

STATE OF MISSOURI  
**DEPARTMENT OF NATURAL RESOURCES**

MISSOURI CLEAN WATER COMMISSION



## MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92<sup>nd</sup> Congress) as amended,

Permit No.: MO-0023221

Owner: City of Macon  
Address: PO Box 569, 106 West Bourke Street, Macon, MO 63552

Continuing Authority: Same as above  
Address: Same as above

Facility Name: Macon Wastewater Treatment Facility  
Facility Address: 32319 Vine Street Road, Macon, MO 63552

Legal Description: See Page 2  
UTM Coordinates: See Page 2

Receiving Stream: Sewer Creek (U)  
First Classified Stream and ID: Middle Fork Salt River (C)(0123)  
USGS Basin & Sub-watershed No.: (07110006-0203)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

### FACILITY DESCRIPTION

See Page 2

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

April 4, 2011                      March 27, 2013  
Effective Date                      Modification Date

Sara Parker Pauley, Director, Department of Natural Resources

April 3, 2016  
Expiration Date

John Madras, Director, Water Protection Program

D. SPECIAL CONDITIONS

Outfall #001 – POTW – SIC #4952 - Certified “A” Operator Required

Influent lift station/Primary Clarifiers/Trickling Filter/Secondary Settling/Sludge Dewatering/Lime Stabilization/ UV Disinfection System/ Sludge is Land Applied.

Design population equivalent is 46,800. Design Flow is 2.5 MGD. Actual Flow is 1.8 MGD.

Design sludge production is 1310 dry tons/year.

Legal Description: NE ¼, NW ¼, Sec. 23, T57N, R14W, Macon County  
UTM Coordinates: X = 548087, Y = 4398737

Overflow W002 (Formerly Outfall 002) – Holding Basin Combined Sewer Overflow (CSO)

Discharge frequency and rate will be dependent upon precipitation.

Legal Description: NE ¼, NW ¼, Sec. 23, T57N, R14W, Macon County  
UTM Coordinates: X = 548007, Y = 4398716  
Receiving Stream: Sewer Creek (U)  
First classified stream and ID: Middle Fork Salt River (C)(0123)  
USGS Basin & Subwatershed No.: (07110006-010002)

Overflow W003 (Formerly Outfall 003) – Grit Chamber CSO

Discharge frequency and rate will be dependent upon precipitation.

Legal Description: NW ¼, NW ¼, Sec. 22, T57N, R14W, Macon County  
UTM Coordinates: X = 546041, Y = 4398342  
Receiving Stream: Sewer Creek (U)  
First classified stream and ID: Middle Fork Salt River (C)(0123)  
USGS Basin & Subwatershed No.: (07110006-010002)

Outfall #004 – This outfall has been eliminated

Overflow W005 (Formerly Outfall 005) – Highway 63 CSO

Discharge frequency and rate will be dependent upon precipitation.

Legal Description: NE ¼, NE ¼, Sec. 21, T57N, R14W, Macon County  
UTM Coordinates: X = 545858, Y = 4398334  
Receiving Stream: Sewer Creek (U)  
First classified stream and ID: Middle Fork Salt River (C)(0123)  
USGS Basin & Subwatershed No.: (07110006-010002)

<b>A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS</b>					PAGE NUMBER 3 of 9	
					PERMIT NUMBER MO-0023221	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance of this permit and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u>						
Flow	MGD	*		*	once/day	24 hr. total
Biochemical Oxygen Demand <sub>5</sub>	mg/L		45	30	once/week	24 hr. comp.
Total Suspended Solids	mg/L		45	30	once/week	24 hr. comp.
pH – Units	SU	**		**	once/week	grab
Ammonia as N (April 1 – September 30) (October 1 – March 31)	mg/L	4.5 10.3		1.6 2.9	once/week	grab
Temperature	°C	*		*	once/week	grab
Oil and Grease	mg/L	15		10	once/month	grab
<i>E.coli</i> (Note 1)	#/100 ml		***	206	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE NEXT REPORT IS DUE <u>April 28, 2013</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
Whole Effluent Toxicity (WET) Test	% Survival	See Special Conditions			once/year	24 hr. composite
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE NEXT REPORT IS DUE <u>May 28, 2013</u> .						
<b>B. STANDARD CONDITIONS</b>						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I, II, & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- \* Monitoring requirement only.
- \*\* pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
- \*\*\* Please refer to the Operating permit public noticed on September 10, 2010 Factsheet - Part I, Facility Information - Comments - Escherichia coliform (E. coli), for possible future weekly or daily limits.

