Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

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,

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

Enclosures

Pace Analytical Services, LLC
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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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: WET TEST
Pace Project No.: 60399832

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60399832001	**SWWTF EFFLUENT**	Water	05/09/22 08:00	05/10/22 08:00

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SAMPLE ANALYTE COUNT

Project: WET TEST
Pace Project 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

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ANALYTICAL RESULTS

Project: WET TEST
Pace Project No.: 60399832

Sample: SWWTF EFFLUENT **Lab ID: 60399832001** Collected: 05/09/22 08:00 Received: 05/10/22 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Chronic Toxicity	Analytical Method: EPA 821/R-02/013 Pace Analytical Services - SE Kansas							
Toxicity, Chronic	**Complete**		1.0	1		05/10/22 13:00		

REPORT OF LABORATORY ANALYSIS

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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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WET TEST
Pace Project No.: 60399832

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

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample	WO# : 60399832
	Revision: 2	Effective Date: 01/12/2022

Client Name: Springdale

Courier: FedEx ☐ UPS ☐ VIA ☒ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐ 60399832

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☐ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-111 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 5.6 Corr. Factor -0.8 Corrected 5.0

Date and initials of person examining contents: TS 5/10/22 900

Temperature should be above freezing to 6°C

Chain of Custody present:	X Yes ☐ No ☐ N/A	
Chain of Custody relinquished:	X Yes ☐ No ☐ N/A	
Samples arrived within holding time:	X Yes ☐ No ☐ N/A	
Short Hold Time analyses (<72hr):	X Yes ☐ No ☐ N/A	
Rush Turn Around Time requested:	☐ Yes X No ☐ N/A	
Sufficient volume:	X Yes ☐ No ☐ N/A	
Correct containers used:	X Yes ☐ No ☐ N/A	
Pace containers used:	X Yes ☐ No ☐ N/A	
Containers intact:	X Yes ☐ No ☐ N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐ Yes ☐ No X N/A	
Filtered volume received for dissolved tests?	☐ Yes ☐ No X N/A	
Sample labels match COC: Date / time / ID / analyses	X Yes ☐ No ☐ N/A	
Samples contain multiple phases? Matrix:	☐ Yes X No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#:	☐ Yes ☐ No X N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐ Yes ☐ No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐ Yes ☐ No	
Trip Blank present:	☐ Yes ☐ No X N/A	
Headspace in VOA vials (>6mm):	☐ Yes ☐ No X N/A	
Samples from USDA Regulated Area: State:	☐ Yes ☐ No X N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐ Yes ☐ No X N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Jeffrey Shopper Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Springdale Water Utilities	Report To:	Brad Stewart	Attention:	
Address:	2910 Silent Grove Road	Copy To:		Company Name:	
Springdale, AR 72762				Address:	
Email:	bstewart@springdalewater.com	Purchase Order #:	6022303-00	Pace Quote:	
Phone:	479-756-3657 Fax:	Project Name:	WET Test	Pace Project Manager:	jeff.shopper@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	9250, line 1

Regulatory Agency

State / Location: AR

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Chronic Wet Test	Residual Chlorine (Y/N)	60599832
1	SNWTF EFFLUENT	WW	C	05/09/22	0800	05/09/22	0800	4	1	X									X	N	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
				Tiffany Lewis	5/10/22	800	5.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STEPHANIE KISSACK

SIGNATURE of SAMPLER: [signature] DATE Signed: 05/09/22

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

TABLE OF CONTENTS

SUMMARY

A Chronic Whole Effluent Toxicity Test using the 7-day chronic fathead minnows (Pimephales promelas), static renewal larval survival and growth test, and three brood 7-day chronic Cladoceran (Ceriodaphnia dubia), 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 EPA 821-R-02-013, "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, 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 Ceriodaphnia treated by the effluent sampled from May 9 to May 13 from the SPRINGDALE WATER UTILITIES. effluent discharge, is acceptable as described in EPA 821-R-02-013.

