

November 18, 2019

Tom Myers
City of Siloam Springs
975 Anderson Avenue
Siloam Springs, AR 72761

RE: Project: WET TEST
Pace Project No.: 60320040

Dear Tom Myers:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 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,



Nolie Wood
nolie.wood@pacelabs.com
1(913)563-1401
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WET TEST

Pace Project No.: 60320040

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 #: T104704407

Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: WET TEST

Pace Project No.: 60320040

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60320040001	CITY OF SILOAM SPRINGS	Water	11/04/19 09:00	11/05/19 08:00

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SAMPLE ANALYTE COUNT

Project: WET TEST

Pace Project No.: 60320040

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60320040001	CITY OF SILOAM SPRINGS	EPA 821/R-02/013	MEB	1	PASI-SE

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ANALYTICAL RESULTS

Project: WET TEST

Pace Project No.: 60320040

Sample: CITY OF SILOAM SPRINGS	Lab ID: 60320040001	Collected: 11/04/19 09:00	Received: 11/05/19 08:00	Matrix: Water
---------------------------------------	----------------------------	---------------------------	--------------------------	---------------

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
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Chronic Toxicity

Analytical Method: EPA 821/R-02/013

Toxicity, Chronic

Complete

1.0 1

11/05/19 11:00

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WET TEST

Pace Project No.: 60320040

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

PASI-SE Pace Analytical Services - SE Kansas

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WET TEST
Pace Project No.: 60320040

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60320040001	CITY OF SILOAM SPRINGS	EPA 821/R-02/013	622268		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60320040
60320040

Client Name: Siloam Springs

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-243 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 3.1 Corr. Factor .8 Corrected 2.3

Date and initials of person examining contents:

11/15/19
MB OS

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	<u>MB 11/5/19</u>
Samples contain multiple phases? Matrix:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2, NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Siloam Springs	Report To:	Tom Myers	Attention:	
Address:	975 Anderson Avenue Siloam Springs, AR	Copy To:		Company Name:	
Email To:	<i>t.myers@silosprings.com</i>	Purchase Order No.:		Address:	
Phone:	479-228-0934	Project Name:	Richard Mannz	Face Quote Reference:	
Requested Due Date/TAT:		Project Number:	10809	Face Project Manager:	
				Face Profile #:	10809

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location: _____
 STATE: AR

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOILSOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	MATRIX CODE	DATE	TIME	DATE	TIME	SAMPLER NAME AND SIGNATURE	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
		COMPOSITE START	COMPOSITE END/GRAB															
1	City of Siloam Springs			WW C	11-3-19	1000	11-4-19	0900	41	1								
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

ADDITIONAL COMMENTS

*samples have a 24 hour hold time!
 *return samples to the Frontenac Lab on ice!

Temp in °C: _____
 Received on Ice (Y/N): _____
 Custody Sealed Cooler (Y/N): _____
 Samples Intact (Y/N): _____

SAMPLER NAME AND SIGNATURE:
 PRINT Name of SAMPLER: *Tommy Brown*
 SIGNATURE of SAMPLER: *[Signature]*
 DATE Signed (MM/DD/YY): *11-4-19*

REFERENCE #60320040

**CHRONIC TOXICITY TEST FOR
City of Siloam Springs**

PERMIT # AR0020273
AFIN # 04-00106

PERFORMED ON:

Pimephales promelas

and

Ceriodaphnia dubia

PREPARED FOR:

City of Siloam Springs
Attn: Tom Myers
975 Anderson Avenue
Siloam Springs, AR
1-479-228-0934

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

November 14, 2019

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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 City of Siloam Springs effluent discharge from November 4, 2019 to November 8, 2019. 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-Kärber 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 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 was 23.9.

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 was 14.4.

The chronic toxicity exhibited by the fathead minnows and the *Ceriodaphnia* treated by the effluent sampled from November 4 to November 8 from the City of Siloam Springs 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 City of Siloam Springs 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

City of Siloam Springs personnel collected sampling of the effluent. A sample of the effluent was delivered to Pace by commercial carrier on 11-5-19. Subsequent samples followed by delivery on 11-7-19 and on 11-9-19. All samples were stored at $\leq 6^{\circ}$ 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 11-5-19 and carried out until 11-12-19. 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 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

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.

REFERENCE #60320040

TABLE 1

Permittee: City of Siloam Springs Effluent discharge.

