5						
EXPECTED OBSERVED	2.010 3	7.260 1	11.460 23	7.260 3	2.010 0			
Table Chi-S Data FAIL n Warning -	quare value ormality te The first t	goodness of fit t e (alpha = 0.01) = est. Try another t three homogeneity hould not be perfo	= 13.277 transformation. tests are sensi		rmal			
		ATHEAD SURVIVAL Fransform: ARC SII	NE(SQUARE ROOT(Y))				
Shapiro - W	ilk's test	for normality						
D = 0.118								
W = 0.770								
Critical W (P = 0.05) (n = 30) = 0.927 Critical W (P = 0.01) (n = 30) = 0.900								
Data FAIL n	ormality to	est. Try another	transformation.					
	Warning - The first three homogeneity tests are sensitive to non-normal							

g - The first three homogeneity tests data and should not be performed.

60399832 SPRINGDALE FATHEAD SURVIVAL File: 6399832A Transform: ARC SINE(SQUARE ROOT(Y))

	SUMMARY S	TATISTICS	ON TRANSF	ORMED DATA	TABLE 1 O	f 2		
GRP	IDENTIFICATION		MIN		MEAN	*		
1 2 3	CONTROL 32% 42%	5 5 5	1.412 1.249 1.249	1.412 1.412 1.412	1.379 1.379			
4 5 6	75%	5	1.107	1.412 1.412 1.412	1.318			
	60399832 SPRINGDALE FATHEAD SURVIVAL File: 6399832A Transform: ARC SINE(SQUARE ROOT(Y)) SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2							
GRP	IDENTIFICATION	VARI	ANCE	SD	SEM	C.V. %		
1 2 3 4 5 6	CONTROL 32% 42% 56% 75% 100%		0.005 0.005 0.000 0.019	0.073 0.073 0.000 0.138		5.28 5.28 0.00 10.44		

60399832 SPRINGDALE FATHEAD SURVIVAL File: 6399832A Transform: ARC SINE(SQUARE ROOT(Y))

		ANOVA TABLE		
SOURCE	DF	SS	MS	F
Between	5	0.033	0.007	1.356
Within (Error)	24	0.118	0.005	
rotal	29	0.152		

60399832 SPRINGDALE FATHEAD SURVIVAL File: 6399832A Transform: ARC SINE(SQUARE ROOT(Y))

DUNNETT'S	TEST	-	TABLE	1	OF	2
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Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	1.412	1.000		
2	32%	1.379	0.980	0.734	
3	42%	1.379	0.980	0.734	
4	56%	1.412	1.000	0.000	
5	75%	1.318	0.940	2.108	
6	100%	1.412	1.000	0.000	
Dunnett	table value = 2.36	(1 Tailed V	alue, P=0.05, df=24	,5)	
	2 SPRINGDALE FATHEAD S 399832A Transfo		QUARE ROOT(Y))		
Γ	DUNNETT'S TEST - TA	ABLE 2 OF 2	Ho:Control<'	Freatment	
	 م	IUM OF Minimu	m Sig Diff % of	DIFFEREN	ICE

GROUP	IDENTIFICATION	REPS	(IN ORIG. UNITS)	CONTROL	FROM CONTROL
1	CONTROL	5			
2	32%	5	0.043	4.3	0.020
3	428	5	0.043	4.3	0.020
4	56%	5	0.043	4.3	0.000
5	75%	5	0.043	4.3	0.060
6	100%	5	0.043	4.3	0.000

60399832 SPRINGDALE FATHEAD GROWTH File: 6399832B Transform: NO TRANSFORMATION Shapiro - Wilk's test for normality D = 0.075 W = 0.966 Critical W (P = 0.05) (n = 30) = 0.927Critical W (P = 0.01) (n = 30) = 0.900Data PASS normality test at P=0.01 level. Continue analysis. 60399832 SPRINGDALE FATHEAD GROWTH File: 6399832B Transform: NO TRANSFORMATION Bartlett's test for homogeneity of variance Calculated B1 statistic = 11.14 ______ 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.