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 Pimephales promelas at larval for survival and growth test and the Ceriodaphnia dubia survival and reproduction test described in EPA 821-R-02-013, "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 ≤ 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, Pimephales promelas, Larval Survival and Growth Test. EPA test method 1002.0 was used for conducting the Cladoceran, Ceriodaphnia dubia, Survival and Reproduction Test. The tests were conducted to estimate the NOEC, and LOEC for survival, growth, and reproduction of these test species.

The Pimephales and Ceriodaphnia 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 Ceriodaphnia 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 Date: 5-10-22
Test End: 13:15 Date: 5-17-22

Critical Dilution:	100%
Ceriodaphnia dubia	Results
TLP3B	0
TGP3B	0
TOP3B	100
TPP3B	100
TQP3B	10.85
Pimephales promelas	Results
TLP6C	0
TGP6C	0
TOP6C	100
TPP6C	100
TQP6C	4.44

Dilution Water used: Moderately Hard Synthetic Water

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL
(Pimephales promelas)

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Concentration (%)	Average Dry Weight in Milligrams in Replicate Chambers A	B	C	D	E	Mean Dry Weight (mg)	CV% *
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

* Coefficient of Variation = Standard Deviation X 100 / Mean

FATHEAD MINNOW SURVIVAL

Conc. %	Percent Survival in Replicate Chambers A	B	C	D	E	Mean Percent Survival 24hr	48hr	7 day	CV %
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 CERIODAPHNIA YOUNG PRODUCTION

Replicate	Control 0%	Dilution 1 32%	Dilution 2 42%	Dilution 3 56%	Dilution 4 75%	Dilution 5 100%
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 Elapsed	Control 0%	Dilution 1 32%	Dilution 2 42%	Dilution 3 56%	Dilution 4 75%	Dilution 5 100%
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 2
SUMMARY OF TEST CONDITIONS FOR THE FATHEAD MINNOW (Pimephales 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	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
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
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 (Pimephales promelas)
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%
pH	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 Pimephales promelas control survival rate was 100. The mean dry weight (growth) of the Pimephales promelas 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 Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 20.5 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 9.55. Control data met or exceeded all criteria set out by EPA 821-R-02-013 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 Toxicant (NaCl) Pimephales promelas

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 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 Toxicant (NaCl) Ceriodaphnia Dubia

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: Tim 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

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	2.010	7.260	11.460	7.260	2.010
OBSERVED	3	1	23	3	0

Calculated Chi-Square goodness of fit test statistic = 22.0156
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.

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

Shapiro - Wilk'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 normality test. Try another transformation.

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

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

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	1.412	1.412	1.412
2	32%	5	1.249	1.412	1.379
3	42%	5	1.249	1.412	1.379
4	56%	5	1.412	1.412	1.412
5	75%	5	1.107	1.412	1.318
6	100%	5	1.412	1.412	1.412

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

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%	0.005	0.073	0.033	5.28
3	42%	0.005	0.073	0.033	5.28
4	56%	0.000	0.000	0.000	0.00
5	75%	0.019	0.138	0.062	10.44
6	100%	0.000	0.000	0.000	0.00

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	
Total	29	0.152		

Critical F value = 2.62 (0.05,5,24)
Since F < Critical F FAIL TO REJECT Ho: All equal

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

DUNNETT'S TEST - TABLE 1 OF 2 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 Value, P=0.05, df=24,5)

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

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	32%	5	0.043	4.3	0.020
3	42%	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) = 0.927
Critical W (P = 0.01) (n = 30) = 0.900

Data 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 STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	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

60399832 SPRINGDALE FATHEAD 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	42%	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
6	100%	0.001	0.024	0.011	4.44

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

ANOVA TABLE

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

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

GROUP	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	42%	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 (1 Tailed Value, P=0.05, df=24,5)

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

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	32%	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

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF 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.

