November 6, 2014

Arkansas Department of
Environmental Quality
NPDES Enforcement Section
5301 N. Shore DR.
North Little Rock, Arkansas 72118

RE: NPDES PERMIT NO. AR0021580
Biomonitoring JULY 01, 2014 thru DECEMBER 31, 2014

Enclosed is the Discharge Monitoring Report for the City of Osceola for the period of **JULY 01, 2014 thru December 31, 2014** on Biomonitoring test as required by our permit. The tests show that we passed all tests.

All tests were performed by Environmental Testing and Consulting, Inc., 2790 Whitten Rd. Memphis, TN. 38133. We are enclosing all summary forms and analysis sheets as required by our permit.

Thanks,

Brandon Haynes
WWTP SUPT.
Enclosure

ETC
www.etcmemphis.com
ENVIRONMENTAL TESTING & CONSULTING, INC.
2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440
"A Laboratory Management Partner"

10/22/2014

Osceola Water Department
Mr. Brandon Haynes
PO Box 443
Osceola, AR, 72370

Ref: Analytical Testing
ETC Report Number: 14-281-0190
Client Project Description: Bioassay

Dear Mr. Brandon Haynes

The results of this WET (Whole Effluent Toxicity) test are acceptable according to test review criteria. There were no significant deficiencies found in sample handling, test performance, or reporting. The test results are within the limits established by your NPDES permit and were entered into the permittee's records in the database.

Results: NOEL/CV = 0.17%
Permit Limit: 0.13%

All statistical interpretations generated by CETIS - Comprehensive Environmental Toxicity Information System (v.1.8.6.1). CETIS created by Tidepool Scientific Software

Respectfully,

Connie Cook

Connie Cook
Lab Supervisor

CETIS Test Evaluation Report

Facility:	OSCEOLA WATER	**Test Name:**	Daphnia pulex 48-h Acute Survival Test
Sample Site:		**Organism:**	Daphnia pulex (Water Flea)
Sample Code:	14-281-0190	**Protocol:**	EPA/821/R-02-012 (2002)
Sample Date:	07 Oct-14 07:00	**Start Date:**	08 Oct-14 15:10
Sample Age:	32h (0.1 °C)	**End Date:**	10 Oct-14 14:35
Project:	WET Biannual Compliance Test (2nd)	**Duration:**	47h **Organism Age:** < 24

Permitee:	Osceola Water Department	**Laboratory:**	Environmental Testing and Consulting, Inc.
Address:	P.O. Box 443 346 W. Hale Osceola, AR 72370	**Address:**	2790 Whitten Road Memphis, TN 38133
Contact:	Mr. Brandon Haynes	**Contact:**	Connie Cook, Lab Supervisor
Phone:	870-563-2628, 870-563-7460(fax)	**Phone:**	901-213-2454
Email:		**Email:**	ccook@etcmemphis.com

Sample Note: Receiving stream collected 10/08/14 08:30

Acute Toxicity Evaluation

Endpoint	Parameter	C-%	IWC	Pass/Fail	Method
48h Survival Rate	NOEL/LOEL	0.17/>0.17	0.13	Pass	Steel Many-One Rank Sum Test

Test Acceptability Criteria

Endpoint	Attribute	Test Stat	Limits	Pass/Fail
48h Survival Rate	Control Resp	1	0.9 - N/A	Pass

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0	Receiving Wat	5	1	1	1	1	1	0	0	0.0%	0.0%
0.05		5	1	1	1	1	1	0	0	0.0%	0.0%
0.07		5	0.98	0.95	1	0.88	1	0.025	0.056	5.7%	2.5%
0.1		5	0.98	0.95	1	0.88	1	0.025	0.056	5.7%	2.5%
0.13		5	1	1	1	1	1	0	0	0.0%	0.0%
0.17		5	1	1	1	1	1	0	0	0.0%	0.0%

CETIS Summary Report

Daphnia pulex 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Batch ID:	18-7331-6943	**Test Type:**	Survival (48h)	**Analyst:**	Connie Cook
Start Date:	08 Oct-14 15:10	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water
Ending Date:	10 Oct-14 14:35	**Species:**	Daphnia pulex	**Brine:**	Not Applicable
Duration:	47h	**Source:**	In-House Culture	**Age:**	< 24

