

June 30, 2021

Tony Brown
City of Siloam Springs
975 Anderson Avenue
Siloam Springs, AR 72761

RE: Project: 2ND QTR WET
Pace Project No.: 60372103

Dear Tony Brown:

Enclosed are the analytical results for sample(s) received by the laboratory between June 15, 2021 and June 21, 2021. 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 - Kansas City
- Pace Analytical Services - SE Kansas

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: 2ND QTR WET

Pace Project No.: 60372103

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219

Missouri Inorganic Drinking Water Certification #: 10090

Arkansas Drinking Water

Arkansas Certification #: 20-020-0

Arkansas Drinking Water

Illinois Certification #: 200030

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212020-2

Oklahoma Certification #: 9205/9935

Florida: Cert E871149 SEKS WET

Texas Certification #: T104704407-19-12

Utah Certification #: KS000212019-9

Illinois Certification #: 004592

Kansas Field Laboratory Accreditation: # E-92587

Missouri SEKS Micro Certification: 10070

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: 2ND QTR WET

Pace Project No.: 60372103

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60372103001	CITY OF SILOAM SPRINGS WASTEWA	Water	06/14/21 09:00	06/15/21 08:00
60372103002	CITY OF SILOAM SPRINGS WASTEWA	Water	06/14/21 09:00	06/15/21 19:38
60372103003	CITY OF SILOAM SPRINGS WASTEWA	Water	06/16/21 09:00	06/16/21 18:35
60372103004	SILOAM SPRINGS WWTP 353631	Water	06/18/21 09:00	06/21/21 18:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 2ND QTR WET

Pace Project No.: 60372103

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60372103001	CITY OF SILOAM SPRINGS WASTEWA	EPA 821/R-02/013	MEB	1	PASI-SE
60372103002	CITY OF SILOAM SPRINGS WASTEWA	EPA 200.8	JGP	1	PASI-K
60372103003	CITY OF SILOAM SPRINGS WASTEWA	EPA 200.8	JGP	12	PASI-K
60372103004	SILOAM SPRINGS WWTP 353631	EPA 200.8	JGP	12	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-SE = Pace Analytical Services - SE Kansas

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ANALYTICAL RESULTS

Project: 2ND QTR WET

Pace Project No.: 60372103

Sample: CITY OF SILOAM SPRINGS **Lab ID:** 60372103001 Collected: 06/14/21 09:00 Received: 06/15/21 08:00 Matrix: Water
WASTEWA

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		06/15/21 14:15		

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ANALYTICAL RESULTS

Project: 2ND QTR WET

Pace Project No.: 60372103

Sample: CITY OF SILOAM SPRINGS WASTEWA **Lab ID:** 60372103002 Collected: 06/14/21 09:00 Received: 06/15/21 19:38 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS								
Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Zinc	37.7	ug/L	10.0	1	06/22/21 09:06	06/28/21 10:31	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 2ND QTR WET

Pace Project No.: 60372103

Sample: CITY OF SILOAM SPRINGS WASTEWA **Lab ID:** 60372103003 Collected: 06/16/21 09:00 Received: 06/16/21 18:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City						
Antimony	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7440-36-0	
Arsenic	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7440-38-2	
Beryllium	ND	ug/L	0.50	1	06/23/21 13:25	06/28/21 10:57	7440-41-7	
Cadmium	ND	ug/L	0.50	1	06/23/21 13:25	06/28/21 10:57	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7440-47-3	
Copper	1.3	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7440-50-8	
Lead	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7439-92-1	
Nickel	2.1	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7440-02-0	
Selenium	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 10:57	7782-49-2	
Silver	ND	ug/L	0.50	1	06/23/21 13:25	06/28/21 10:57	7440-22-4	
Thallium	ND	ug/L	1.0	1	06/23/21 13:25	06/28/21 13:23	7440-28-0	
Zinc	38.3	ug/L	10.0	1	06/23/21 13:25	06/28/21 10:57	7440-66-6	

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ANALYTICAL RESULTS

Project: 2ND QTR WET

Pace Project No.: 60372103

Sample: SILOAM SPRINGS WWTP **Lab ID:** 60372103004 Collected: 06/18/21 09:00 Received: 06/21/21 18:30 Matrix: Water
353631