60399832 SPRINGDALE FATHEAD GROWTH File: 6399832B Transform: NO TRANSFORMATION

	SUMMARY ST	ATIST	ICS ON TRANS	FORMED DATA	TABLE 1 C
GRP	IDENTIFICATION	Ν	MIN	MAX	MEAN
1	CONTROL	5	0.494	0.546	0.525
2	32%	5	0.408	0.587	0.501
3	42%	5	0.426	0.605	0.547
4	56%	5	0.516	0.614	0.573
5	75%	5	0.412	0.625	0.498
6	100%	5	0.511	0.578	0.545
6000					
6039	9832 SPRINGDALE F	ATHEA	D GROWTH		

File: 6399832B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.000	0.019	0.009	3.65
2	32%	0.005	0.070	0.031	13.90
3	428	0.005	0.073	0.033	13.39
4	56%	0.001	0.035	0.016	6.19
5	75%	0.006	0.080	0.036	16.09
5				0.011	4.44
6	100%	0.001	0.024	0.011	4.44

60399832	SPRINGDALE	FATHEAD	GROW	ГН	
File: 639	99832B	Transt	Eorm:	NO	TRANSFORMATION

SOURCE	DF	SS	MS	F
Between	5	0.021	0.004	1.350
Within (Error)	24	0.075	0.003	
Total	29	0.097		

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

60399832 SPRINGDALE FATHEAD GROWTH File: 6399832B Transform: NO TRANSFORMATION DUNNETT'S TEST - TABLE 1 OF 2

Ho:Control<Treatment

GRQUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	0.525	0.525		
2	32%	0.501	0.501	0.660	
3	428	0.547	0.547	-0.632	
4	56%	0.573	0.573	-1.360	
5	75%	0.498	0.498	0.762	
6	100%	0.545	0.545	-0.575	
Dunnett	table value = 2.36	(I Tailed	Value, P=0.05, df=24,	5)	

60399832 SPRINGDALE FATHEAD GROWTH

File: 6399832B Transform: NO TRANSFORMATION

	DUNNETT'S TEST -	TABLE 2 O	F2 Ho	:Control<	Treatment
GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	328	5	0.084	15.9	0.023
3	42%	5	0.084	15.9	-0.022
4	56%	5	0.084	15.9	-0.048
5	75%	5	0.084	15.9	0.027
6	100%	5	0.084	15.9	-0.020

F	ISHER'S EXACT	TEST	
		NUMBE	======================================
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
32%	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.

FIS	SHER'S EXACT	TEST		
	NUMBER OF			
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS	
CONTROL	10	0	10	
42%	10	0	10	
TOTAL	20	0	20	
ODITION PICTURE (10 1)	(n-0)	5) TG 6 P	VALUE IS 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.

FISHER'S	EXACT	TEST
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		NUMBER OF				
IDENTIFICATION	ALIVE	DEAD	TOTAL ANIMALS			
CONTROL	10	0	10			
56%	10	0	10			

	TOTAL	20	0	20
CRITICAL FISHER'S Since b is greate between CONTROL and	er than 6 th	ere is no sign	nificant diff	VALUE IS 10. erence
	F	ISHER'S EXACT	TEST	
			NUMBE	R OF
IDENTIFICATION				TOTAL ANIMALS
	ONTROL	10	0	10
CC			0	10
CC	75%	10		
CRITICAL FISHER'S	TOTAL ====================================	20 ====================================	0 ====================================	20 ====================================
	TOTAL S VALUE (10, er than 6 th TREATMENT a	20 ====================================	0 ====================================	VALUE IS 10.
CRITICAL FISHER'S Since b is greate	TOTAL S VALUE (10, er than 6 th TREATMENT a	20 10,10) (p=0.0) here is no sign at the 0.05 lev TISHER'S EXACT	0 5) IS 6. b nificant diff vel. TEST TEST	VALUE IS 10. erence
CRITICAL FISHER'S Since b is greate	TOTAL S VALUE (10, er than 6 th TREATMENT a	20 10,10) (p=0.0) here is no sign at the 0.05 lev TISHER'S EXACT	0 5) IS 6. b nificant diff vel. TEST TEST	VALUE IS 10. erence
CRITICAL FISHER'S Since b is greate between CONTROL and IDENTIFICATION	TOTAL S VALUE (10, er than 6 th TREATMENT a	20 10,10) (p=0.0) here is no sign at the 0.05 lev TISHER'S EXACT	0 5) IS 6. b hificant diff vel. TEST NUMBE	VALUE IS 10. erence
CRITICAL FISHER'S Since b is greate between CONTROL and IDENTIFICATION	TOTAL S VALUE (10, er than 6 th TREATMENT a F	20 10,10) (p=0.0) here is no sign t the 0.05 let TISHER'S EXACT ALIVE	0 5) IS 6. k nificant diff vel. TEST ==================================	VALUE IS 10. Total ANIMALS

