

August 25, 2020

Mike Cole  
EEG  
220 N Knoxville Avenue  
Russellville, AR 72801

RE: Project: CITY CORPORATION, L246-056692  
Pace Project No.: 60345058

Dear Mike Cole:

Enclosed are the analytical results for sample(s) received by the laboratory between August 11, 2020 and August 13, 2020. 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,



Jamie Church  
jamie.church@pacelabs.com  
314-838-7223  
Project Manager

Enclosures

cc: Mike Cole, Environmental Enterprise Group, Inc.  
Stacy Ness, EEG  
Stacy Ness-copy invoice, EEG, Inc.



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

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### **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

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### **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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

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Lab ID	Sample ID	Matrix	Date Collected	Date Received
60345058001	OUTFALL 001	Water	08/10/20 06:55	08/11/20 08:00
60345058002	OUTFALL 001	Water	08/10/20 06:55	08/13/20 18:40

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### SAMPLE ANALYTE COUNT

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60345058001	OUTFALL 001	EPA 821/R-02/013	TDH	1	PASI-SE
60345058002	OUTFALL 001	EPA 350.1	LDB	1	PASI-K

PASI-K = Pace Analytical Services - Kansas City

PASI-SE = Pace Analytical Services - SE Kansas

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### ANALYTICAL RESULTS

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

<b>Sample: OUTFALL 001</b>		<b>Lab ID: 60345058001</b>	Collected: 08/10/20 06:55	Received: 08/11/20 08:00	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Chronic Toxicity</b>								
Analytical Method: EPA 821/R-02/013								
Pace Analytical Services - SE Kansas								
Toxicity, Chronic	<b>Complete</b>		1.0	1		08/11/20 11:40		

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### ANALYTICAL RESULTS

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

<b>Sample: OUTFALL 001</b>		<b>Lab ID: 60345058002</b>		Collected: 08/10/20 06:55	Received: 08/13/20 18:40	Matrix: Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>350.1 Ammonia</b>		Analytical Method: EPA 350.1 Pace Analytical Services - Kansas City						
Nitrogen, Ammonia	<b>15.8</b>	mg/L	0.10	1		08/17/20 13:16	7664-41-7	

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### QUALITY CONTROL DATA

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

QC Batch: 671563

Analysis Method: EPA 350.1

QC Batch Method: EPA 350.1

Analysis Description: 350.1 Ammonia

Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60345058002

METHOD BLANK: 2717424

Matrix: Water

Associated Lab Samples: 60345058002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/17/20 13:00	

LABORATORY CONTROL SAMPLE: 2717425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	5	5.2	105	90-110	

MATRIX SPIKE SAMPLE: 2717426

Parameter	Units	60345463003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	5.5	5	10.6	103	90-110	

MATRIX SPIKE SAMPLE: 2717428

Parameter	Units	60345449002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	5	6.6	105	90-110	

SAMPLE DUPLICATE: 2717427

Parameter	Units	60345482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CITY CORPORATION, L246-056692

Pace Project No.: 60345058

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Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60345058001	OUTFALL 001	EPA 821/R-02/013	672946		
60345058002	OUTFALL 001	EPA 350.1	671563		

### REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60345058



Client Name: EGG

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-299 Type of Ice: Wet Blue  None

Cooler Temperature (°C): As-read 1.5 Corr. Factor +0.2 Corrected 1.7

Date and initials of person examining contents:  
8/13/20

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 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 <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO)	<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: \_\_\_\_\_



REFERENCE #60345058

CHRONIC TOXICITY TEST FOR  
CITY CORPORATION

PERMIT # AR 0021768  
AFIN # 58-00105

PERFORMED ON:

Pimephales promelas

and

Ceriodaphnia dubia

PREPARED FOR:

Environmental Enterprise Group Inc.  
220 North Knoxville  
Russellville, AR 72801  
479-968-6767

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

August 20, 2020

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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 CORPORATION effluent discharge from August 10, 2020 to August 14, 2020. All the test methods followed are as listed in EPA 8100-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 8100-R-02-013, November 2002 and by use of Toxstat version 3.4.

In minnow section of testing, it was observed that the effluent had 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 75% for survival. Significant reduction in growth was observed in the 100% effluent concentration. The Toxic Units is 1.13. The IC<sub>25</sub> is 88.8%. The NOEC for growth in effluent was determined to be 75%. The PMSD is 19.4.