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City						
Antimony	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-36-0	
Arsenic	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-38-2	
Beryllium	ND	ug/L	0.50	1	06/28/21 11:26	06/30/21 14:33	7440-41-7	
Cadmium	ND	ug/L	0.50	1	06/28/21 11:26	06/30/21 14:33	7440-43-9	
Chromium	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-47-3	
Copper	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-50-8	
Lead	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7439-92-1	
Nickel	1.8	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-02-0	
Selenium	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7782-49-2	
Silver	ND	ug/L	0.50	1	06/28/21 11:26	06/30/21 14:33	7440-22-4	
Thallium	ND	ug/L	1.0	1	06/28/21 11:26	06/30/21 14:33	7440-28-0	
Zinc	42.8	ug/L	10.0	1	06/28/21 11:26	06/30/21 14:33	7440-66-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2ND QTR WET

Pace Project No.: 60372103

QC Batch: 727808

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60372103002

METHOD BLANK: 2923638

Matrix: Water

Associated Lab Samples: 60372103002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Zinc	ug/L	ND	10.0	06/28/21 10:15	

LABORATORY CONTROL SAMPLE: 2923639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Zinc	ug/L	100	100	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2923640 2923641

Parameter	Units	60372101002		MS		MSD		% Rec		Max		
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Zinc	ug/L	34.7	100	100	127	125	92	91	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2ND QTR WET

Pace Project No.: 60372103

QC Batch: 727925

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60372103003

METHOD BLANK: 2924013

Matrix: Water

Associated Lab Samples: 60372103003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	06/28/21 10:39	
Arsenic	ug/L	ND	1.0	06/28/21 10:39	
Beryllium	ug/L	ND	0.50	06/28/21 10:39	
Cadmium	ug/L	ND	0.50	06/28/21 10:39	
Chromium	ug/L	ND	1.0	06/28/21 10:39	
Copper	ug/L	ND	1.0	06/28/21 10:39	
Lead	ug/L	ND	1.0	06/28/21 10:39	
Nickel	ug/L	ND	1.0	06/28/21 10:39	
Selenium	ug/L	ND	1.0	06/28/21 10:39	
Silver	ug/L	ND	0.50	06/28/21 10:39	
Thallium	ug/L	ND	1.0	06/28/21 13:19	
Zinc	ug/L	ND	10.0	06/28/21 10:39	

LABORATORY CONTROL SAMPLE: 2924014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.0	100	85-115	
Arsenic	ug/L	40	40.4	101	85-115	
Beryllium	ug/L	40	42.6	107	85-115	
Cadmium	ug/L	40	41.1	103	85-115	
Chromium	ug/L	40	38.8	97	85-115	
Copper	ug/L	40	42.4	106	85-115	
Lead	ug/L	40	38.7	97	85-115	
Nickel	ug/L	40	41.2	103	85-115	
Selenium	ug/L	40	40.4	101	85-115	
Silver	ug/L	20	19.5	98	85-115	
Thallium	ug/L	40	37.3	93	85-115	
Zinc	ug/L	100	103	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2924015 2924016

Parameter	Units	60372103003		2924016		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result						
Antimony	ug/L	ND	40	38.0	38.2	94	95	70-130	0	20	
Arsenic	ug/L	ND	40	39.3	39.5	97	98	70-130	1	20	
Beryllium	ug/L	ND	40	39.3	38.9	98	97	70-130	1	20	
Cadmium	ug/L	ND	40	37.9	37.6	95	94	70-130	1	20	

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QUALITY CONTROL DATA

Project: 2ND QTR WET

Pace Project No.: 60372103

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2924015 2924016												
Parameter	Units	60372103003 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	MS Result	MSD Result						
Chromium	ug/L	ND	40	40	35.7	36.0	88	89	70-130	1	20	
Copper	ug/L	1.3	40	40	38.5	38.9	93	94	70-130	1	20	
Lead	ug/L	ND	40	40	36.4	36.6	90	91	70-130	0	20	
Nickel	ug/L	2.1	40	40	38.8	39.4	92	93	70-130	1	20	
Selenium	ug/L	ND	40	40	36.9	37.0	92	92	70-130	0	20	
Silver	ug/L	ND	20	20	17.8	17.9	89	89	70-130	0	20	
Thallium	ug/L	ND	40	40	37.8	37.8	94	94	70-130	0	20	
Zinc	ug/L	38.3	100	100	126	127	88	89	70-130	1	20	

