



CITY CORPORATION

Russellville Water and Sewer System

205 West 3rd Place PO Box 3186 Russellville, AR 72811-3186

Office (479) 968-2105
Fax (479) 968-3265

February 17, 2015

Mr. Alan Anderson
Enforcement Analyst
NPDES Enforcement Section
Arkansas Department of Environmental Quality
5301 Northshore Dr
North Little Rock, Arkansas 72118

RE: Annual Biosolids Report - 2014
NPDES Permit No. AR0021768, AFIN 58-00105

Mr. Anderson:

Enclosed is the City Corporation Annual Biosolids Report in accordance with NPDES Permit AR0021768 part II, Paragraph 9.O. for the year ending December 31, 2014.

All analyses used to generate this report were performed in accordance with EPA Document SW-846 "Test Methods for Evaluation of Solid Waste", or applicable EPA approved methods.

If you have any questions concerning this report, please contact Randy Bradley, Pretreatment Coordinator, at (479) 968-2080, extension 224.

Sincerely,

A handwritten signature in black ink, appearing to read 'Steve Mallett', written over a horizontal line.

Steve Mallett
General Manager

Enclosure

CITY CORPORATION

Russellville Wastewater Treatment Plant
Annual Sludge Report for 2013, NPDES Permit No. AR0021768

Pounds per Acre Applied in 2014

	NH3N	TKN	NO3N	NO2N	Total
Site #1	11.27	340	0.12	5.63	357.02
Site #2	0	0	0	0	0.00
Site #3	0	0	0	0	0.00

Pounds per Acre Applied in 2013 Plant Available Nitrogen

Site #1	98.8
Site #2	0

Pounds per Acre Applied in 2013

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn	Cr	Total
Site #1	0	0.01	4.36	0.01	0.19	0.62	0.34	0	14.41	0.00	19.940
Site #2	0	0	0	0	0	0	0	0	0	0	0.000
Site #3	0	0	0	0	0	0	0	0	0	0	0

Pounds per Acre Applied to Date

	As	Cd	Cu	Hg	Mo	Ni	Pb	Se	Zn	Cr	Total
Site #1	0.7688	1.7758	179.77	0.475	11.28	18.71	39.87	1.76	611.80	13.3	879.5
Site #2	0.0307	0.1417	29.181	0.1225	1.6534	4.2822	4.4775	0.047	93.5867	17.5	151.0
Site #3	0.132	0.23	23.13	0.087	1.233	1.975	11.61	0.293	68.57	0.0	107.3

No biosolids were applied to Sites #2 and #3 in 2014

City Corporation dewatered digested biosolids with an Ashbrook two meter belt press producing 356.9 dry metric tons and land applied 283 dry metric tons with spreader truck.

The treated biosolids were used to grow native pasture grasses on land permitted by City Corporation. City Corporation employees using City Corporation owned equipment applied all biosolids. No public access to these sites are allowed.

All analyses were conducted in accordance with SW-846 or applicable EPA approved methods. The information included in this report is, to the best of my knowledge, true and correct.


 Steve Mallett, General Manager

2-17-15
 Date

received
 3/31/14

soil test 2014

March 28, 2014
 Control No. 176724
 Page 3 of 5

City Corporation
 Post Office Box 3186
 Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 176724-1