Date Sampled	No. 1:	11-4-19	9:00
	No. 2:	11-6-19	9:00
	No. 3:	11-8-19	9:00

Test Initiated: 11:00

Date: 11-5-19

RESULTS

Ceriodaphnia dubia	Results
TLP3B	0
TGP3B	0
TOP3B	100
TPP3B	100
TQP3B	11.53
Pimephales promelas	Results
TLP6C	0
TGP6C	0
TOP6C	100
TPP6C	100
TQP6C	15.26

REFERENCE #60320040

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					Mean Dry Weight (mg)	CV% *
	A	B	C	D	E		
Control 0%	0.439	0.462	0.381	0.309	0.375	0.393	15.26
Dilution 1 32%	0.400	0.490	0.316	0.364	0.456	0.405	17.21
Dilution 2 42%	0.387	0.471	0.364	0.245	0.484	0.390	24.68
Dilution 3 56%	0.391	0.404	0.388	0.428	0.369	0.396	5.51
Dilution 4 75%	0.438	0.471	0.479	0.495	0.387	0.454	9.44
Dilution 5 100%	0.473	0.505	0.355	0.392	0.409	0.427	14.32

* Coefficient of Variation = Standard Deviation X 100 / Mean

FATHEAD MINNOW SURVIVAL

Conc. %	Percent Survival in Replicate Chambers					Mean Percent Survival			CV %
	A	B	C	D	E	24hr	48hr	7 day	
Control 0%	100	100	100	87.5	100	100	100	97.5	4.79
Dilution 1 32%	100	100	87.5	100	100	100	100	97.5	4.79
Dilution 2 42%	100	100	100	75	100	100	100	95	9.30
Dilution 3 56%	100	100	100	100	87.5	100	100	97.5	4.79
Dilution 4 75%	100	100	100	100	100	100	100	100	0.0
Dilution 5 100%	100	100	87.5	100	100	100	100	97.5	4.79

REFERENCE #60320040

Permittee: City of Siloam Springs 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	19	19	20	20	24	22
2	22	24	23	25	24	27
3	22	15	18	22	20	25
4	19	27	23	27	23	28
5	23	18	29	22	24	26
6	26	19	19	15	28	22
7	25	27	22	19	21	26
8	20	24	24	25	25	19
9	24	23	21	23	23	27
10	22	23	26	24	25	26
Mean	22.2	21.9	22.5	22.2	23.7	24.8
SD	2.394	3.985	3.308	3.490	2.214	2.860
CV %	10.79	18.19	14.70	15.72	9.34	11.53

CERIODAPHNIA MEAN PERCENT SURVIVAL

Time Elapsed	Percent Effluent (%)					
	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	0.000	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
(*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	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%, 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

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%, 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: City of Siloam Springs Effluent discharge.

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

TABLE 2 (SECTION 2)
 INITIAL WATER QUALITY
 EFFLUENT CONCENTRATION

	Control	100%
PH	7.56	7.81
D.O.	8.30	7.10
Temp	25.0	25.0
Alk	58	82
Hard	92	154
Cond	307	763
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

REFERENCE #60320040

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.69	6.90	25.4
32% Effluent	7.68	6.90	24.6
42% Effluent	7.68	6.90	24.6
56% Effluent	7.66	7.00	24.6
75% Effluent	7.64	7.00	24.6
100% Effluent	7.62	7.10	24.6

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.74	7.00	25.3
32% Effluent	7.78	7.00	24.7
42% Effluent	7.80	7.00	24.7
56% Effluent	7.82	7.00	24.7
75% Effluent	7.83	6.90	24.7
100% Effluent	7.84	6.90	24.7

REFERENCE #60320040

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Control	100%
pH	7.75	7.70
D.O.	6.90	6.80
Temp	24.7	24.7
Alk	58	80
Hard	94	156
Cond	383	912

- * 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 97.5%. The mean dry weight (growth) of the Pimephales promelas was determined at 0.393 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 15.26. The Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 22.2 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 10.79. Control data met or exceeded all criteria set out by EPA 821-R-02-013 for test acceptance.

REFERENCE #60320040

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: 10/15/19 13:00 End: 10/22/19 13:10

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
10 g/l	40	4	0	0
8 g/l	40	35	27	2
6 g/l	40	39	34	22
4 g/l	40	40	40	39
2 g/l	40	40	40	39


IC25 (4.91 g/l Sodium Chloride)

Survival NOEC: 4.0 g/l

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
2.5 g/l	10	4	0	0
2.0 g/l	10	10	10	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

60320040 Siloam Springs FATHEAD SURVIVAL
File: 6320040A 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	5	0	25	0	0

Calculated Chi-Square goodness of fit test statistic = 36.9753
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.

60320040 Siloam Springs FATHEAD SURVIVAL
File: 6320040A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

D = 0.082

W = 0.666

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.