Since b is greater than 6 there is no signific between CONTROL and TREATMENT at the 0.05 level.

SUMMARY OF FISHER'S EXACT TESTS

NUMBER

GROUP	IDENTIFICATION	EXPOSED	DEAD	(P=.05)
	CONTROL	10	0	
1	32%	10	Q	
2	42%	10	0	
3	56%	10	0	
4	75%	10	0	
5	100%	10	0	

60399832 SPRINGDALE CERIODAPHNIA DUBIA SUR File: 6399832D Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	Ν	MIN	MAX	MEAN

1	CONTROL	10	1.000	1.000	1.000
2	32%	10	1.000	1.000	1.000
3	428	10	1.000	1.000	1.000
4	56%	10	1.000	1.000	1.000
5	75%	10	1.000	1.000	1.000
6	100%	10	1.000	1.000	1.000

60399832 SPRINGDALE CERIODAPHNIA DUBIA SUR File: 6399832D 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	32%	0.000	0.000	0.000	0.00
3	42%	0.000	0.000	0.000	0.00
4	56%	0,000	0.000	0.000	0.00
5	75%	0.000	0.000	0.000	0.00
6	100%	0.000	0.000	0.000	0.00

60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E 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 _____ EXPECTED4.02014.52022.92014.5204.020OBSERVED51422163 Calculated Chi-Square goodness of fit test statistic = 0.7041 Table Chi-Square value (alpha = 0.01) = 13.277 Data PASS normality test. Continue analysis. 60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E Transform: NO TRANSFORMATION ______ Bartlett's test for homogeneity of variance Calculated B1 statistic = 1.59 _____ 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.

60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	16.000	23.000	20.500
2	32%	10	16.000	23.000	20.500
3	42%	10	16.000	25.000	20.900
4	56%	10	18.000	25.000	21.200
5	75%	10	18.000	25.000	21.300
6	100%	10	18.000	25.000	21.200

60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	3.833	1.958	0.619	9.55
2	328	6.056	2.461	0.778	12.00
2	428	7.656	2.767	0.875	13.24
4	56%	4.400	2.098	0.663	9.89
5	75%	4.011	2.003	0.633	9.40
6	100%	5.289	2.300	0.727	10.85

60399832	SPRINGDALE	CERIODAPHNIA	DUE	BIA	REP
File: 639	99832E	Transform:	NO	TRA	ANSFORMATION

		ANOVA TABLE		
SOURCE	DF	SS	MS	F
Between	5	6.533	1.307	0.251
Within (Error)	54	281.200	5.207	
Total	59	287.733		
Critical F val Since F < Cri	ue = 2 tical F	.45 (0.05,5,40) FAIL TO REJECT HO: All	l equal	

60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E Transform: NO TRANSFORMATION

D	OUNNETT'S TEST -	TABLE 1 OF 2	Ho:Control <treatment< th=""><th></th></treatment<>				
GROUP	IDENTIFICATION	TRANSFORMED MEAN			T STAT	SIG	
1 2 3 4 5 6	328 428 568 758	20.500 20.500 20.900 21.200 21.300 21.200	20. 20. 21. 21.	500	-0.392 -0.686 -0.784	13.60.401	
6039983	Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5) 60399832 SPRINGDALE CERIODAPHNIA DUBIA REP File: 6399832E Transform: NO TRANSFORMATION						
E	DUNNETT'S TEST -	TABLE 2 OF 2	Но	:Control<	Treatment		
GROUP	IDENTIFICATION	NUM OF Minim REPS (IN C	um Sig Diff RIG. UNITS)	% of CONTROL	DIFFEREN FROM CON	CE TROL	
1 2 3 4 5 6	428	10 10 10 10	2.357 2.357 2.357 2.357 2.357 2.357	11.5 11.5	-0.4 -0.7	0 0 0 0 0 0	