Sample ID:	17-2368-9980	**Code:**	14-281-0190	**Client:**	Osceola Water Department
Sample Date:	07 Oct-14 07:00	**Material:**	POTW Effluent	**Project:**	WET Biannual Compliance Test (2nd)
Receive Date:	08 Oct-14 13:30	**Source:**	OSCEOLA WATER (AR0021580)		
Sample Age:	32h (0.1 °C)	**Station:**			

Sample Note: Receiving stream collected 10/08/14 08:30

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
18-2409-3491	48h Survival Rate	0.17	>0.17	NA	6.05%	588.2	Steel Many-One Rank Sum Test

Test Acceptability

Analysis ID	Endpoint	Attribute	Test Stat	TAC Limits	Overlap	Decision
18-2409-3491	48h Survival Rate	Control Resp	1	0.9 - NL	Yes	Passes Acceptability Criteria

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0	Lab Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0.05		5	1	1	1	1	1	0	0	0.0%	0.0%
0.07		5	0.98	0.91	1	0.88	1	0.025	0.056	5.7%	2.5%
0.1		5	0.98	0.91	1	0.88	1	0.025	0.056	5.7%	2.5%
0.13		5	1	1	1	1	1	0	0	0.0%	0.0%
0.17		5	1	1	1	1	1	0	0	0.0%	0.0%

48h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	1	1	1	1	1
0	Lab Water	1	1	1	1	1
0.05		1	1	1	1	1
0.07		1	1	0.88	1	1
0.1		1	1	1	1	0.88
0.13		1	1	1	1	1
0.17		1	1	1	1	1

CETIS Measurement Report

Test Code: DP 14-281-0190 | 14-2607-9885

Daphnia pulex 48-h Acute Survival Test				Environmental Testing and Consulting, Inc.	
Batch ID:	18-7331-6943	**Test Type:**	Survival (48h)	**Analyst:**	Connie Cook
Start Date:	08 Oct-14 15:10	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water
Ending Date:	10 Oct-14 14:35	**Species:**	Daphnia pulex	**Brine:**	Not Applicable
Duration:	47h	**Source:**	In-House Culture	**Age:**	< 24
Sample ID:	17-2368-9980	**Code:**	14-281-0190	**Client:**	Osceola Water Department
Sample Date:	07 Oct-14 07:00	**Material:**	POTW Effluent	**Project:**	WET Biannual Compliance Test (2nd)
Receive Date:	08 Oct-14 13:30	**Source:**	OSCEOLA WATER (AR0021580)		
Sample Age:	32h (0.1 °C)	**Station:**			

Daphnia pulex 48-h Acute Survival Test — Environmental Testing and Consulting, Inc.

Alkalinity (CaCO3)-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		59					
0	Lab Water	2		62					

Total Residual Chlorine-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		0					
0	Receiving Wat			0					
0.17				0					
0	Lab Water	2		0					
0	Receiving Wat			0					
0.17				0					

Conductivity-µS/cm

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		169					
0	Receiving Wat			345					
0.17				633					
0	Lab Water	2		171					
0	Receiving Wat			352					
0.17				649					

Final Dissolved Oxygen-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		7.6					
0	Receiving Wat			7.7					
0.05				7.6					
0.07				7.7					
0.1				7.8					
0.13				7.9					
0.17				7.8					
0	Lab Water	2		7.3					
0	Receiving Wat			7.9					
0.05				7.9					
0.07				8					
0.1				8					
0.13				7.6					
0.17				7.6					

Initial Dissolved Oxygen-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		8.9					
0	Receiving Wat			8.6					
0.05				8.3					
0.07				8.6					
0.1				8.5					
0.13				8.4					
0.17				8.3					
0	Lab Water	2		8.7					
0	Receiving Wat			8.8					
0.05				8.6					
0.07				8.9					
0.1				8.7					
0.13				8.5					
0.17				8.6					

Daphnia pulex 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Hardness (CaCO3)-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		92					
0	Lab Water	2		90					

Final pH-Units

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		7.3					
0	Receiving Wat			7.5					
0.05				7.6					
0.07				7.5					
0.1				7.4					
0.13				7.7					
0.17				7.4					
0	Lab Water	2		7.7					
0	Receiving Wat			7.9					
0.05				7.5					
0.07				7.7					
0.1				7.6					
0.13				7.6					
0.17				7.5					