Sample Identification: L246-048231 0314147 Field #2 3/21/2014 0800-1145

Analyte	Result	RL	Units	Qualifier
Electrical Conductivity Mod. EPA 9050A	120	2	umho/cm	
Prep: 27-Mar-2014 0938 by 93	Analyzed: 27-Mar-2014 1130 by 93		Batch: W47122	
Cation-Exchange Capacity Mod. EPA 9080	16	0.1	meq/100g	
Prep: 27-Mar-2014 0749 by 308	Analyzed: 28-Mar-2014 1335 by 308		Batch: W47117	
Total Solids SM 2540 G 1997	78	0.01	wt %	
Prep: 26-Mar-2014 1044 by 302	Analyzed: 26-Mar-2014 1648 by 302		Batch: W47100	
Calcium EPA 3051A, 6010C	4000	10	mg/Kg	
Prep: 27-Mar-2014 1321 by 305	Analyzed: 27-Mar-2014 1755 by 305		Batch: S36518	
Magnesium EPA 3051A, 6010C	940	3	mg/Kg	
Prep: 27-Mar-2014 1321 by 305	Analyzed: 27-Mar-2014 1755 by 305		Batch: S36518	
Phosphorus EPA 3051A, 6010C	3200	10	mg/Kg	
Prep: 27-Mar-2014 1321 by 305	Analyzed: 27-Mar-2014 1755 by 305		Batch: S36518	
Potassium EPA 3051A, 6010C	490	100	mg/Kg	
Prep: 27-Mar-2014 1321 by 305	Analyzed: 27-Mar-2014 1755 by 305		Batch: S36518	
Sodium EPA 3051A, 6010C	130	100	mg/Kg	
Prep: 27-Mar-2014 1321 by 305	Analyzed: 27-Mar-2014 1755 by 305		Batch: S36518	
Sodium Absorption Ratio EPA 3051A, 6010C	0.48			
Prep: 27-Mar-2014 1321 by 305	Analyzed: 28-Mar-2014 1000 by 305		Batch: S36518	
Nitrate as N EPA 9056A	2.2	0.5	mg/Kg	HW
Prep: 25-Mar-2014 1650 by 07	Analyzed: 26-Mar-2014 0301 by 07		Batch: C16565	

Cooperative Extension Service
Soil Analysis Report
Soil Testing And Research Laboratory
Marianna, AR 72360
<http://www.uark.edu/depts/soiltest>

The University of Arkansas is an equal opportunity/affirmative action institution

CITY CORP 404 JIMMY LILE RUSSELLVILLE	Client ID: 4799682080 AR 72802
Date Processed:	4/8/2014
Field ID:	FIELD2
Acres	32
Lime Applied in the last 4 years:	No
Leveled in past 4 years:	No
Irrigation:	Unknown
County:	Pope
Lab Number:	45172
Sample Number:	2474286

1. Nutrient Availability Index

Nutrient	Concentration		Soil Test Level (Mehlich 3)
	ppm	lb/acre	
P	585	1170	Above Optimum
K	79	158	Low
Ca	1963	3926	--
Mg	200	400	--
SO4-S	67	134	--
Zn	50.6	101.2	--
Fe	307	614	--
Mn	146	292	--
Cu	12.6	25.2	--
B	1.1	2.2	--
NO3-N	60	120	--

2. Soil Properties

Property	Value	Units
Soil pH (1:2 soil-water)	5.9	---
Soil EC (1:2 soil-water)		umhos/cm
Soil ECEC	15	cmolc/kg
Organic Matter (Loss on Ignition)		%
Estimated Soil Texture	Silty Clay Loam - Clay Loam	

Estimated Base Saturation (%)				
Total	Ca	Mg	K	Na
77.1	64.3	10.9	1.3	0.5

3. Recommendations (Notice: State and/or federal nutrient management regulations may supersede these agronomic recommendations.)

Crop		N	P2O5	K2O	SO4S	Zn	B	Lime
Last Crop	Fallow (19)	----- lb/acre -----						
Crop 1	Hay - Warm-Season Grasses (MNT) - 4 ton/acre (133)	200	0	230	0	0	0	0
Crop 2	Hay - Warm-Season Grasses (MNT) - 6 ton/acre (134)	300	0	300	0	0	0	0
Crop 3	Hay - Cool-Season Grasses (MNT)- 3 ton/acre (123)	120	0	180	0	0	0	0

4. Crop 1 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60 degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

5. Crop 2 Notes:

For optimum fertilizer efficiency, divide the recommended N, P, and K rates by the estimated number of harvests/year. Make the first fertilizer application in spring when night temperatures are > 60-degrees F for one week. Make subsequent applications following each harvest. Do not apply N after Sept. 1.

6. Crop 3 Notes:

Apply one-half the recommended N, P, and K at green-up and apply the remaining one-half after the first hay cutting.



Environmental
Enterprise Group, Inc.