_ _ _ _ _ _ _ _ _ _

Conc. ID	1	2	3	4	5	6
Conc. Tested	d 0	32	42	56	75	100
Toxicant/Ef:	.527 .524 .533 ion Concentr fluent: SPRI Date: 05/10/ s: FATHEAD	.494 .469 .408 ation Percen NGDALE 22 Test End	_	.614 .578 .576 e ***	.498 .412	.538 .478 .547
Conc. Nu ID Repi		ncentration	Response Means		l. r. Resj	Pooled ponse Means
1 2 3 4 5 6	5 5 5 5 5 5 5 5	$\begin{array}{c} 0.000\\ 32.000\\ 42.000\\ 56.000\\ 75.000\\ 100.000\end{array}$	0.547 0.573	0.0 0.0 0.0 0.0		0.537 0.537 0.537 0.537 0.512 0.512
*** No Linea	ar Interpola	tion Estimat	e can be cal	culated f	rom the	

*** 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. Tested 0 32 42 56 75 100 Response 1 23 22 24 23 19 20 Response 2 21 19 18 18 23 25 Response 3 21 23 20 20 22 19 Response 4 16 22 21 25 21 22 Response 6 20 21 21 22 18 21 Response 6 20 21 21 22 18 21 Response 7 20 22 22 20 20 23 Response 9 22 23 16 21 21 21 Response 10 21 17 19 21 21 21 rest Start Date: 05/10/22 Test Ending Date: 05/17/22 Test Start Date: 05/10/22 Test Ending Dev. Response Means ID Replicates Means Dev. Response Means	Conc. ID	1	2	3	4	5	6
Response 2 21 19 18 18 23 25 Response 3 21 23 20 20 22 19 Response 4 16 22 21 25 21 22 19 Response 5 22 20 25 23 22 18 21 Response 6 20 21 21 22 20 23 22 18 21 Response 6 20 21 21 22 20 20 23 23 Response 9 22 24 24 Response 9 22 23 16 21	Conc. Tested	0	32	42	56	75	100
Toxicant/Effluent: SPRINGDALE Test Start Date: 05/10/22 Test Ending Date: 05/17/22 Test Species: C. DUBIA Test Duration: 7 DAYS DATA FILE: Conc. Number Concentration Replicates Means Dev. 1 10 0.000 20.500 1.958 20.933 2 10 32.000 20.500 2.461 20.933 3 10 42.000 20.900 2.767 20.933 4 10 56.000 21.200 2.098 20.933	Response2Response3Response4Response5Response6Response7Response8Response9	21 21 16 22 20 20 19 22	19 23 22 20 21 22 16 23	18 20 21 25 21 22 23 16	18 20 25 23 22 20 19 21	23 22 21 22 18 20 22 25	25 19 22 18 21 23 24 19
IDReplicatesMeansDev.Response Means1100.00020.5001.95820.93321032.00020.5002.46120.93331042.00020.9002.76720.93341056.00021.2002.09820.93351075.00021.3002.00320.933	Toxicant/Efflu Test Start Dat Test Species: Test Duration:	lent: SPRINGD. ce: 05/10/22 C. DUBIA	ALE Test End	0			
21032.00020.5002.46120.93331042.00020.9002.76720.93341056.00021.2002.09820.93351075.00021.3002.00320.933			ntration				
	2 10 3 10 4 10)))	32.000 42.000 56.000 75.000	20.500 20.900 21.200	2.46 2.76 2.09 2.00	5120572098200320	.933 .933 .933 .933