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 IC<sub>25</sub> is  $> 100\%$ . The NOEC for reproduction in effluent was determined to be 100%. The PMSD is 16.7.

The chronic toxicity exhibited by the *Ceriodaphnia* treated by the effluent sampled from August 10 to August 14 from the CITY CORPORATION effluent discharge, is acceptable as described in EPA 8100-R-02-013. But chronic toxicity exhibited by the fathead minnow treated by the effluent sampled was not acceptable.

## INTRODUCTION

Pace Analytical was contracted to perform this chronic toxicity test on effluent from the CITY CORPORATION 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 8100-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

EEG personnel collected sampling of the effluent. A sample of the effluent was delivered to Pace by CITY CORPORATION personnel on 8-11-20. Subsequent samples followed by delivery on 8-13-20, and on 8-14-20. All samples were stored at  $\leq 6^{\circ}$  Celsius. Moderately Hard Synthetic was used as the control and to make the required dilutions in the test as described in EPA 8100-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 8-11-20 and carried out until 8-18-20. 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 #60345058

Permittee: CITY CORPORATION Effluent discharge.

Date Sampled	No. 1: 8-10-20	6:55
	No. 2: 8-12-20	6:51
	No. 3: 8-14-20	6:53

Test Initiated: 11:40	Date: 8-11-20
Test End: 11:15	Date: 8-18-20

Ceriodaphnia dubia	Results
TLP3B	0
TGP3B	0
TOP3B	100%
TPP3B	100%
TQP3B	12.62
Pimephales promelas	Results
TLP6C	1
TGP6C	1
TOP6C	75%
TPP6C	75%
TQP6C	30.59



Dilution Water used: Moderately Hard Synthetic

**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%	0.421	0.352	0.314	0.396	0.362	0.369	11.17
Dilution 1 32%	0.347	0.302	0.356	0.320	0.392	0.343	10.08
Dilution 2 42%	0.340	0.389	0.375	0.394	0.429	0.385	8.36
Dilution 3 56%	0.340	0.399	0.378	0.471	0.332	0.384	14.54
Dilution 4 75%	0.405	0.341	0.360	0.373	0.278	0.351	13.43
Dilution 5 100%	0.317	0.214	0.139	0.182	0.241	0.219	30.59

\* 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	87.5	100	100	100	100	97.5	4.79
Dilution 1 32%	100	87.5	100	87.5	100	100	100	95	5.99
Dilution 2 42%	87.5	100	100	100	100	100	100	97.5	4.79
Dilution 3 56%	87.5	100	100	100	87.5	100	100	95	5.99
Dilution 4 75%	100	87.5	100	100	75	100	100	92.5	9.57
Dilution 5 100%	70	50	40	50	60	77.5	72.5	67.5	14.08

Permittee: CITY CORPORATION 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 3 75%	Dilution 4 100%
1	16	24	25	18	20	23
2	17	19	25	28	19	29
3	22	24	21	27	30	23
4	22	22	20	19	23	24
5	18	26	19	22	24	28
6	20	21	20	24	23	26
7	20	18	23	25	27	30
8	21	25	26	19	25	22
9	20	27	16	26	20	23
10	17	23	23	26	21	21
Mean	19.3	22.9	21.8	23.4	23.2	24.9
SD	2.163	2.923	3.155	3.658	3.458	3.143
CV %	11.21	12.76	14.47	15.63	14.90	12.62

**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
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
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 CORPORATION Effluent discharge.

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

TABLE 2 (SECTION 2)  
 INITIAL WATER QUALITY  
 EFFLUENT CONCENTRATION

	Control	100%
PH	7.47	7.62
D.O.	8.30	8.00
Temp	25.0	25.0
Alk	62	150
Hard	90	74
Cond	342	677
Chlorine	<0.1	<0.1

- \* D.O. is reported as mg/L
- Alkalinity is reported as mg/L CaCO<sub>3</sub>
- Hardness is reported as mg/L CaCO<sub>3</sub>
- Conductance is reported as umhos
- Chlorine is reported as mg/L