1st Qtr 2014
Bio Solids

received
1/27/14

220 North Knoxville Russellville, Arkansas 72801
Phone (479) 968-6767 Fax (479) 968-1956
www.eegonline.com

January 22, 2014
Control No. 174580
Page 3 of 8

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 174580-1

Sample Identification: L264-048004 0114103 PCW Bio-Solids 1/14/2014 on 0800 off 1500

Analyte	Result	RL	Units	Qualifier
Total Solids SM 2540 G 1997	18 Analyzed: 22-Jan-2014 1124 by 285	0.01 Analyzed: 22-Jan-2014 1124 by 285	wt % Batch: W46368	
Volatile Solids SM 2540 G 1997	70 Analyzed: 22-Jan-2014 1124 by 285	0.01 Analyzed: 22-Jan-2014 1124 by 285	wt % Batch: W46368	
Ammonia as N SM 4500-NH3 B,G 1997	1900 Analyzed: 21-Jan-2014 1416 by 93	300 Analyzed: 21-Jan-2014 1416 by 93	mg/Kg Batch: W46358	
Total Kjeldahl Nitrogen SM 4500-Norg D 1997	47000 Analyzed: 21-Jan-2014 1608 by 93	8000 Analyzed: 21-Jan-2014 1608 by 93	mg/Kg Batch: W46360	
Mercury EPA 245.7	0.98 Analyzed: 21-Jan-2014 1549 by 311	0.1 Analyzed: 21-Jan-2014 1549 by 311	mg/Kg Batch: S36128	
Arsenic EPA 3051A, 6010C	< 5 Analyzed: 20-Jan-2014 1846 by 305	5 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Cadmium EPA 3051A, 6010C	1.7 Analyzed: 20-Jan-2014 1846 by 305	0.4 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Calcium <i>Ca</i> EPA 3051A, 6010C	10000 Analyzed: 21-Jan-2014 1248 by 305	300 Analyzed: 21-Jan-2014 1248 by 305	mg/Kg Batch: S36127	
Copper EPA 3051A, 6010C	390 Analyzed: 20-Jan-2014 1846 by 305	0.6 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Lead EPA 3051A, 6010C	28 Analyzed: 20-Jan-2014 1846 by 305	4 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Magnesium <i>Mg</i> EPA 3051A, 6010C	1200 Analyzed: 21-Jan-2014 1248 by 305	80 Analyzed: 21-Jan-2014 1248 by 305	mg/Kg Batch: S36127	
Molybdenum EPA 3051A, 6010C	15 Analyzed: 20-Jan-2014 1846 by 305	0.8 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Nickel EPA 3051A, 6010C	39 Analyzed: 20-Jan-2014 1846 by 305	1 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Phosphorus EPA 3051A, 6010C	17000 Analyzed: 21-Jan-2014 1248 by 305	300 Analyzed: 21-Jan-2014 1248 by 305	mg/Kg Batch: S36127	
Potassium EPA 3051A, 6010C	1700 Analyzed: 20-Jan-2014 1846 by 305	100 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Selenium EPA 3051A, 6010C	< 7 Analyzed: 20-Jan-2014 1846 by 305	7 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Sodium <i>Na</i> EPA 3051A, 6010C	650 Analyzed: 20-Jan-2014 1846 by 305	100 Analyzed: 20-Jan-2014 1846 by 305	mg/Kg Batch: S36127	
Sodium Absorption Ratio EPA 3051A, 6010C	1.6 Analyzed: 21-Jan-2014 1200 by 305		Batch: S36127	

January 22, 2014
Control No. 174580
Page 4 of 8

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 174580-1 (Continued)

Sample Identification: L264-048004 0114103 PCW Bio-Solids 1/14/2014 on 0800 off 1500

Analyte	Result	RL	Units	Qualifier
Zinc EPA 3051A, 6010C Prep: 20-Jan-2014 1120 by 271	900	0.2	mg/Kg	
	Analyzed: 20-Jan-2014 1846 by 305		Batch: S36127	
Nitrate as N EPA 9056A Prep: 17-Jan-2014 1537 by 07	< 3	3	mg/Kg	H
	Analyzed: 17-Jan-2014 1803 by 07		Batch: C16394	
Nitrite as N EPA 9056A Prep: 17-Jan-2014 1537 by 07	< 3	3	mg/Kg	H
	Analyzed: 17-Jan-2014 1803 by 07		Batch: C16394	
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A				
PCB 1016 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1221 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1232 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1242 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1248 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1254 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
PCB 1260 EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	< 0.072	0.072	mg/Kg	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	
Surrogate: Decachlorobiphenyl (27.4-179%) EPA 3550C, 8082A Prep: 21-Jan-2014 1100 by 306	113		%	
	Analyzed: 22-Jan-2014 1114 by 306		Batch: G9552	