*** 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.

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

TEMP in C Received o Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)	DATE Signed: 05/09/22	NE KSSACK	STEPHANIE	14	PRINT Name of SAMPLER: SIGNATURE of SAMPLER:	SIGNA					
			ίΕ	NATUR	SAMPLER NAME AND SIGNATURE	SAMPLER					
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2800 5.0 4 4 4	sept12	Tiplande									
TIME SAMPLE CONDITIONS	FILIATION	ACCEPTED BY / AFFILIATION	TIME	.E	DATE	RELINQUISHED BY / AFFILIATION	IQUISHED B	REUN	のないのの	ADDITIONAL COMMENTS	
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Residual Chlorine (V/M)	Chronic Wet Test	HIGS HCI NaOH Na2S2O3 Methanol Other Analyses Test	# OF CONTAINERS Unpreserved H2SO4 HNO3	SAMPLE TEMP AT COLLECT	END DATE IME	TIME	SAMPLE TYPE (G=GRAB (MATRIX CODE (see valid cod	Wate water WT Wate water WW Product WW Soll/Solid SL Olt Up Air AR Air AR Coher TS	SAMPLE ID One Character per box. (A-Z, 0-9/, -) Sample Ids must be unique	ITEM #
		Preservatives		ON	TED	COLLECTED	COMP)		MATRIX		
STATE OF	Requested Analysis Filtered (V/N)	9250, IIne 1	Face Fiolders					The second se	ti tanlati t		- management
State / Location	pacelabs.com	anager: jeff.shopper@pacelabs.com	Pace Project M				WET Test	Project Name:	Projec	479-756-3657 Hax:	Phone: 479-75
A REAL PROPERTY OF A REAL PROPER			Pace Quote:			Purchase Order #: 0022303-00	# 00:22:	ase Order a	Purcha	ringdalewater c	Email: bste
Regulatory Agency			Address:							72762	Springdale, AF72762
		00	Company Name:				DIAD OLEWAIT	1	Copy To:	2910 Silent Grove Road	Address:
		aucit	Attention:			and.	Report To: Bood Stand	To Projec	Report To:		Company
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CHAIN-OF-CUSTODY / Analytical Request Document The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