TEST WATER QUALITY

24-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.65	7.30	24.9
32% Effluent	7.86	7.10	25.2
42% Effluent	7.93	7.10	25.2
56% Effluent	7.98	7.00	25.2
75% Effluent	8.04	6.90	25.2
100% Effluent	8.09	6.80	25.2

48-Hour Water Quality Measurements

Effluent Concentration (%)	PH	D.O. (mg/l)	Temperature (C)
0% Control	7.73	7.20	25.1
32% Effluent	7.76	7.20	25.4
42% Effluent	7.79	7.20	25.4
56% Effluent	7.83	7.20	25.4
75% Effluent	7.89	7.20	25.4
100% Effluent	7.96	7.20	25.4

FINAL WATER QUALITY

EFFLUENT CONCENTRATION

	Control	100%
pH	7.69	7.60
D.O.	7.20	6.20
Temp	25.2	25.0
Alk	62	152
Hard	94	78
Cond	393	702

- \* D.O. is reported as mg/L
- Alkalinity is reported as mg/L CaCO<sub>3</sub>
- Hardness is reported as mg/L CaCO<sub>3</sub>
- 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 0.369 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 11.17. The Ceriodaphnia dubia survival rates were 100 in the control. The Ceriodaphnia in the control produced an average of 19.3 young over the seven-day exposure period. Percent CV values for Ceriodaphnia dubia control survival and reproduction was 0.00 and 11.21. Control data met or exceeded all criteria set out by EPA 8100-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: 7/21/20 11:45                      End: 7/28/20 11:00

Concentration of Toxicant	Avg. # of Live Organisms/replicate			
	0 hrs	24 hrs	48 hrs	7 days
10 g/l	40	6	2	0
8 g/l	40	36	23	3
6 g/l	40	40	37	23
4 g/l	40	40	40	40
2 g/l	40	40	40	39

IC25 (4.92 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	6	2	0
2.0 g/l	10	10	9	2
1.5 g/l	10	10	10	9
1.0 g/l	10	10	10	10
0.5 g/l	10	10	10	10

IC25 (1.19 g/l Sodium Chloride)

Survival NOEC: 1.5 g/l

Submitted By: *Tim Harrell*  
 Timothy Harrell, Technical Director

60345058 EEG City Corp FATHEAD SURVIVAL  
File: 6345058A 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	5	11	11	0

---

Calculated Chi-Square goodness of fit test statistic = 5.1463  
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60345058 EEG City Corp FATHEAD SURVIVAL  
File: 6345058A Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro - Wilk's test for normality

---

D = 0.148

W = 0.919

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.

60345058 EEG City Corp FATHEAD SURVIVAL  
 File: 6345058A 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	1.061
3	42%	5	0.991	1.107	1.084
4	56%	5	0.991	1.107	1.061
5	75%	5	0.886	1.107	1.040
6	100%	5	0.685	0.991	0.827

60345058 EEG City Corp FATHEAD SURVIVAL  
 File: 6345058A 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%	0.004	0.064	0.028	5.99
3	42%	0.003	0.052	0.023	4.79
4	56%	0.004	0.064	0.028	5.99
5	75%	0.010	0.100	0.044	9.57
6	100%	0.014	0.116	0.052	14.08

60345058 EEG City Corp FATHEAD SURVIVAL  
 File: 6345058A Transform: ARC SINE(SQUARE ROOT(Y))

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.246	0.049	7.986
Within (Error)	24	0.148	0.006	
Total	29	0.393		

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

60345058 EEG City Corp FATHEAD SURVIVAL  
 File: 6345058A Transform: ARC SINE(SQUARE ROOT(Y))

## DUNNETT'S TEST

TABLE 1 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	1.084	0.780		
2	32%	1.061	0.760	0.468	
3	42%	1.084	0.780	0.000	
4	56%	1.061	0.760	0.468	
5	75%	1.040	0.740	0.892	
6	100%	0.827	0.540	5.190	*

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

60345058 EEG City Corp FATHEAD SURVIVAL

File: 6345058A

Transform: ARC SINE(SQUARE ROOT(Y))

## DUNNETT'S TEST

TABLE 2 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	32%	5	0.104	13.3	0.020
3	42%	5	0.104	13.3	0.000
4	56%	5	0.104	13.3	0.020
5	75%	5	0.104	13.3	0.040
6	100%	5	0.104	13.3	0.240

60345058 EEG City Corp FATHEAD GROWTH  
File: 6345058B Transform: NO TRANSFORMATION

Shapiro - Wilk's test for normality

---

D = 0.055

W = 0.978

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.