City Corporation Pretreatment Program

Record of pH

pH Method: SM 18th 4500-H + B Electronic Method

Facility Name: First Quarter Biosolids

Date / Time Sample Collected: 1/14/14 @715-1500 Collected by: CJ

Date / Time Sample Analyzed: 1/14/2014 Analyzed by: MBX

pH value sample: 5.63

Temp: 15.3

pH value duplicate: 6.18

Abs. Diff. (sample duplicate): 0.55

pH meter # H-160

pH meters used are calibrated each morning - record of calibration on file in the PCW lab.

received
5/19/14

ZND QTR

May 15, 2014
Control No. 178407
Page 3 of 10

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 178407-1

Sample Identification: L246-048400 0514062 PCW Bio-Solids 5/7/2014 1430

Analyte	Result	RL	Units	Qualifier
TCLP: Solids EPA 1311	100	0.5	%	
	Analyzed: 12-May-2014 1444 by 285		Batch: S36686	
TCLP: Arsenic EPA 3010A, 6010C	< 0.3	0.3	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Barium EPA 3010A, 6010C	0.20	0.01	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Cadmium EPA 3010A, 6010C	< 0.02	0.02	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Chromium EPA 3010A, 6010C	< 0.04	0.04	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Lead EPA 3010A, 6010C	< 0.2	0.2	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Selenium EPA 3010A, 6010C	< 0.4	0.4	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Silver EPA 3010A, 6010C	< 0.04	0.04	mg/l	D
	Prep: 13-May-2014 1049 by 285 Analyzed: 13-May-2014 1453 by 305		Batch: S36785	Dil: 5
TCLP: Mercury EPA 7470A	< 0.008	0.008	mg/l	D
	Prep: 13-May-2014 1050 by 311 Analyzed: 13-May-2014 1614 by 311		Batch: S36786	Dil: 40
Total Solids SM 2540 G 1997	18	0.01	wt %	
	Prep: 12-May-2014 1339 by 308 Analyzed: 13-May-2014 1341 by 308		Batch: W47670	
Volatile Solids SM 2540 G 1997	66	0.01	wt %	
	Prep: 12-May-2014 1341 by 308 Analyzed: 13-May-2014 1341 by 308		Batch: W47670	
Ammonia as N SM 4500-NH3 B,G 1997	290	50	mg/Kg	W
	Prep: 09-May-2014 1534 by 93 Analyzed: 12-May-2014 0943 by 308		Batch: W47647	
Total Kjeldahl Nitrogen SM 4500-Norg D 1997	10000	2000	mg/Kg	W
	Prep: 09-May-2014 1636 by 308 Analyzed: 12-May-2014 1434 by 308		Batch: W47654	
Arsenic EPA 3051A, 6010C	< 5	5	mg/Kg	
	Prep: 12-May-2014 0925 by 285 Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Cadmium EPA 3051A, 6010C	2.0	0.4	mg/Kg	
	Prep: 12-May-2014 0925 by 285 Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Calcium EPA 3051A, 6010C	13000	500	mg/Kg	
	Prep: 12-May-2014 0925 by 285 Analyzed: 12-May-2014 1637 by 305		Batch: S36775	
Copper EPA 3051A, 6010C	320	0.6	mg/Kg	
	Prep: 12-May-2014 0925 by 285 Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Lead EPA 3051A, 6010C	25	4	mg/Kg	
	Prep: 12-May-2014 0925 by 285 Analyzed: 12-May-2014 1538 by 305		Batch: S36775	

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 178407-1 (Continued)