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QUALITY CONTROL DATA

Project: 2ND QTR WET

Pace Project No.: 60372103

QC Batch: 728890	Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8	Analysis Description: 200.8 MET
	Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60372103004

METHOD BLANK: 2927749 Matrix: Water

Associated Lab Samples: 60372103004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	1.0	06/30/21 13:55	
Arsenic	ug/L	ND	1.0	06/30/21 13:55	
Beryllium	ug/L	ND	0.50	06/30/21 13:55	
Cadmium	ug/L	ND	0.50	06/30/21 13:55	
Chromium	ug/L	ND	1.0	06/30/21 13:55	
Copper	ug/L	ND	1.0	06/30/21 13:55	
Lead	ug/L	ND	1.0	06/30/21 13:55	
Nickel	ug/L	ND	1.0	06/30/21 13:55	
Selenium	ug/L	ND	1.0	06/30/21 13:55	
Silver	ug/L	ND	0.50	06/30/21 13:55	
Thallium	ug/L	ND	1.0	06/30/21 13:55	
Zinc	ug/L	ND	10.0	06/30/21 13:55	

LABORATORY CONTROL SAMPLE: 2927750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.0	97	85-115	
Arsenic	ug/L	40	41.4	103	85-115	
Beryllium	ug/L	40	40.8	102	85-115	
Cadmium	ug/L	40	39.9	100	85-115	
Chromium	ug/L	40	41.2	103	85-115	
Copper	ug/L	40	41.5	104	85-115	
Lead	ug/L	40	38.1	95	85-115	
Nickel	ug/L	40	40.6	101	85-115	
Selenium	ug/L	40	40.9	102	85-115	
Silver	ug/L	20	19.6	98	85-115	
Thallium	ug/L	40	37.3	93	85-115	
Zinc	ug/L	100	107	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2927751 2927752

Parameter	Units	60372817001		2927752		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.						
Antimony	ug/L	ND	40	38.3	38.6	95	96	70-130	1	20	
Arsenic	ug/L	6.5	40	45.3	45.0	97	96	70-130	1	20	
Beryllium	ug/L	ND	40	39.7	40.2	99	100	70-130	1	20	
Cadmium	ug/L	ND	40	38.2	38.4	95	96	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 2ND QTR WET

Pace Project No.: 60372103

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2927751		2927752		MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		60372817001 Result	MS Spike Conc.	MSD Spike Conc.									
Chromium	ug/L	ND	40	40	38.7	39.1	95	95	70-130	1	20		
Copper	ug/L	ND	40	40	38.1	37.2	93	91	70-130	2	20		
Lead	ug/L	1.2	40	40	40.6	41.0	98	100	70-130	1	20		
Nickel	ug/L	3.7	40	40	41.2	40.3	94	91	70-130	2	20		
Selenium	ug/L	ND	40	40	36.6	36.9	90	91	70-130	1	20		
Silver	ug/L	ND	20	20	18.2	18.4	91	92	70-130	1	20		
Thallium	ug/L	ND	40	40	38.6	39.1	96	98	70-130	1	20		
Zinc	ug/L	ND	100	100	94.9	95.4	89	89	70-130	1	20		

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QUALIFIERS

Project: 2ND QTR WET

Pace Project No.: 60372103

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2ND QTR WET

Pace Project No.: 60372103

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60372103001	CITY OF SILOAM SPRINGS WASTEWA	EPA 821/R-02/013	728231		
60372103002	CITY OF SILOAM SPRINGS WASTEWA	EPA 200.8	727808	EPA 200.8	727907
60372103003	CITY OF SILOAM SPRINGS WASTEWA	EPA 200.8	727925	EPA 200.8	728072
60372103004	SILOAM SPRINGS WWTP 353631	EPA 200.8	728890	EPA 200.8	729032