FISHER'S EXACT TEST

IDENTIFICATION	NUMBER OF ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
42%	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

IDENTIFICATION	NUMBER OF ALIVE	DEAD	TOTAL ANIMALS
CONTROL	10	0	10
56%	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

IDENTIFICATION	NUMBER OF ALIVE	NUMBER OF DEAD	TOTAL ANIMALS
CONTROL	10	0	10
75%	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

IDENTIFICATION	NUMBER OF ALIVE	NUMBER OF DEAD	TOTAL ANIMALS
CONTROL	10	0	10
100%	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

	NUMBER	NUMBER	SIG

GROUP	IDENTIFICATION	EXPOSED	DEAD	(P=.05)
	CONTROL	10	0	
1	32%	10	0	
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	N	MIN	MAX	MEAN
1	CONTROL	10	1.000	1.000	1.000
2	32%	10	1.000	1.000	1.000
3	42%	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
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	5	14	22	16	3

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	32%	6.056	2.461	0.778	12.00
3	42%	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 DUBIA REP
File: 6399832E Transform: NO TRANSFORMATION

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 value = 2.45 (0.05,5,40)
Since F < Critical F FAIL TO REJECT Ho: All equal

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

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	20.500	20.500		
2	32%	20.500	20.500	0.000	
3	42%	20.900	20.900	-0.392	
4	56%	21.200	21.200	-0.686	
5	75%	21.300	21.300	-0.784	
6	100%	21.200	21.200	-0.686	

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

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

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	10			
2	32%	10	2.357	11.5	0.000
3	42%	10	2.357	11.5	-0.400
4	56%	10	2.357	11.5	-0.700
5	75%	10	2.357	11.5	-0.800
6	100%	10	2.357	11.5	-0.700

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	32	42	56	75	100
Response 1	.546	.549	.597	.516	.625	.552
Response 2	.494	.587	.575	.581	.502	.538
Response 3	.527	.494	.605	.614	.498	.478
Response 4	.524	.469	.426	.578	.412	.547
Response 5	.533	.408	.533	.576	.452	.511

*** Inhibition Concentration Percentage Estimate ***
Toxicant/Effluent: SPRINGDALE
Test Start Date: 05/10/22 Test Ending Date: 05/17/22
Test Species: FATHEAD
Test Duration: 7 DAYS
DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	5	0.000	0.525	0.019	0.537
2	5	32.000	0.501	0.070	0.537
3	5	42.000	0.547	0.073	0.537
4	5	56.000	0.573	0.035	0.537
5	5	75.000	0.498	0.080	0.512
6	5	100.000	0.525	0.031	0.512

*** 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. 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 5	22	20	25	23	22	18
Response 6	20	21	21	22	18	21
Response 7	20	22	22	20	20	23
Response 8	19	16	23	19	22	24
Response 9	22	23	16	21	25	19
Response 10	21	17	19	21	21	21

*** Inhibition Concentration Percentage Estimate ***
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. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
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
5	10	75.000	21.300	2.003	20.933
6	10	100.000	21.200	2.300	20.933

*** 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.

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Springdale Water Utilities	Report To:	Brad Stewart	Attention:	
Address:	2910 Silent Grove Road	Copy To:		Company Name:	
Springdale, AR 72762				Address:	
Email:	bstewart@springdalewater.com	Purchase Order #:	6022303-00	Pace Quote:	
Phone:	479-756-3657 Fax:	Project Name:	WET Test	Pace Project Manager:	jeff.shopper@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	9250, line 1

Regulatory Agency: AR

State / Location

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Chronic Wet Test	Residual Chlorine (Y/N)	6059837
1	SWWTF EFFLUENT	WW	C	05/08/22	0800	05/09/22	0800	4	1	X									X	N	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
				Tiffany Lewis	5/10/22	800	5.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STEPHANIE KISSACK

SIGNATURE of SAMPLER: [signature] DATE Signed: 05/09/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A — Required Client Information:

Company:	Springdale Water Utilities
Address:	2910 Silent Grove Road
	Springdale, AR 72762
Email:	bstewart@springdalewater.com
Phone:	479-756-3657 Fax:
Requested Due Date:	

Section B — Required Project Information:

Report To:	Brad Stewart
Copy To:	
Purchase Order #:	0022303-00
Project Name:	WET Test
Project #:	

Section C — Invoice Information:

Attention:	
Company Name:	
Address:	
Pace Quote:	
Pace Project Manager:	jeff.shopper@pacelabs.com
Pace Profile #:	9250, line 1