60320040 Siloam Springs FATHEAD SURVIVAL
 File: 6320040A 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
2	32%	5	0.991	1.107	1.084
3	42%	5	0.886	1.107	1.063
4	56%	5	0.991	1.107	1.084
5	75%	5	1.107	1.107	1.107
6	100%	5	0.991	1.107	1.084

60320040 Siloam Springs FATHEAD SURVIVAL
 File: 6320040A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.003	0.052	0.023	4.79
2	32%	0.003	0.052	0.023	4.79
3	42%	0.010	0.099	0.044	9.30
4	56%	0.003	0.052	0.023	4.79
5	75%	0.000	0.000	0.000	0.00
6	100%	0.003	0.052	0.023	4.79

60320040 Siloam Springs FATHEAD SURVIVAL
 File: 6320040A Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.005	0.001	0.286
Within (Error)	24	0.082	0.003	
Total	29	0.087		

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

60320040 Siloam Springs FATHEAD SURVIVAL
 File: 6320040A 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	1.084	0.780		
2	32%	1.084	0.780	0.000	
3	42%	1.063	0.760	0.568	
4	56%	1.084	0.780	0.000	
5	75%	1.107	0.800	-0.627	
6	100%	1.084	0.780	0.000	

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

60320040 Siloam Springs FATHEAD SURVIVAL

File: 6320040A

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	0.076	9.8	0.000
3	42%	5	0.076	9.8	0.020
4	56%	5	0.076	9.8	0.000
5	75%	5	0.076	9.8	-0.020
6	100%	5	0.076	9.8	0.000

60320040 Siloams Springs FATHEAD GROWTH
File: 6320040B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.095

W = 0.970

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.

60320040 Siloams Springs FATHEAD GROWTH
File: 6320040B Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 7.26

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.

60320040 Siloams Springs FATHEAD GROWTH
 File: 6320040B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	0.309	0.462	0.393
2	32%	5	0.316	0.490	0.405
3	42%	5	0.245	0.484	0.390
4	56%	5	0.369	0.428	0.396
5	75%	5	0.387	0.495	0.454
6	100%	5	0.355	0.505	0.427

60320040 Siloams Springs FATHEAD GROWTH
 File: 6320040B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.004	0.060	0.027	15.26
2	32%	0.005	0.070	0.031	17.21
3	42%	0.009	0.096	0.043	24.68
4	56%	0.000	0.022	0.010	5.51
5	75%	0.002	0.043	0.019	9.44
6	100%	0.004	0.061	0.027	14.32

60320040 Siloams Springs FATHEAD GROWTH
 File: 6320040B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.016	0.003	0.784
Within (Error)	24	0.095	0.004	
Total	29	0.111		

Critical F value = 2.62 (0.05,5,24)
 Since $F < \text{Critical } F$ FAIL TO REJECT H_0 : All equal

60320040 Siloams Springs FATHEAD GROWTH
 File: 6320040B 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	0.393	0.393		
2	32%	0.405	0.405	-0.301	
3	42%	0.390	0.390	0.075	
4	56%	0.396	0.396	-0.070	
5	75%	0.454	0.454	-1.527	
6	100%	0.427	0.427	-0.844	

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

60320040 Siloams Springs FATHEAD GROWTH

File: 6320040B 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	0.094	23.9	-0.012
3	42%	5	0.094	23.9	0.003
4	56%	5	0.094	23.9	-0.003
5	75%	5	0.094	23.9	-0.061
6	100%	5	0.094	23.9	-0.034

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	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	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	

60320040 Siloam Springs CERIODAPHNIA DUBIA SURVIVA
File: 6320040D 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

60320040 Siloam Springs CERIODAPHNIA DUBIA SURVIVA
File: 6320040D 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

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
File: 6320040E 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	4	14	23	16	3

Calculated Chi-Square goodness of fit test statistic = 0.4287
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
File: 6320040E Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 4.30

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.

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
 File: 6320040E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	19.000	26.000	22.200
2	32%	10	15.000	27.000	21.900
3	42%	10	18.000	29.000	22.500
4	56%	10	15.000	27.000	22.200
5	75%	10	20.000	28.000	23.700
6	100%	10	19.000	28.000	24.800

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
 File: 6320040E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	5.733	2.394	0.757	10.79
2	32%	15.878	3.985	1.260	18.19
3	42%	10.944	3.308	1.046	14.70
4	56%	12.178	3.490	1.104	15.72
5	75%	4.900	2.214	0.700	9.34
6	100%	8.178	2.860	0.904	11.53

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
 File: 6320040E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	63.883	12.777	1.326
Within (Error)	54	520.300	9.635	
Total	59	584.183		

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

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
 File: 6320040E 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	22.200	22.200		
2	32%	21.900	21.900	0.216	
3	42%	22.500	22.500	-0.216	
4	56%	22.200	22.200	0.000	
5	75%	23.700	23.700	-1.081	
6	100%	24.800	24.800	-1.873	