60345058 EEG City Corp FATHEAD GROWTH  
File: 6345058B Transform: NO TRANSFORMATION

Bartlett's test for homogeneity of variance

Calculated B1 statistic = 2.89

---

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.

60345058 EEG City Corp FATHEAD GROWTH  
 File: 6345058B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	5	0.314	0.421	0.369
2	32%	5	0.302	0.392	0.343
3	42%	5	0.340	0.429	0.385
4	56%	5	0.332	0.471	0.384
5	75%	5	0.278	0.405	0.351
6	100%	5	0.139	0.317	0.219

60345058 EEG City Corp FATHEAD GROWTH  
 File: 6345058B Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	0.002	0.041	0.018	11.17
2	32%	0.001	0.035	0.015	10.08
3	42%	0.001	0.032	0.014	8.36
4	56%	0.003	0.056	0.025	14.54
5	75%	0.002	0.047	0.021	13.43
6	100%	0.004	0.067	0.030	30.59

60345058 EEG City Corp FATHEAD GROWTH  
 File: 6345058B Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.098	0.020	8.593
Within (Error)	24	0.055	0.002	
Total	29	0.153		

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

60345058 EEG City Corp FATHEAD GROWTH  
 File: 6345058B Transform: NO TRANSFORMATION

## DUNNETT'S TEST

TABLE 1 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	0.369	0.369		
2	32%	0.343	0.343	0.845	
3	42%	0.385	0.385	-0.542	
4	56%	0.384	0.384	-0.495	
5	75%	0.351	0.351	0.581	
6	100%	0.219	0.219	4.967	*

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

60345058 EEG City Corp FATHEAD GROWTH

File: 6345058B

Transform: NO TRANSFORMATION

## DUNNETT'S TEST

TABLE 2 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	5			
2	32%	5	0.071	19.4	0.026
3	42%	5	0.071	19.4	-0.016
4	56%	5	0.071	19.4	-0.015
5	75%	5	0.071	19.4	0.018
6	100%	5	0.071	19.4	0.150

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	

60345057 EEG City Corp CERIODAPHNIA DUBIA SURVIVA  
File: 6345058D 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

---

60345057 EEG City Corp CERIODAPHNIA DUBIA SURVIVA  
File: 6345058D 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

---

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
File: 6345058E 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	3	20	18	17	2

---

Calculated Chi-Square goodness of fit test statistic = 4.8217  
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
File: 6345058E Transform: NO TRANSFORMATION

---

Bartlett's test for homogeneity of variance  
Calculated B1 statistic = 2.60

---

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.

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
 File: 6345058E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	CONTROL	10	16.000	22.000	19.300
2	32%	10	18.000	27.000	22.900
3	42%	10	16.000	26.000	21.800
4	56%	10	18.000	28.000	23.400
5	75%	10	19.000	30.000	23.200
6	100%	10	21.000	30.000	24.900

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
 File: 6345058E Transform: NO TRANSFORMATION

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	CONTROL	4.678	2.163	0.684	11.21
2	32%	8.544	2.923	0.924	12.76
3	42%	9.956	3.155	0.998	14.47
4	56%	13.378	3.658	1.157	15.63
5	75%	11.956	3.458	1.093	14.90
6	100%	9.878	3.143	0.994	12.62

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
 File: 6345058E Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	179.083	35.817	3.680
Within (Error)	54	525.500	9.731	
Total	59	704.583		

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

60345058 EEG CERIODAPHNIA DUBIA REPRODU  
 File: 6345058E Transform: NO TRANSFORMATION

## DUNNETT'S TEST

TABLE 1 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	CONTROL	19.300	19.300		
2	32%	22.900	22.900	-2.580	
3	42%	21.800	21.800	-1.792	
4	56%	23.400	23.400	-2.939	
5	75%	23.200	23.200	-2.796	
6	100%	24.900	24.900	-4.014	