Initial pH-Units

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		8					
0	Receiving Wat			7.9					
0.05				7.8					
0.07				7.9					
0.1				7.9					
0.13				7.8					
0.17				7.9					
0	Lab Water	2		7.8					
0	Receiving Wat			7.8					
0.05				7.6					
0.07				7.9					
0.1				7.8					
0.13				7.9					
0.17				7.8					

Final Temperature-°C

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					
0	Lab Water	2		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					

Daphnia pulex 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Initial Temperature-°C

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					
0	Lab Water	2		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					

CETIS Test Evaluation Report

Facility:	OSCEOLA WATER	**Test Name:**	Fathead Minnow 48-h Acute Survival Test
Sample Site:		**Organism:**	Pimephales promelas (Fathead Minnow)
Sample Code:	14-281-0190	**Protocol:**	EPA/821/R-02-012 (2002)
Sample Date:	07 Oct-14 07:00	**Start Date:**	08 Oct-14 14:55
Sample Age:	32h (0.1 °C)	**End Date:**	10 Oct-14 14:15
Project:	WET Biannual Compliance Test (2nd)	**Duration:**	47h **Organism Age:** < 24

Permitee:	Osceola Water Department	**Laboratory:**	Environmental Testing and Consulting, Inc.
Address:	P.O. Box 443 346 W. Hale Osceola, AR 72370	**Address:**	2790 Whitten Road Memphis, TN 38133
Contact:	Mr. Brandon Haynes	**Contact:**	Connie Cook, Lab Supervisor
Phone:	870-563-2628, 870-563-7460(fax)	**Phone:**	901-213-2454
Email:		**Email:**	ccook@etcmemphis.com

Sample Note: Receiving stream collected 10/08/14 08:30

Acute Toxicity Evaluation

Endpoint	Parameter	C-%	IWC	Pass/Fail	Method
48h Survival Rate	NOEL/LOEL	0.17/>0.17	0.13	Pass	Steel Many-One Rank Sum Test

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Lab Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0	Receiving Wat	5	1	1	1	1	1	0	0	0.0%	0.0%
0.05		5	1	1	1	1	1	0	0	0.0%	0.0%
0.07		5	1	1	1	1	1	0	0	0.0%	0.0%
0.1		5	0.98	0.95	1	0.88	1	0.025	0.056	5.7%	2.5%
0.13		5	1	1	1	1	1	0	0	0.0%	0.0%
0.17		5	1	1	1	1	1	0	0	0.0%	0.0%

CETIS Summary Report

Fathead Minnow 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Batch ID:	01-5357-3162	**Test Type:**	Survival (48h)	**Analyst:**	Connie Cook
Start Date:	08 Oct-14 14:55	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water
Ending Date:	10 Oct-14 14:15	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Duration:	47h	**Source:**	Aquatic Biosystems, CO	**Age:**	< 24

Sample ID:	17-2368-9980	**Code:**	14-281-0190	**Client:**	Osceola Water Department
Sample Date:	07 Oct-14 07:00	**Material:**	POTW Effluent	**Project:**	WET Biannual Compliance Test (2nd)
Receive Date:	08 Oct-14 13:30	**Source:**	OSCEOLA WATER (AR0021580)		
Sample Age:	32h (0.1 °C)	**Station:**			

Sample Note: Receiving stream collected 10/08/14 08:30

Comparison Summary

Analysis ID	Endpoint	NOEL	LOEL	TOEL	PMSD	TU	Method
18-4842-6381	48h Survival Rate	0.17	>0.17	NA	5.1%	588.2	Steel Many-One Rank Sum Test

48h Survival Rate Summary

C-%	Control Type	Count	Mean	95% LCL	95% UCL	Min	Max	Std Err	Std Dev	CV%	%Effect
0	Receiving Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0	Lab Water	5	1	1	1	1	1	0	0	0.0%	0.0%
0.05		5	1	1	1	1	1	0	0	0.0%	0.0%
0.07		5	1	1	1	1	1	0	0	0.0%	0.0%
0.1		5	0.98	0.91	1	0.88	1	0.025	0.056	5.7%	2.5%
0.13		5	1	1	1	1	1	0	0	0.0%	0.0%
0.17		5	1	1	1	1	1	0	0	0.0%	0.0%