Sample Identification: L246-048400 0514062 PCW Bio-Solids 5/7/2014 1430

Analyte	Result	RL	Units	Qualifier
Magnesium EPA 3051A, 6010C	1900	3	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Molybdenum EPA 3051A, 6010C	14	0.8	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Nickel EPA 3051A, 6010C	45	1	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Phosphorus EPA 3051A, 6010C	16000	500	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1637 by 305		Batch: S36775	
Potassium EPA 3051A, 6010C	1900	100	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Selenium EPA 3051A, 6010C	< 7	7	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Sodium EPA 3051A, 6010C	660	100	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 12-May-2014 1538 by 305		Batch: S36775	
Sodium Absorption Ratio EPA 3051A, 6010C	1.4			
Prep: 12-May-2014 1330 by 305	Analyzed: 12-May-2014 1600 by 305		Batch: S36775	
Zinc EPA 3051A, 6010C	1100	0.2	mg/Kg	
Prep: 12-May-2014 0925 by 285	Analyzed: 13-May-2014 1039 by 305		Batch: S36775	
Mercury EPA 7471B	0.99	0.1	mg/Kg	
Prep: 13-May-2014 0927 by 311	Analyzed: 13-May-2014 1651 by 311		Batch: S36783	
Nitrate as N EPA 9056A	< 0.5	0.5	mg/Kg	HW
Prep: 09-May-2014 1550 by 07	Analyzed: 10-May-2014 0622 by 07		Batch: C16701	
Nitrite as N EPA 9056A	< 0.5	0.5	mg/Kg	HW
Prep: 09-May-2014 1550 by 07	Analyzed: 10-May-2014 0622 by 07		Batch: C16701	
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A				
PCB 1016 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	
PCB 1221 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	
PCB 1232 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	
PCB 1242 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	
PCB 1248 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	
PCB 1254 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306		Batch: G9710	

City Corporation
 Post Office Box 3186
 Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 178407-1 (Continued)

Sample Identification: L246-048400 0514062 PCW Bio-Solids 5/7/2014 1430

Analyte	Result	RL	Units	Qualifier
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A (Continued)				
PCB 1260	< 0.013	0.013	mg/Kg	W
EPA 3550C, 8082A	Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306	Batch: G9710	
Surrogate: Decachlorobiphenyl (59.6-148%)	70.4		%	W
EPA 3550C, 8082A	Prep: 13-May-2014 1410 by 306	Analyzed: 14-May-2014 1202 by 306	Batch: G9710	

City Corporation Quarterly Record of pH

pH Method: SM 18th 4500-H + B Electronic Method

Facility Name: PCW Bio-Solids 2nd Q^{tr}

Date / Time Sample Collected 5/7/14@9-1430 Collected by: JL

Date / Time Sample Analyzed 5/7/14 @ 1500 Analyzed by: CMP

pH value sample: 5.26

Temp: 22.6 C

pH value duplicate: 5.16

Abs. Diff. (sample duplicate): 0.10

pH meter # IQ-150

pH meters used are calibrated each morning - record of calibration on file in the PCW lab.

received
9/3/14 RA

3rd Qtr 2014

September 2, 2014
Control No. 181894
Page 3 of 10

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 181894-1

Sample Identification: L246-048819 0814128 PCW Bio-Solids 8/20/2014 8-1430

Analyte	Result	RL	Units	Qualifier
TCLP: Solids EPA 1311	100	0.5	%	
	Analyzed: 25-Aug-2014 1611 by 271		Batch: S37244	
TCLP: Arsenic EPA 3010A, 6010C	< 0.3	0.3	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Barium EPA 3010A, 6010C	0.094	0.01	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Cadmium EPA 3010A, 6010C	< 0.02	0.02	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Chromium EPA 3010A, 6010C	< 0.04	0.04	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Lead EPA 3010A, 6010C	< 0.2	0.2	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Selenium EPA 3010A, 6010C	< 0.4	0.4	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Silver EPA 3010A, 6010C	< 0.04	0.04	mg/l	D
Prep: 26-Aug-2014 1022 by 311	Analyzed: 26-Aug-2014 1445 by 235		Batch: S37280	Dil: 5
TCLP: Mercury EPA 7470A	< 0.008	0.008	mg/l	D
Prep: 26-Aug-2014 0955 by 311	Analyzed: 26-Aug-2014 1524 by 311		Batch: S37278	Dil: 40
Total Solids SM 2540 G 1997	24	0.01	wt %	
Prep: 26-Aug-2014 0941 by 313	Analyzed: 26-Aug-2014 1718 by 313		Batch: W48995	
Volatile Solids SM 2540 G 1997	62	0.01	wt %	
Prep: 26-Aug-2014 0948 by 313	Analyzed: 26-Aug-2014 1718 by 313		Batch: W48995	
Ammonia as N SM 4500-NH3 B,G 1997	920	200	mg/Kg	
Prep: 22-Aug-2014 1543 by 93	Analyzed: 22-Aug-2014 2157 by 93		Batch: W48965	
Total Kjeldahl Nitrogen SM 4500-Norg D 1997	37000	6000	mg/Kg	
Prep: 22-Aug-2014 1608 by 311	Analyzed: 26-Aug-2014 1259 by 308		Batch: W48972	
Arsenic EPA 3051A, 6010C	< 5	5	mg/Kg	
Prep: 25-Aug-2014 1159 by 271	Analyzed: 25-Aug-2014 1555 by 235		Batch: S37274	
Cadmium EPA 3051A, 6010C	< 0.4	0.4	mg/Kg	
Prep: 25-Aug-2014 1159 by 271	Analyzed: 25-Aug-2014 1555 by 235		Batch: S37274	
Calcium EPA 3051A, 6010C	13000	100	mg/Kg	
Prep: 25-Aug-2014 1159 by 271	Analyzed: 25-Aug-2014 1645 by 235		Batch: S37274	
Copper EPA 3051A, 6010C	310	0.6	mg/Kg	
Prep: 25-Aug-2014 1159 by 271	Analyzed: 25-Aug-2014 1555 by 235		Batch: S37274	
Lead EPA 3051A, 6010C	29	4	mg/Kg	
Prep: 25-Aug-2014 1159 by 271	Analyzed: 25-Aug-2014 1555 by 235		Batch: S37274	