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Sample Condition Upon Receipt

WO#: 60372103



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-298 Type of Ice: VOA Blue None

Cooler Temperature (°C): As-read 2.7 Corr. Factor 0.0 Corrected 2.7

Date and initials of person examining contents:

RV 6/22/21

Temperature should be above freezing to 6°C

Chain of Custody present:	<input 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 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: <u>WT</u>	<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) LOT# <u>603173</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input 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: _____



Sample Condition Upon Receipt

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 1.6 Corr. Factor -8 Corrected 0.8

Date and initials of person examining contents: EP

6/18/21 1510

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: _____

REFERENCE #60372103

**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: Tony Brown
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

June 24, 2021

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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 June 14, 2021 to June 18, 2021. 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 13.7.

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 15.3.

The chronic toxicity exhibited by the fathead minnows and the *Ceriodaphnia* treated by the effluent sampled from June 14 to June 18 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 6-15-21. Subsequent samples followed by delivery on 6-17-21, and on 6-19-21. 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 6-15-21 and carried out until 6-22-21. 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

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.

TABLE 1

Permittee: City of Siloam Springs Effluent discharge.

Date Sampled	No. 1: 6-14-21	9:00
	No. 2: 6-16-21	9:00
	No. 3: 6-18-21	9:00
Test Initiated: 14:15	Date: 6-15-21	
Test End: 14:20	Date: 6-22-21	

RESULTS

Critical Dilution:	100%
Ceriodaphnia dubia	Results
TLP3B	0
TGP3B	0
TOP3B	100
TPP3B	100
TQP3B	18.73
Pimephales promelas	Results
TLP6C	0
TGP6C	0
TOP6C	100
TPP6C	100
TQP6C	10.06

REFERENCE #60372103

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%	0.574	0.486	0.454	0.571	0.529	0.523	10.06
Dilution 1 32%	0.612	0.609	0.545	0.534	0.491	0.558	9.29
Dilution 2 42%	0.523	0.606	0.536	0.563	0.587	0.563	6.12
Dilution 3 56%	0.559	0.464	0.586	0.596	0.539	0.549	9.56
Dilution 4 75%	0.557	0.611	0.511	0.536	0.437	0.530	12.05
Dilution 5 100%	0.554	0.560	0.561	0.540	0.592	0.561	3.39

* 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	90	100	100	100	100	98	5.28
Dilution 1 32%	100	100	100	100	100	100	100	100	0.00
Dilution 2 42%	100	100	100	100	100	100	100	100	0.00
Dilution 3 56%	100	90	100	100	100	100	100	98	5.28
Dilution 4 75%	100	100	100	100	90	100	100	98	5.28
Dilution 5 100%	100	100	100	100	100	100	100	100	0.00

REFERENCE #60372103

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	18	20	16	16	22	18
2	18	25	20	21	26	20
3	24	15	19	23	19	26
4	18	19	25	20	21	16
5	22	22	20	24	21	25
6	24	25	17	16	19	19
7	24	20	18	17	16	24
8	23	22	20	18	24	15
9	19	16	23	23	24	22
10	22	23	22	23	21	18
Mean	21.2	20.7	20.0	20.1	21.3	20.3
SD	2.658	3.401	2.749	3.143	2.908	3.802
CV %	12.54	16.43	13.74	15.64	13.65	18.73

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	0.000	0.000	0.000	0.000	0.000	0.000
CV %	0.00	0.00	0.00	0.00	0.00	0.00

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%.

**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

**TABLE 2 (SECTION 2)
INITIAL WATER QUALITY
EFFLUENT CONCENTRATION**

	Control	100%
PH	7.4	7.0
D.O.	8.3	8.5
Temp	25.0	25.0
Alk	60	70
Hard	88	174
Cond	292	675
Chlorine	<0.1	<0.1

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

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.6	7.1	24.7
32% Effluent	7.5	7.1	24.6
42% Effluent	7.4	7.1	24.6
56% Effluent	7.3	7.1	24.6
75% Effluent	7.3	7.0	24.6
100% Effluent	7.2	7.0	24.6