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

60345058 EEG CERIODAPHNIA DUBIA REPRODU

File: 6345058E

Transform: NO TRANSFORMATION

## DUNNETT'S TEST

TABLE 2 OF 2

Ho:Control&lt;Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	CONTROL	10			
2	32%	10	3.223	16.7	-3.600
3	42%	10	3.223	16.7	-2.500
4	56%	10	3.223	16.7	-4.100
5	75%	10	3.223	16.7	-3.900
6	100%	10	3.223	16.7	-5.600

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	32	42	56	75	100
Response 1	.421	.347	.340	.340	.405	.317
Response 2	.352	.302	.389	.399	.341	.214
Response 3	.314	.356	.375	.378	.360	.139
Response 4	.396	.320	.394	.471	.373	.182
Response 5	.362	.392	.429	.332	.278	.241

\*\*\* Inhibition Concentration Percentage Estimate \*\*\*

Toxicant/Effluent: EEG

Test Start Date: 8/11/20 Test Ending Date: 8/18/20

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	0.369	0.041	0.370
2	5	32.000	0.343	0.035	0.370
3	5	42.000	0.385	0.032	0.370
4	5	56.000	0.384	0.056	0.370
5	5	75.000	0.351	0.047	0.351
6	5	100.000	0.219	0.067	0.219

The Linear Interpolation Estimate: 88.8484 Entered P Value: 25

Number of Resamplings: 80 Those resamples not used had estimates above the highest concentration/ %Effluent.

The Bootstrap Estimates Mean: 88.7717 Standard Deviation: 3.9239

No Confidence Limits can be produced since the number of resamples generated is not a multiple of 40.

Resampling time in Seconds: 0.00 Random\_Seed: -143226135

Conc. ID	1	2	3	4	5	6
Conc. Tested	0	32	42	56	75	100
Response 1	16	24	25	18	20	23
Response 2	17	19	25	28	19	29
Response 3	22	24	21	27	30	23
Response 4	22	22	20	19	23	24
Response 5	18	26	19	22	24	28
Response 6	20	21	20	24	23	26
Response 7	20	18	23	25	27	30
Response 8	21	25	26	19	25	22
Response 9	20	27	16	26	20	23
Response 10	17	23	23	26	21	21

\*\*\* Inhibition Concentration Percentage Estimate \*\*\*

Toxicant/Effluent: EEG

Test Start Date: 8/11/20 Test Ending Date: 8/18/20

Test Species: Dubia

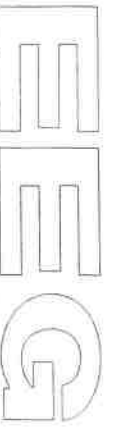
Test Duration: 7days

DATA FILE:

Conc. ID	Number Replicates	Concentration %	Response Means	Std. Dev.	Pooled Response Means
1	10	0.000	19.300	2.163	22.583
2	10	32.000	22.900	2.923	22.583
3	10	42.000	21.800	3.155	22.583
4	10	56.000	23.400	3.658	22.583
5	10	75.000	23.200	3.458	22.583
6	10	100.000	24.900	3.143	22.583

\*\*\* 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.





Environmental Enterprise Group, Inc.  
PROVIDING CUSTOMIZED SERVICES NATIONWIDE

Project #  
L246-056692

Environmental Enterprise Group, Inc.  
220 North Knoxville  
Russellville, Arkansas 72801  
(479) 968-6767 Fax (479) 968-1956

Company Name: Phone #:

City Corporation (479) 968-4989

Address: Fax #:

P.O. Box 3186 Russellville, AR 72811-3186 (479) 968-3430

Project Name or Number: Purchase Order #:

Sampling Personnel Signature(s): *Brooks Teets*

Printed: *Brooks Teets*

Requested Analysis

Laboratory Control Number

Remarks  
(Please note special detection limits below.)

*602345058*

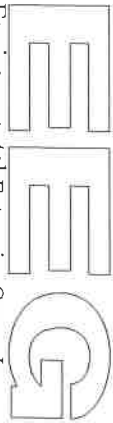
Sample I.D.	Date	Time	24 Hr Comp.	Cont. Type			# of Containers	Method Preserved							Sample Matrix	Bio-Monitoring	Laboratory Control Number	Remarks			
				Grab	Plast.	Glass		H2SO4	HNO3	NAOH	HCL	Ice	None	Water					Soil	Air	Sludge
Outfall 001	<i>08/19/20</i>	<i>7:10</i>	X		X		1							X						<i>0420070</i>	<i>6140-001</i>