48h Survival Rate Detail

C-%	Control Type	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0	Receiving Water	1	1	1	1	1
0	Lab Water	1	1	1	1	1
0.05		1	1	1	1	1
0.07		1	1	1	1	1
0.1		1	1	1	0.88	1
0.13		1	1	1	1	1
0.17		1	1	1	1	1

CETIS Measurement Report

Fathead Minnow 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Batch ID:	01-5357-3162	**Test Type:**	Survival (48h)	**Analyst:**	Connie Cook
Start Date:	08 Oct-14 14:55	**Protocol:**	EPA/821/R-02-012 (2002)	**Diluent:**	Receiving Water
Ending Date:	10 Oct-14 14:15	**Species:**	Pimephales promelas	**Brine:**	Not Applicable
Duration:	47h	**Source:**	Aquatic Biosystems, CO	**Age:**	< 24

Sample ID:	17-2368-9980	**Code:**	14-281-0190	**Client:**	Osceola Water Department
Sample Date:	07 Oct-14 07:00	**Material:**	POTW Effluent	**Project:**	WET Biannual Compliance Test (2nd)
Receive Date:	08 Oct-14 13:30	**Source:**	OSCEOLA WATER (AR0021580)		
Sample Age:	32h (0.1 °C)	**Station:**			

Fathead Minnow 48-h Acute Survival Test — Environmental Testing and Consulting, Inc.

Alkalinity (CaCO3)-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		59					
0	Lab Water	2		62					

Total Residual Chlorine-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		0					
0	Receiving Wat			0					
0.17				0					
0	Lab Water	2		0					
0	Receiving Wat			0					
0.17				0					

Conductivity-µS/cm

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		169					
0	Receiving Wat			345					
0.17				633					
0	Lab Water	2		171					
0	Receiving Wat			352					
0.17				649					

Final Dissolved Oxygen-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		7.4					
0	Receiving Wat			7.4					
0.05				7.6					
0.07				7.3					
0.1				7.5					
0.13				7.6					
0.17				7.5					
0	Lab Water	2		7.6					
0	Receiving Wat			7.6					
0.05				7.9					
0.07				7.9					
0.1				7.8					
0.13				8					
0.17				7.9					

Initial Dissolved Oxygen-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		8.9					
0	Receiving Wat			8.6					
0.05				8.3					
0.07				8.6					
0.1				8.5					
0.13				8.4					
0.17				8.3					
0	Lab Water	2		8.7					
0	Receiving Wat			8.8					
0.05				8.6					
0.07				8.9					
0.1				8.7					
0.13				8.5					
0.17				8.6					

Fathead Minnow 48-h Acute Survival Test — **Environmental Testing and Consulting, Inc.**

Hardness (CaCO3)-mg/L

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		92					
0	Lab Water	2		90					

Final pH-Units

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		7.3					
0	Receiving Wat			7.4					
0.05				7.4					
0.07				7.3					
0.1				7.7					
0.13				7.4					
0.17				7.7					
0	Lab Water	2		7.4					
0	Receiving Wat			7.7					
0.05				7.7					
0.07				7.6					
0.1				7.5					
0.13				7.5					
0.17				7.6					

Initial pH-Units

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		8					
0	Receiving Wat			7.9					
0.05				7.8					
0.07				7.9					
0.1				7.9					
0.13				7.8					
0.17				7.9					
0	Lab Water	2		7.8					
0	Receiving Wat			7.8					
0.05				7.6					
0.07				7.9					
0.1				7.8					
0.13				7.9					
0.17				7.8					

Final Temperature-°C

C-%	Control Type	Reading	Time	Measure	QA	Diff-%	Inst ID	Analyst	Notes
0	Lab Water	1		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					
0	Lab Water	2		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					

Fathead Minnow 48-h Acute Survival Test								Environmental Testing and Consulting, Inc.
Initial Temperature-°C								
C-%	**Control Type**	**Reading**	**Time**	**Measure**	**QA**	**Diff-%**	**Inst ID**	**Analyst**	**Notes**
0	Lab Water	1		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					
0	Lab Water	2		23					
0	Receiving Wat			23					
0.05				23					
0.07				23					
0.1				23					
0.13				23					
0.17				23					