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Post Office Box 3186
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ANALYTICAL RESULTS

AIC No. 181894-1 (Continued)

Sample Identification: L246-048819 0814128 PCW Bio-Solids 8/20/2014 8-1430

Analyte	Result	RL	Units	Qualifier
Magnesium EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	2100 Analyzed: 25-Aug-2014 1555 by 235	3	mg/Kg Batch: S37274	
Molybdenum EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	15 Analyzed: 25-Aug-2014 1555 by 235	0.8	mg/Kg Batch: S37274	
Nickel EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	57 Analyzed: 25-Aug-2014 1555 by 235	1	mg/Kg Batch: S37274	
Phosphorus EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	21000 Analyzed: 25-Aug-2014 1645 by 235	100	mg/Kg Batch: S37274	
Potassium EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	2400 Analyzed: 25-Aug-2014 1555 by 235	100	mg/Kg Batch: S37274	
Selenium EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	< 7 Analyzed: 25-Aug-2014 1555 by 235	7	mg/Kg Batch: S37274	
Sodium EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	670 Analyzed: 25-Aug-2014 1555 by 235	100	mg/Kg Batch: S37274	
Sodium Absorption Ratio EPA 3051A, 6010C	1.4 Analyzed: 25-Aug-2014 1159 by 235		Batch: S37274	
Zinc EPA 3051A, 6010C Prep: 25-Aug-2014 1159 by 271	1200 Analyzed: 25-Aug-2014 1555 by 235	0.2	mg/Kg Batch: S37274	
Mercury EPA 7471B Prep: 28-Aug-2014 0851 by 311	1.0 Analyzed: 29-Aug-2014 1317 by 311	0.1	mg/Kg Batch: S37290	
Nitrate as N EPA 9056A Prep: 22-Aug-2014 1557 by 07	< 3 Analyzed: 23-Aug-2014 0056 by 07	3	mg/Kg Batch: C17007	H
Nitrite as N EPA 9056A Prep: 22-Aug-2014 1557 by 07	< 3 Analyzed: 23-Aug-2014 0056 by 07	3	mg/Kg Batch: C17007	H
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A				
PCB 1016 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	
PCB 1221 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	
PCB 1232 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	
PCB 1242 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	
PCB 1248 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	
PCB 1254 EPA 3550C, 8082A Prep: 25-Aug-2014 1547 by 306	< 0.053 Analyzed: 27-Aug-2014 1231 by 306	0.053	mg/Kg Batch: G9825	

City Corporation
 Post Office Box 3186
 Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 181894-1 (Continued)

Sample Identification: L246-048819 0814128 PCW Bio-Solids 8/20/2014 8-1430

Analyte	Result	RL	Units	Qualifier
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A (Continued)				
PCB 1260	< 0.053	0.053	mg/Kg	
EPA 3550C, 8082A	Prep: 25-Aug-2014 1547 by 306	Analyzed: 27-Aug-2014 1231 by 306	Batch: G9825	
Surrogate: Decachlorobiphenyl (50.4-131%)	66.6		%	
EPA 3550C, 8082A	Prep: 25-Aug-2014 1547 by 306	Analyzed: 27-Aug-2014 1231 by 306	Batch: G9825	



Environmental
Enterprise Group, Inc.