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.4	7.0	24.7
32% Effluent	7.4	6.8	24.6
42% Effluent	7.4	6.8	24.6
56% Effluent	7.4	6.8	24.6
75% Effluent	7.4	6.7	24.6
100% Effluent	7.4	6.6	24.6

REFERENCE #60372103

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Control	100%
pH	7.7	7.5
D.O.	6.9	7.1
Temp	25.0	24.8
Alk	62	74
Hard	94	170
Cond	340	707

- * 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 0.521 g/organism in the controls. The percent coefficient of variation (%CV) values for the fathead minnow control for survival and growth were 5.94 and 11.63. The Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 21.2 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 12.54. 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: 6/15/21 14:15 End: 6/22/21 14:20

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	9	0	0
8 g/l	40	38	28	6
6 g/l	40	40	37	25
4 g/l	40	40	40	40
2 g/l	40	40	40	39

IC25 (5.07 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	7	4	0
2.0 g/l	10	10	9	2
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 (1.23 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: 
 Timothy Harrell
 Technical Director

60372103 Siloam Springs FATHEAD SURVIVAL
File: 6372103A 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	0	27	0	0

Calculated Chi-Square goodness of fit test statistic = 38.0902
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.

60372103 Siloam Springs FATHEAD SURVIVAL
File: 6372103A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

D = 0.064

W = 0.597

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.

60372103 Siloam Springs FATHEAD SURVIVAL
 File: 6372103A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

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

60372103 Siloam Springs FATHEAD SURVIVAL
 File: 6372103A Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.005	0.073	0.033	5.28
2	32%	0.000	0.000	0.000	0.00
3	42%	0.000	0.000	0.000	0.00
4	56%	0.005	0.073	0.033	5.28
5	75%	0.005	0.073	0.033	5.28
6	100%	0.000	0.000	0.000	0.00

60372103 Siloam Springs FATHEAD SURVIVAL
 File: 6372103A Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.008	0.002	0.600
Within (Error)	24	0.064	0.003	
Total	29	0.072		

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

60372103 Siloam Springs FATHEAD SURVIVAL
 File: 6372103A 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	1.379	0.980		
2	32%	1.412	1.000	-1.000	
3	42%	1.412	1.000	-1.000	
4	56%	1.379	0.980	0.000	
5	75%	1.379	0.980	0.000	
6	100%	1.412	1.000	-1.000	

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

60372103 Siloam Springs FATHEAD SURVIVAL

File: 6372103A

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	0.034	3.5	-0.020
3	42%	5	0.034	3.5	-0.020
4	56%	5	0.034	3.5	0.000
5	75%	5	0.034	3.5	0.000
6	100%	5	0.034	3.5	-0.020

60372103 Siloam Springs FATHEAD GROWTH
File: 6372103B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

D = 0.055

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.

60372103 Siloam Springs FATHEAD GROWTH
File: 6372103B Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 5.22

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.

60372103 Siloam Springs FATHEAD GROWTH
 File: 6372103B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	0.454	0.574	0.523
2	32%	5	0.491	0.612	0.558
3	42%	5	0.523	0.606	0.563
4	56%	5	0.464	0.596	0.549
5	75%	5	0.437	0.611	0.530
6	100%	5	0.540	0.592	0.561

60372103 Siloam Springs FATHEAD GROWTH
 File: 6372103B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.003	0.053	0.024	10.06
2	32%	0.003	0.052	0.023	9.29
3	42%	0.001	0.034	0.015	6.12
4	56%	0.003	0.052	0.023	9.56
5	75%	0.004	0.064	0.029	12.05
6	100%	0.000	0.019	0.009	3.39

60372103 Siloam Springs FATHEAD GROWTH
 File: 6372103B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.007	0.001	0.629
Within (Error)	24	0.055	0.002	
Total	29	0.063		

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

60372103 Siloam Springs FATHEAD GROWTH
 File: 6372103B 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	0.523	0.523		
2	32%	0.558	0.558	-1.165	
3	42%	0.563	0.563	-1.323	
4	56%	0.549	0.549	-0.856	
5	75%	0.530	0.530	-0.250	
6	100%	0.561	0.561	-1.271	