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

60320040 Siloam Springs CERIODAPHNIA DUBIA REPRODU
 File: 6320040E 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			0.300
2	32%	10	3.207	14.4	-0.300
3	42%	10	3.207	14.4	0.000
4	56%	10	3.207	14.4	-1.500
5	75%	10	3.207	14.4	-2.600
6	100%	10	3.207	14.4	

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	32	42	56	75	100
Response 1	.439	.400	.387	.391	.438	.473
Response 2	.462	.490	.471	.404	.471	.505
Response 3	.381	.316	.364	.388	.479	.355
Response 4	.309	.364	.245	.428	.495	.392
Response 5	.375	.456	.484	.369	.387	.409

*** Inhibition Concentration Percentage Estimate ***

Toxicant/Effluent: Siloam Springs
 Test Start Date: 11/5/19 Test Ending Date: 11/12/19

Test Species: Fathead
 Test Duration: 7 Day

DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	5	0.000	0.393	0.060	0.411
2	5	32.000	0.405	0.070	0.411
3	5	42.000	0.390	0.096	0.411
4	5	56.000	0.396	0.022	0.411
5	5	75.000	0.454	0.043	0.411
6	5	100.000	0.427	0.061	0.411

*** 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	19	19	20	20	24	22
Response 2	22	24	23	25	24	27
Response 3	22	15	18	22	20	25
Response 4	19	27	23	27	23	28
Response 5	23	18	29	22	24	26
Response 6	26	19	19	15	28	22
Response 7	25	27	22	19	21	26
Response 8	20	24	24	25	25	19
Response 9	24	23	21	23	23	27
Response 10	22	23	26	24	25	26

*** Inhibition Concentration Percentage Estimate ***

Toxicant/Effluent: Siloam Springs
 Test Start Date: 11/5/19 Test Ending Date: 11/12/19
 Test Species: Dubia
 Test Duration: 7 Day
 DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	10	0.000	22.200	2.394	22.883
2	10	32.000	21.900	3.985	22.883
3	10	42.000	22.500	3.308	22.883
4	10	56.000	22.200	3.490	22.883
5	10	75.000	23.700	2.214	22.883
6	10	100.000	24.800	2.860	22.883

*** 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.



Sample Condition Upon Receipt

Client Name: Siloom Springs
 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=243 Type of Ice: Wet Blue None
 Cooler Temperature (°C): As-read 2.8 Corr. Factor -1.8 Corrected 2.0

Date and initials of person examining contents:
11/7/19
8:00

Temperature should be above freezing to 6°C	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRÖ)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Cyanide water sample checks:	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Lead acetate strip turns dark? (Record only)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: _____



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:
 Company: City of Siloam Springs
 Address: 975 Anderson Avenue
 Siloam Springs, AR

Section B Required Project Information:
 Report To: Tom Myers
 Copy To: *fmj cv s @ Siloam Springs*
 Purchase Order No.:
 Project Name:
 Project Number:

Section C Invoice Information:
 Attention:
 Company Name:
 Address:
 Pace Guide
 Reference:
 Pace Project Manager:
 Pace Profile #: 10809

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: AR
 STATE: AR

Section D Required Client Information
Valid Matrix Codes
 MATRIX CODE (see valid codes to left)
 SAMPLE TYPE (G=GRAB C=COMP)
 Sample IDs MUST BE UNIQUE (A-Z, 0-9 / -)

ITEM #	Required Client Information	Valid Matrix Codes	MATRIX CODE	SAMPLE TYPE	COLLECTED	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Siloam Springs	DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS		G	COMPOSITE START COMPOSITE END/GRAB			H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other FCC	<input checked="" type="checkbox"/> Analysis Test ↓	<input checked="" type="checkbox"/> Chronic WET Test		0.01 Grab-001
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
11/7/19	10:00	Tom Myers City	11/8/19	15:50	Shirley Stegmaier Pace	11/9/19	8:00	Temp in °C: 8.1 Received on Ice (Y/N): Y Custody Sealed Cooler (Y/N): Y Samples Intact (Y/N): Y
*samples have a 24 hour hold time! *Return samples to the Frontenac Lab on ice!								

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Tom Myers
 SIGNATURE of SAMPLER: *Tom Myers*
 DATE Signed (MM/DD/YY): 11/8/2019

F-ALL-Q-020/rev.08, 12-Oct-2007
 *Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Sample Condition Upon Receipt

Client Name: Silcom Springs

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-243 Type of Ice: Wet Blue None

Cooler Temperature (°C): As-read 2.9 Corr. Factor -0.8 Corrected 2.1

Date and initials of person examining contents:
11/9/19
[Signature] 8:00

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Sample labels match COC: Date / time / ID / analyses	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples contain multiple phases? Matrix:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Containers requiring pH preservation in compliance? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Potassium iodide test strip turns blue/purple? (Preserve)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Samples from USDA Regulated Area: State:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> 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: _____