Environmental Testing and Consulting, Inc.
2790 Whitten Road
Memphis, TN 38133

Additional Toxicity Test Information

1. Methods/Instrumentation used in chemical analysis:
   - Dissolved oxygen: _4500-O G YSI MODEL - 58____
   - pH: __4500-H + B JENCO METER 6072___
   - Temperature: __2550 B JENCO METER 6072
   - Conductivity: ___2510 B CORNING METER 441
   - Alkalinity: _____2320 B_____
   - Hardness: _____200.7_____
   - Total Residual Chlorine: __4500-Cl G - REPORTED VALUE OF "0" INDICATES RESULT BELOW DETECTION LIMIT OF 0.02 mg/L
   - EPA Acute/Chronic Manual Edition and Date: ____EPA-821-R-02-012____
   - _____OCT 2002 (Fifth edition)

2. Laboratory
   - Temperature: Average – 25 C Range – 23 - 26
   - Light Cycle: 16 hours light/ 8 hours dark
   - Light intensity: 100 foot-candles, average
   - Control Water: Dilute mineral water made with 20 % Perrier in Nanopure
   - Dilution Water: Laboratory control water
   - Pretreatment: none

3. Method 2002.0
   - Test chambers: 30 mL disposable plastic beakers
   - Volume per chamber: 15 mL
   - Number of organisms per chamber: 8
   - Number of replicates: 5
   - Food: Organisms are not fed during test.

4. Method 2000.0
   - Test chambers: 20 oz. Disposable plastic cups
   - Volume per chamber: 200 mL
   - Average number of organisms per chamber: 8
   - Number of replicates per concentration: 5
   - Food: Artemia brine shrimp hatched in laboratory during holding, prior to test.
   - Acclimation of organisms: Organisms are allowed to reach test temperature. Dilution water is added at half-hour intervals until organisms are contained in a culture media that consists of 80% dilution water.

5. Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from EPA methodology that were necessary for these tests as well as any sample manipulations which were performed, such as aeration, dechlorination with sodium thiosulfate, etc. and the justification for such manipulations or deviations. Attach additional pages as needed.

   - None

ETC
www.etcmemphis.com
ENVIRONMENTAL TESTING & CONSULTING, INC.
2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440
"A Laboratory Management Partner"

03334
Osceola Water Department
Mr. Brandon Haynes
303 W. Hale
Osceola , AR 72370

Project Information : Bioassay

Report Date : 10/22/2014

Report Number : **14-281-0190**

REPORT OF ANALYSIS

Received : 10/8/2014

Lab No : **98901** Matrix: **Aqueous**
Sample ID : **Outfall 001 10/6-7/14** Sampled: **10/7/2014 7:00**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO3)	**232**	mg/L	1	1	10/09/14 09:30	CJR	2320B-2011
Total Calcium	**38.2**	mg/L	0.100	1	10/10/14 19:22	JTR	EPA-200.7
Hardness as CaCO3(SM-2340B)	**140**	mg/L	0.100	1	10/10/14 19:22		EPA-200.7
Total Magnesium	**10.8**	mg/L	0.100	1	10/10/14 19:22	JTR	EPA-200.7

Lab No : **98902** Matrix: **Aqueous**
Sample ID : **Outfall 001 10/7-8/14** Sampled: **10/8/2014 7:00**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO3)	**223**	mg/L	1	1	10/09/14 09:30	CJR	2320B-2011
Total Calcium	**37.1**	mg/L	0.100	1	10/10/14 19:26	JTR	EPA-200.7
Hardness as CaCO3(SM-2340B)	**135**	mg/L	0.100	1	10/10/14 19:26		EPA-200.7
Total Magnesium	**10.4**	mg/L	0.100	1	10/10/14 19:26	JTR	EPA-200.7

Lab No : **98903** Matrix: **Aqueous**
Sample ID : **River Water** Sampled: **10/8/2014 8:30**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Method
Alkalinity (as CaCO3)	**118**	mg/L	1	1	10/09/14 09:30	CJR	2320B-2011
Total Calcium	**40.6**	mg/L	0.100	1	10/10/14 19:31	JTR	EPA-200.7
Hardness as CaCO3(SM-2340B)	**155**	mg/L	0.100	1	10/10/14 19:31		EPA-200.7
Total Magnesium	**13.0**	mg/L	0.100	1	10/10/14 19:31	JTR	EPA-200.7

Qualifiers/ Definitions
* Outside QC limit
MQL Method Quantitation Limit
DF Dilution Factor