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

60372103 Siloam Springs FATHEAD GROWTH
 File: 6372103B 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	0.072	13.7	-0.035
3	42%	5	0.072	13.7	-0.040
4	56%	5	0.072	13.7	-0.026
5	75%	5	0.072	13.7	-0.008
6	100%	5	0.072	13.7	-0.039

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	

60372103 Siloam Springs CERIODAPHNIA DUBIA SURVIVA
File: 6372103D 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

60372103 Siloam Springs CERIODAPHNIA DUBIA SURVIVA
File: 6372103D 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

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU

File: 6372103E 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	2	18	20	18	2

Calculated Chi-Square goodness of fit test statistic = 4.0702

Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU

File: 6372103E Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 1.64

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.

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU
 File: 6372103E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	18.000	24.000	21.200
2	32%	10	15.000	25.000	20.700
3	42%	10	16.000	25.000	20.000
4	56%	10	16.000	24.000	20.100
5	75%	10	16.000	26.000	21.300
6	100%	10	15.000	26.000	20.300

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU
 File: 6372103E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	7.067	2.658	0.841	12.54
2	32%	11.567	3.401	1.075	16.43
3	42%	7.556	2.749	0.869	13.74
4	56%	9.878	3.143	0.994	15.64
5	75%	8.456	2.908	0.920	13.65
6	100%	14.456	3.802	1.202	18.73

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU
 File: 6372103E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	15.600	3.120	0.317
Within (Error)	54	530.800	9.830	
Total	59	546.400		

Critical F value = 2.45 (0.05,5,40)
 Since $F < \text{Critical } F$ FAIL TO REJECT H_0 : All equal

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU
 File: 6372103E 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	21.200	21.200		
2	32%	20.700	20.700	0.357	
3	42%	20.000	20.000	0.856	
4	56%	20.100	20.100	0.785	
5	75%	21.300	21.300	-0.071	
6	100%	20.300	20.300	0.642	

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

60372103 Siloams Springs CERIODAPHNIA DUBIA REPRODU
File: 6372103E 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	3.239	15.3	0.500
3	42%	10	3.239	15.3	1.200
4	56%	10	3.239	15.3	1.100
5	75%	10	3.239	15.3	-0.100
6	100%	10	3.239	15.3	0.900

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	32	42	56	75	100
Response 1	.574	.612	.523	.559	.557	.554
Response 2	.486	.609	.606	.464	.611	.560
Response 3	.454	.545	.536	.586	.511	.561
Response 4	.571	.534	.563	.596	.536	.540
Response 5	.529	.491	.587	.539	.437	.592

*** Inhibition Concentration Percentage Estimate ***
 Toxicant/Effluent: Siloam Springs
 Test Start Date: 6/15/21 Test Ending Date: 6/22/21
 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	0.523	0.053	0.548
2	5	32.000	0.558	0.052	0.548
3	5	42.000	0.563	0.034	0.548
4	5	56.000	0.549	0.052	0.548
5	5	75.000	0.530	0.064	0.546
6	5	100.000	0.561	0.019	0.546

*** 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	18	20	16	16	22	18
Response 2	18	25	20	21	26	20
Response 3	24	15	19	23	19	26
Response 4	18	19	25	20	21	16
Response 5	22	22	20	24	21	25
Response 6	24	25	17	16	19	19
Response 7	24	20	18	17	16	24
Response 8	23	22	20	18	24	15
Response 9	19	16	23	23	24	22
Response 10	22	23	22	23	21	18

*** Inhibition Concentration Percentage Estimate ***

Toxicant/Effluent: Siloam Springs

Test Start Date: 6/15/21 Test Ending Date: 6/22/21

Test Species: Dubia

Test Duration: 7 Days

DATA FILE:

Conc. ID	Number Replicates	Concentration	Response Means	Std. Dev.	Pooled Response Means
1	10	0.000	21.200	2.658	21.200
2	10	32.000	20.700	3.401	20.700
3	10	42.000	20.000	2.749	20.467
4	10	56.000	20.100	3.143	20.467
5	10	75.000	21.300	2.908	20.467
6	10	100.000	20.300	3.802	20.300