4th Qtr
2014

220 North Knoxville Russellville, Arkansas 72801
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11/21/14

November 17, 2014
Control No. 184159R
Page 3 of 8

City Corporation
Post Office Box 3186
Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 184159-1

Sample Identification: L246-049085 1014213 PCW Bio-Solids 10/29/14 0800-1430

Analyte	Result	RL	Units	Qualifier
Total Solids SM 2540 G 1997	16	0.01	wt %	
Prep: 05-Nov-2014 1032 by 271	Analyzed: 06-Nov-2014 0901 by 271		Batch: W49840	
Ammonia as N SM 4500-NH3 B,G 1997	330	50	mg/Kg	W
Prep: 04-Nov-2014 1305 by 93	Analyzed: 04-Nov-2014 1941 by 93		Batch: W49829	
Total Kjeldahl Nitrogen SM 4500-Norg D 1997	9800	3000	mg/Kg	W
Prep: 03-Nov-2014 1634 by 308	Analyzed: 05-Nov-2014 1101 by 308		Batch: W49824	
Arsenic EPA 3051A, 6010C	< 5	5	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Cadmium EPA 3051A, 6010C	< 0.4	0.4	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Calcium EPA 3051A, 6010C	11000	100	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1136 by 302		Batch: S37677	
Copper EPA 3051A, 6010C	310	0.6	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Lead EPA 3051A, 6010C	23	4	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Magnesium EPA 3051A, 6010C	2800	3	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Molybdenum EPA 3051A, 6010C	14	0.8	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Nickel EPA 3051A, 6010C	47	1	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Phosphorus EPA 3051A, 6010C	19000	100	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1136 by 302		Batch: S37677	
Potassium EPA 3051A, 6010C	3700	100	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Selenium EPA 3051A, 6010C	< 7	7	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Sodium EPA 3051A, 6010C	890	100	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Sodium Absorption Ratio EPA 3051A, 6010C	2.0			
Prep: 04-Nov-2014 1621 by 311	Analyzed: 10-Nov-2014 1042 by 302		Batch: S37677	
Zinc EPA 3051A, 6010C	1200	0.2	mg/Kg	
Prep: 04-Nov-2014 1621 by 311	Analyzed: 07-Nov-2014 1042 by 302		Batch: S37677	
Mercury EPA 7471B	0.89	0.1	mg/Kg	
Prep: 06-Nov-2014 0939 by 311	Analyzed: 06-Nov-2014 1445 by 311		Batch: S37690	

City Corporation
 Post Office Box 3186
 Russellville, AR 72811-3186

ANALYTICAL RESULTS

AIC No. 184159-1 (Continued)

Sample Identification: L246-049085 1014213 PCW Bio-Solids 10/29/14 0800-1430

Analyte	Result	RL	Units	Qualifier
Nitrate as N EPA 9056A	58	0.5	mg/Kg	HW
Prep: 07-Nov-2014 1417 by 302	Analyzed: 07-Nov-2014 2218 by 302		Batch: C17225	
Nitrite as N EPA 9056A	1.7	0.5	mg/Kg	HW
Prep: 07-Nov-2014 1417 by 302	Analyzed: 07-Nov-2014 2218 by 302		Batch: C17225	
Polychlorinated Biphenyls (PCBs) By EPA 3550C, 8082A				
PCB 1016 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1221 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1232 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1242 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1248 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1254 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
PCB 1260 EPA 3550C, 8082A	< 0.013	0.013	mg/Kg	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	
Surrogate: Decachlorobiphenyl (61.1-159%) EPA 3550C, 8082A	140		%	W
Prep: 04-Nov-2014 0931 by 285	Analyzed: 04-Nov-2014 1914 by 306		Batch: G9905	

City Corporation Pretreatment Program

Record of pH

pH Method: SM 18th 4500-H + B Electronic Method

Facility Name: Quarterly Bio-Solids 4th

Date / Time Sample Collected: 10/30/14 @ 1200 Collected by: CAF

Date / Time Sample Analyzed: 10/30/14 @ 1300 Analyzed by: CAF

pH value sample: 6.52 Temp: 19.2 C

pH value duplicate: 6.77 Abs. Diff. (sample duplicate): 0.25

pH meter # H-160

pH meters used are calibrated each morning - record of calibration on file in the PCW lab.