ETC — Environmental Testing & Consulting, Inc.

www.etcmemphis.com
2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440

(1)

CHAIN OF CUSTODY

14-281-0190
03334
10-08-2014
14:25:00

Osceola Water Department
Bioassay

Company Name	Customer Number	Telephone	RUSH	ICE
Osceola Water Department	03334	(870) 563-2628		

Site Name	Project Comment	FID Number
Semi-annual Bioassay	Bioassay	

Project	Project Number	PO Number
Osceola Water - Bioassay		611945

Project Manager / Contact	E-mail
Osceola Water Dept. ~ Brandon Haynes	bhaynes58@yahoo.com

Sample ID	Container Type	Collected Date / Time	# Cont	Preservative	Grab / Comp	Matrix	Analyses
Outfall 001	Plastic - Pint	10/6/14 - 10/7/14 700 Am	1	HNO3 - Nitric Acid	C	Aqueous	hardness
Outfall 001	Plastic - Pint	10/6/14 - 10/7/14 700 Am	1	NONE	C	Aqueous	Alkalinity
Outfall 001	Plastic - Quart	10/6/14 - 10/7/14 700 Am	1	NONE	C	Aqueous	48 hr bioassay - renewal
River Water	Plastic - Pint	10/8/14 800 Am	1	HNO3 - Nitric Acid	C	Aqueous	hardness
river water	Plastic - Pint	10/8/14 800 Am	1	NONE	C	Aqueous	Alkalinity
river water	Plastic - Gallon	10/8/14 800 Am	2	NONE	C	Aqueous	dilution water

Sampled By	Method of Shipment	Blank / Cooler Temperature	Remarks
Brandon Haynes		4 (CF) 0.1	

Relinquished By (sign)	Date / Time	Received By (sign)	Date / Time
BH	10/8/14 1000	Tolanya	10/8/14 1000
Relinquished By (sign)	Date / Time	Received By (sign)	Date / Time
Relinquished By (sign)	Date / Time	Received by Lab (sign)	Date / Time
Tolanya	10/8/14 1330	Tolanya	10/8/14 1330

ETC — Environmental Testing & Consulting, Inc.

2790 Whitten Road Memphis, Tennessee 38133 (901) 213-2400 Fax (901) 213-2440

(2)

CHAIN OF CUSTODY

14-281-0190
03334
10-08-2014
14:25:00

Osceola Water Department
Bioassay

Company Name	Customer Number	Telephone	RUSH	ICE
Osceola Water Department	03334	(870) 563-2628		

Site Name	Project Comment	FID Number
Semi-annual Bioassay	Bioassay	

Project	Project Number	PO Number
Osceola Water - Bioassay		611945

Project Manager / Contact	E-mail
Osceola Water Dept. Brandon Haynes	bhaynes58@yahoo.com

Sample ID	Container Type	Collected Date / Time	# Cont	Preservative	Grab / Comp	Matrix	Analyses
Outfall 001	Plastic - Pint	10/7/14 - 10/8/14 700 Am	1	HNO3 - Nitric Acid	C	Aqueous	hardness
Outfall 001	Plastic - Pint	10/7/14 - 10/8/14 700 Am	1	NONE	C	Aqueous	Alkalinity
Outfall 001	Plastic - Quart	10/7/14 - 10/8/14 700 Am	1	NONE	C	Aqueous	48 hr bioassay - renewal
River Water	Plastic - Pint	10/8/14 830 Am	1	HNO3 - Nitric Acid	C	Aqueous	hardness
river water	Plastic - Pint	10/8/14 830 Am	1	NONE	C	Aqueous	Alkalinity
river water	Plastic - Gallon	10/8/14 830 Am	2	NONE	C	Aqueous	dilution water

Sampled By	Method of Shipment	Blank / Cooler Temperature 0.1	Remarks
Brandon Haynes			

Relinquished By (sign)	Date / Time	Received By (sign)	Date / Time
	5/8/14 1000		10/8/14 1000
Relinquished By (sign)	Date / Time	Received By (sign)	Date / Time
Relinquished By (sign)	Date / Time	Received by Lab (sign)	Date / Time
	10/9/ 1330		10/8/14 1330

City Of Osceola
@ Brandon Haynes
P.O. Box 443
303 West Hale
Osceola, AR 72370

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