						12	1	10	9	8	7	6	IJ	4	ω	2	-	ITEM #		Request	Phone:	Springda	Address;	Company:	Required
					ADDITIONAL COMMENTS												SWANTE EFFLUENT	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique		Requested Due Date:	Phone: 479-756-3657 Fax:	Email hetewart@springdalewater.com	2910 Silent Grove Road	 Springdale Water Utilities 	Section A Required Client Information:
				stope.	77													Dinking Water DW Water DW Waste Vater WT Waste Vater WT Product P Solu/Solid SL Oil Ot Wipe SL Other OT Tissue TS	2 2 7	Project #:	Project Name:	Purchase Order #	Loby Io.	1.5	2
				Re	ELNQU	-	_	-	-	-	-	-	-	-	-	-	ille: C	MATRIX CODE (see valid code: SAMPLE TYPE (G=GRAB C=			WE	8		Brad Slewart	act Info
	S	8		per	RELINQUISHED BY / AFFILIATION												05/10/22 0500	START			1.1	0000303-0		wart	rmation:
PRINT Name of SAMPLER: STEPHANI	SAMPLER NAME AND SIGNATURE			SWUTF	FILIATION						-	1					so oshila	ME DATE	COLLECTED			8			
me of S/	NE AND			_		┢		-	+	1		-		1	1	T	2 0800	END							
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ГА	TURE			-				-	+		34 m	-				-	-	# OF CONTAINERS			Pace	Pace	Address:	Com	Invo
STEPHANIC				0900	TIME	E											×	Unpreserved		Laco Friday	Pace Project Manager:	Pace Quote:	ess:	Company Name:	Invoice Information:
Ŧ			_	Ľ			-		-		-	-		-	-	-	-	H2SO4 HNO3			ect Ma	.e.		Name	forma
Zia				10		-	-		-		-		+	-	+	+	-	HCI	rese	20	anage				tion:
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J CHSSI				ad	ACCEPTED BY / AFFILIATION												_	Melhanol			eff.shopper@pacelaps.com				
F			0	R	DBY		_						_			1	_	Other Analyses Test	Y/N	-	perio				
	4			1	AFFE	-	Т		-	-	T	T	T	T		T	X	Chronic Wet Test			pace				
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MP in	с			22		H	_										7	Residual Chlorine (Y/N)	12.50	4	analo a	2	eguli		e :
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~ 7	Pace	DC#_Title: ENV-F	RM-LENE-0009	_Sampi	le Condition Upon Receipt (SCU	R)
	ANALYTICAL SERVICES	Revision: 2	Effective Date: 01	/12/202	22 Issued By: Lenexa	
Tracking #: Custody Seal Packing Mate Thermometer Cooler Temp	FedEx DUPS I on Cooler/Box erial: Bubble r Used: <u>T-111</u> erature (°C): A nould be above free	Present: Yes D No e Wrap D Bubble T As-read <u>4.0</u> Cor	PEX E EC Pace Shipping La Seals intact Bags Fc Type of Ice: Wer B	I □ bel Used' : Yes □ bam □ lue Non Correcte	Pace Xroads Client Other Yes No No None Other	of person
	ody relinquished:		\$ ↓ Yes □No	□ N/A		
	red within holding		BALTES □NO			
	ime analyses (<		XYes □No			
Rush Turn A	round Time requ	uested:	□Yes XNo	□n/A		
Sufficient volu	ıme:		XYes 🗆 No	□n/A		
Correct conta	iners used:		XYes 🗆 No	□n/A		
Pace containe	ers used:		XYes 🗆 No	□n/A		
Containers in	tact:		XYes □No	□n/A		
Unpreserved	5035A / TX1005/	1006 soils frozen in 48h	rs? □Yes □No	Xn/A		
Filtered volun	ne received for di	ssolved tests?	□Yes □No	Xn/A		
Sample label	s match COC: Da	ate / time / ID / analyses	XYes 🗆 No	□n/A		
Samples cont	tain multiple phas	ses? Matrix:	□Yes XNo			protive and the
(HNO₃, H₂SO₄, (Exceptions: V	HCl<2; NaOH>9 S OA, Micro, O&G, K	rvation in compliance? ulfide, NaOH>10 Cyanide) (S TPH, OK-DRO)	□Yes □No	Xn/A	List sample IDs, volumes, lot #'s of prese date/time added.	ervative and the
Lead acetate	er sample checks strip turns dark? dide test strip turr		□Yes □No (P) □Yes □No			
Trip Blank pre	esent:		□Yes □No	XN/A		
Headspace in	n VOA vials (>6m	nm):	□Yes □No	XN/A		
	n USDA Regulate		□Yes □No			
		035A / TX1005 vials in t			Field Data Required? Y / N	-
Client Notific Person Conta	cation/ Resolutio	on: Cop	by COC to Client? Y Date/Time:	/ N	Field Data Required? Y / N	
Comments/ F						
Project Mana	ager Review:			Date	te:	
	Qualtrax Docu	ment ID: 30468			Page	Page 40 of 42