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

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	City of Siloam Springs	Report To:	Tony Brown	Attention:	
Address:	975 Anderson Avenue Siloam Springs, AR	Copy To:	abrown@siloamsprings.com	Company Name:	
Email To:	abrown@siloamsprings.com	Purchase Order No.:		Address:	
Phone:	479-228-2000	Project Name:	2nd QTR WET	Pace Quote Reference:	
Requested Due Date/TAT:		Project Number:		Pace Project Manager:	Nolie Wood
				Pace Profile #:	10809
REGULATORY AGENCY			REGULATORY AGENCY		
<input checked="" type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER			Site Location: <u>AR</u> STATE: <u>AR</u>		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DW WT WW P SL SLS/SOLID OIL WIFE AIR AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ SO ₄ Methanol Other	Analysis Test ↑ Y/N	Chronic WET Test Metals-Zn	Requested Analysis Filtered (Y/N)				
					COMPOSITE START	COMPOSITE END/GRAB										
					DATE	TIME	DATE	TIME								
1	City of Siloam Springs Wastewater Plant		WW C	C	6/13/21	10:00	6/14/21	9:00	1	X	X					
2	<i>353641</i>		WW C	C	6/13/21	10:00	6/14/21	9:00	1	X	X					
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
ADDITIONAL COMMENTS: <i>899609</i> *samples have a 24 hour hold time! *return samples to the Frontenac Lab on ice! <i>Clz: .03</i>																
RELINQUISHED BY / AFFILIATION					DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
<i>Tony Brown</i>					6/14/21		1957		<i>Suno Analytical</i>		6/15/21		800		2.0	
<i>Suno Analytical</i>					4/15/21		1600									

Temp in °C		Received on		Cooler (Y/N)		Samples Intact	(Y/N)
Temp in °C		Received on		Cooler (Y/N)		Samples Intact	(Y/N)
SAMPLER NAME AND SIGNATURE							
PRINT Name of SAMPLER: Tony Brown				DATE Signed (MM/DD/YYYY): 6/14/21			
SIGNATURE of SAMPLER: <i>Tony Brown</i>							



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: **2** of **3**

Section A
 Required Client Information:
 Company: **City of Siloam Springs**
 Address: **975 Anderson Avenue**
Siloam Springs, AR
 Email To: **abrown@silosamsprings.com**
 Phone: **479-228-2000** Fax
 Requested Due Date/TAT:

Section B
 Required Project Information:
 Report To: **Tony Brown**
 Copy To: **abrown@silosamsprings.com**
 Purchase Order No.:
 Project Name: **2nd QTR WET**
 Project Number:

Section C
 Invoice Information:
 Attention:
 Company Name:
 Address:
 Pace Quote Reference:
 Pace Project Manager: **Nollie Wood**
 Pace Profile #: **10809**

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

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIFE WP AIR AR OTHER OT TISSUE TS	Matrix Code 889577	Matrix Code 351909 Metals	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₂ Methanol Other	Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 6206-001
					COMPOSITE START	COMPOSITE END/GRAB							
		DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME
1	City of Siloam Springs Wastewater Plant	WW	C	6/15/21	10:00	06/16/21	9:00	1					
2		WW	C	6/15/21	10:00	06/16/21	9:00	1					
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!
 Calc 0.02 mg/L

RELINQUISHED BY / AFFILIATION
 Tony Brown 6/17/21 1600
 Tony Brown 6/17/21 1430

ACCEPTED BY / AFFILIATION
 [Signature] 6/17/21 800

DATE **TIME**

Temp In °C

Received on Ice (Y/N)

Cooler (Y/N)

Custody Sealed (Y/N)

Samples Intact (Y/N)

DATE Signed (MM/DD/YYYY) 6/16/21

PRINT Name of SAMPLER: Tony Brown

SIGNATURE of SAMPLER: [Signature]



Sample Condition Upon Receipt

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 1.8 Corr. Factor -.8 Corrected 1.0

Date and initials of person examining contents:

MBG/17/21
800

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: _____



Sample Condition Upon Receipt

Client Name: Silver 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 1.6 Corr. Factor -.8 Corrected 0.8

Date and initials of person examining contents: EP

6/18/21 15:10

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: _____