Regulatory Agency	State / Location
	AR

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Chronic Wet Test	Residual Chlorine (Y/N)
1	SWWTF EFFLUENT	WW	C	05/10/22	0800	05/11/22	0800	4	1	X									X	N
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Stephanie Kissack SWWTF	05/11/22	0900	Evan Ruddell-pace	5/12/22	800	3 2 4 4 4

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: STEPHANIE KISSACK

SIGNATURE of SAMPLER: Stephanie Kissack DATE Signed: 05/11/22

TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Condition Upon Receipt (SCUR)		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Springdale

Courier: FedEx ☐ UPS ☐ VIA ☒ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☐ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-111 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 4.0 **Corr. Factor** -0.8 **Corrected** 3.2

Date and initials of person examining contents: 5/12/22. BCO

Temperature should be above freezing to 6°C

Chain of Custody present:	X Yes ☐ No ☐ N/A	
Chain of Custody relinquished:	X Yes ☐ No ☐ N/A	
Samples arrived within holding time:	X Yes ☐ No ☐ N/A	
Short Hold Time analyses (<72hr):	X Yes ☐ No ☐ N/A	
Rush Turn Around Time requested:	☐ Yes X No ☐ N/A	
Sufficient volume:	X Yes ☐ No ☐ N/A	
Correct containers used:	X Yes ☐ No ☐ N/A	
Pace containers used:	X Yes ☐ No ☐ N/A	
Containers intact:	X Yes ☐ No ☐ N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐ Yes ☐ No X N/A	
Filtered volume received for dissolved tests?	☐ Yes ☐ No X N/A	
Sample labels match COC: Date / time / ID / analyses	X Yes ☐ No ☐ N/A	
Samples contain multiple phases? Matrix:	☐ Yes X No ☐ N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:**	☐ Yes ☐ No X N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐ Yes ☐ No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐ Yes ☐ No	
Trip Blank present:	☐ Yes ☐ No X N/A	
Headspace in VOA vials (>6mm):	☐ Yes ☐ No X N/A	
Samples from USDA Regulated Area: State:	☐ Yes ☐ No X N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐ Yes ☐ No X N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Springdale Water Utilities	Report To:	Brad Stewart	Attention:	
Address:	2910 Silent Grove Road	Copy To:		Company Name:	
Springdale, AR 72762				Address:	
Email:	bstewart@springdalewater.com	Purchase Order #:	0022303-00	Pace Quote:	
Phone:	479-756-3657 Fax:	Project Name:	WET Test	Pace Project Manager:	jeff.shopper@pacelabs.com
Requested Due Date:		Project #:		Pace Profile #:	9250, line 1

Regulatory Agency	
State / Location	AR

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Chronic Wet Test	Residual Chlorine (Y/N)	Leg3
1	SWWTF EFFLUENT	WW	C	05/12/22	0800	05/13/22	0800	4	1	X									X	N	
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
					5/14/22	800	5.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Travis Piatkowski

SIGNATURE of SAMPLER: Travis Piatkowski DATE Signed: 05/13/22

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Condition Upon Receipt (SCUR)		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Springdale

Courier: FedEx ☐ UPS ☐ VIA ☒ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☐ No ☐ Log?

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-111 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 5.8 **Corr. Factor** -0.8 **Corrected** 5.0

Date and initials of person examining contents: TS 5/19/22 SOC

Temperature should be above freezing to 6°C

Chain of Custody present:	XYes ☐No ☐N/A	
Chain of Custody relinquished:	☐Yes ☒No ☐N/A	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	XYes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes XNo ☐N/A	
Sufficient volume:	XYes ☐No ☐N/A	
Correct containers used:	XYes ☐No ☐N/A	
Pace containers used:	XYes ☐No ☐N/A	
Containers intact:	XYes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No XN/A	
Filtered volume received for dissolved tests?	☐Yes ☐No XN/A	
Sample labels match COC: Date / time / ID / analyses	XYes ☐No ☐N/A	
Samples contain multiple phases? Matrix:	☐Yes XNo ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:**	☐Yes ☐No XN/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No XN/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No XN/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No XN/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No XN/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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