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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	5	თ	4	ω	2	-	ITEM #	Requeste	Phone:	Email:	Springdal	Company: Address:	Section A Required
			ADDITIONAL COMMENTS												SWWTF EFFLUENT	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample lots must be unique	Requested Due Date:	479-756-3657 Fax	bstewart@springdalewater.com	₽. A	Springdale Water Utilities	Clie
			「「「「「「「」」」												,	MATRIX CODE Dinuking Water DW Water DW Waste Water WW Product P Soli/Solid SL OB Soli/Solid OL OB Mir AR Air AR Cher TS	Project #	Project Name:	Purchase (Copy To:	Section B Required Project Information:
			RELINO												ww	MATRIX CODE (see valid codes to left))rder #:		Brad	Project I
			QUISHE	-	_	-	-	-	-	-	-	-	-	-	005	SAMPLE TYPE (G=GRAB C=COMP)		WET Test	002		Brad Stewart	nforma
(0)	SAMP		RELINQUISHED BY / AFFILIATION												05/12/22 0800	START COLL		est	Purchase Order #: 0022303-			ation:
SIGNATURE of SAMPLER:	SAMPLER NAME AND SIGNATURE		TION												0080 CC/1/20	COLLECTED END			00			
f SAMF	IND SIG		DATE												008(TIME						
E F	NATU		m										1_		F	SAMPLE TEMP AT COLLECTION				Þ	0.3	w
W	Į RĒ		TIME	-	-	-	-	+	-	-	-	-	-		X	# OF CONTAINERS	Pace Prome #.	Pace Project Manager:	Pace Quote:	Address:	Company Name:	Section C Invoice Information:
ravis			Ē												È	H2SO4	one *	oject N	Jote:		n. Ny Narr	C Inforn
0110		N	el la fe	_					_		_	_	-			HNO3 Preservatives		a)			<u>e</u>	nation
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Kow SK		N	ED BY													Other	Ц	oper				
_ <u></u> ,		16	CEPTED BY / AFFILIATION			r	r	1	T	-	1	-	r	1	N	Analyses Test Y/N Chronic Wet Test		f.shopper@pacelabs.com				
Q			LIATIO		-	-	+	-	-	-		+	+	+	\times	Chionic Wet Test		celac				
DATE Signed:	20		Ň		+	-	1	-	-	+	-	+	+	+	1		Requ	IS.CO				
igneo																	estec	B				
																	Requested Analysis					
05/13/		N S	P		1	_		-		_	-	-	-	-	-							
3/2		Benja	DATE	-	-	-	-	-	-	-	-	+	+	-	-		Filtered (Y/N)	+	+		-	
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		28	TIME	F	T												2					
														-					L			Pa
TEMP	n C	SiO	10	-		_	_				-				2	Residual Chlorine (Y/N)	Ц	Stat	2	Regulatory Agency		Page :
Receive	ed on		1000	F	T	T	T		fi.	T	T	Т	Τ		Т		2	State / Location	:	atory .		
lce (Y/N)			SAMPLE CONDITIONS													de la	29	catio		Agen		-
Custody	y	 H,	CON													5				cy		
Sealed Cooler			DITION														No.					옃
(Y/N) Sample	5	 11	- S														1		1			
Inlact	.0															(Sec.24-)			W - 1			

	Pace	DC#_Title: ENV	-FINE-UC	03_3	ampie	00				
	ANALYTICAL SERVICES	Revision: 2	Effective Date	e: 01/1	2/2022	2	Issued By: Lenex	xa		
racking #:	FedEx D UPS		y □ PEX □ Pace Shippin		Used?		s 🗆 No 🗆	Client 🗆 🖸	Other 🗆	
			No 🗆 Seals ir	ntact: ` Foar			lone 🗆 🛛 Othe		7	
Packing Mate			le Bags □ Type of Ice:	3	None					
Cooler Temp	erature (°C):	As-read 5.8 C	orr. Factor <u>-0.8</u>		orrected	C	0	Date and initiest examining controls of the second	tials of perso ontents:	n SO
Cemperature si	nould be above free	ezing to 6°C	X		7				17/00	- 60
Chain of Cus	ody present:		XYes	1						
Chain of Cus	tody relinquished	•	□Yes							
Samples arriv	red within holding	i time:	X es							
Short Hold T	ime analyses (<	72hr):	XYes		∃N/A					
Rush Turn A	round Time req	uested:	Yes	XNo I]n/a	_				
Sufficient vol	ume:		XYes	□No]n/a					
Correct conta	ainers used:		XYes	□No		_				
Pace contain	ers used:		XYes	□No					_	
Containers ir	ntact:		XYes	□ No	□n/a					
Unpreserved	5035A / TX1005	/1006 soils frozen in 4	8hrs? 🛛 Yes	□No	XN/A					
	ne received for d		□Yes	ΠNο	X _{N/A}					
		ate / time / ID / analys	es XYes	□No	□n/A					
	tain multiple pha			XNo	□n/A					
Containers r (HNO₃, H₂SO₄	equiring pH prese , HCl<2; NaOH>9 \$	ervation in compliance Sulfide, NaOH>10 Cyanic	de)	□No			ample IDs, volume (time added.	es, lot #'s of	preservative	and the
Cyanide wat Lead acetate	er sample checks e strip turns dark?		LOT#:							
				□No	XN/A					
Trip Blank p		Nr			XN/A					
	in VOA vials (>6									
	m USDA Regulat									
and the second s	ication/ Resolut tacted:		Copy COC to Client?	□ No Y /			Field Data Required	? Y / N	ł	
Designet Man	ager Review:				Date					