Relinquished by: *Brooks* Date: *8/10/20* Time: *0825* Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: *Smeu* Date: *8/10/20* Time: *0825* Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Relinquished by: *Smeu* Date: *8/10/20* Time: *1400* Received by: *Laborey* Date: *8/11/20* Time: *2.00c*

Comments:



Environmental Enterprise Group, Inc.  
 PROVIDING CUSTOMIZED SERVICES NATIONWIDE

L246-056692

Environmental Enterprise Group, Inc.  
 220 North Knoxville  
 Russellville, Arkansas 72801  
 (479) 968-6767 Fax (479) 968-1956

Company Name:		Phone #:		Requested Analysis																	
City Corporation		(479) 968-4989																			
Address:		Fax #:																			
P.O. Box 3186 Russellville, AR 72811-3186		(479) 968-3430																			
Project Name or Number:		Purchase Order #:																			
PCW Effluent WET Testing																					
Sampling Personnel Signature(s): <i>Brooks</i>		Printed: <i>Brooks Teter</i>																			
Sample I.D.	Date	Time	24 Hr Comp.	Grab	Cont. Type	# of Containers	H2SO4	HNO3	NAOH	HCL	Ice	None	Water	Soil	Air	Sludge	Other	Method Preserved	Sample Matrix		
Outfall 001	08/11/20	7:07	X	X	Plast.	1					X		X							Bio-Monitoring	
					Glass																
Relinquished by:		Date:	Time:	Received by:		Date:	Time:													Laboratory Control Number	Remarks
<i>Brooks</i>		8-12-20	0834			8-12-20	0834														
Received by:		Date:	Time:	Relinquished by:		Date:	Time:														
<i>Green</i>		8/12/20	0834			8/12/20	0834														
Relinquished by:		Date:	Time:	Received by Laboratory:		Date:	Time:														
<i>Green</i>		8/12/20	1100	<i>Tom Howell</i>		8/12/20	1100														
Comments:																					



# Sample Condition Upon Receipt

Client Name: EEL

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-193 Type of Ice: Wet  Blue  None

Cooler Temperature (°C): As-read 2.5 Corr. Factor -1.5 Corrected 1.0

Date and initials of person examining contents: TH  
8/13/20 8:00

Temperature should be above freezing to 6°C

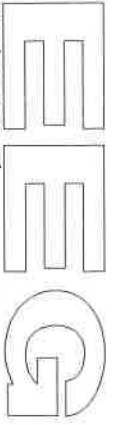
Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples arrived within holding time:	<input checked="" 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 <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , 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: \_\_\_\_\_



Environmental Enterprise Group, Inc.  
PROVIDING CUSTOMIZED SERVICES NATIONWIDE

L246-056692

Environmental Enterprise Group, Inc.  
220 North Knoxville  
Russellville, Arkansas 72801  
(479) 968-6767 Fax (479) 968-1956

Company Name:		City Corporation		Phone #:		(479) 968-4989	
Address:		P.O. Box 3186 Russellville, AR 72811-3186		Fax #:		(479) 968-3430	
Project Name or Number:		Pew Effluent WET		Purchase Order #:			
Sampling Personnel Signature(s):				Printed: BROOKS TEC TEN			
Sample I.D.				Outfall 001			
Date		Time		24 Hr Comp.		Method Preserved	
8/13/20		703		X		H2SO4	
8/14/20		653		X		HNO3	
						NAOH	
						HCL	
						Ice	
						None	
						Water	
						Soil	
						Air	
						Sludge	
						Other	
				Bio-Monitoring			
Relinquished by:				Requested Analysis			
Brooks							
Date:		Time:		Received by:		Date:	
8/14/20		0845		MSD		8-14-20	
Received by:				Relinquished by:			
Sven				PAC			
Date:		Time:		Received by Laboratory:		Date:	
8/14/20		1100					
Comments:							

**Sample Condition Upon Receipt**

Client Name: EEG

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-193 Type of Ice: Wet Blue  None

Cooler Temperature (°C): As-read 4.0 Corr. Factor -1.5 Corrected 2.5

Date and initials of person examining contents:
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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	<u>8-14-20 MJP</u>
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>8-14-20 1530 MJP</u>
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 <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , 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.
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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: \_\_\_\_\_