Note 1 - Effluent limitations and monitoring requirements for E. coli are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for E. coli is expressed as a geometric mean. The Weekly Average for E. coli will be expressed as a geometric mean if more than one (1) sample is collected during a calendar week (Sunday through Saturday).

D. SPECIAL CONDITIONS

<b>C. INFLUENT MONITORING REQUIREMENTS</b>			
The facility is required to meet a removal efficiency of 65% or more as a monthly average. The monitoring requirements shall become effective upon issuance and remain in effect until expiration of the permit. To determine removal efficiencies, the influent wastewater shall be monitored by the permittee as specified below:			
SAMPLING LOCATION AND PARAMETER(S)	UNITS	MONITORING REQUIREMENTS	
		MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Influent</u>			
Biochemical Oxygen Demand <sub>5</sub>	mg/L	once/month	24 hour composite
Total Suspended Solids	mg/L	once/month	24 hour composite

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE NEXT REPORT IS DUE May 28, 2013.

1. Permittee shall install disinfection equipment in accordance with their Long Term Control Plan (LTCP). Permittee shall submit an annual report to document implementation of the nine minimum controls by September 1 of each year.
2. This permit may be reopened and modified, or alternatively revoked and reissued, to:
  - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
    - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
    - (2) controls any pollutant not limited in the permit.
  - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
  - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list. The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.
3. All outfalls must be clearly marked in the field.
4. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
5. Changes in Discharges of Toxic Substances
 

The permittee shall notify the Director as soon as it knows or has reason to believe:

  - (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
    - (1) One hundred micrograms per liter (100 µg/L);
    - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
    - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
    - (4) The level established in Part A of the permit by the Director.
  - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
  - (c) That the effluent limit established in part A of the permit will be exceeded.
6. Report as no-discharge when a discharge does not occur during the report period.

D. SPECIAL CONDITIONS (continued)

7. Water Quality Standards

- (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
  - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
  - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
  - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
  - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
  - (5) There shall be no significant human health hazard from incidental contact with the water;
  - (6) There shall be no acute toxicity to livestock or wildlife watering;
  - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
  - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.

9. The permittee shall develop and implement a program for maintenance and repair of the collection system. The permittee shall submit a report annually in November to the Northeast Regional Office with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the collection system serving the facility (unless otherwise addressed in the LTCP for CSOs).

10. Pretreatment

- (a) Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of 40 CFR Part 403. The approved pretreatment program is hereby incorporated by reference.
- (b) Permittee shall submit to the Department on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year. At a minimum, the report shall include the following:
  - (1) An updated list of the Permittee's Industrial Users, including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Permittee shall provide a brief explanation of each deletion. This list shall identify which Industrial Users are subject to categorical pretreatment Standards and specify which Standards are applicable to each Industrial User. The list shall indicate which Industrial Users are subject to local standards that are more stringent than the categorical Pretreatment Standards. The Permittee shall also list the Industrial Users that are subject only to local requirements;
  - (2) A summary of the status of Industrial User compliance over the reporting period;
  - (3) A summary of compliance and enforcement activities (including inspections) conducted by the Permittee during the reporting period; and
  - (4) Any other relevant information requested by the Department.
- (c) As required in 40 CFR 122.21(j)(4) the permittee shall, as part of its renewal application for this permit, submit to the department a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1).

D. SPECIAL CONDITIONS (continued)

11. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF ACUTE WET TESTING FOR THIS PERMIT						
OUTFALL	AEC		FREQUENCY	SAMPLE TYPE	MONTH	
001	100%		once/year	24 hour composite	Any	

Dilution Series						
100% effluent	50% effluent	25% effluent	12.5% effluent	6.25% effluent	(Control) 100% upstream, if available	(Control) 100% Lab Water, also called synthetic water

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a MULTIPLE-dilution acute WET test in the months and at the frequency specified above. For tests which are successfully passed, submit test results using the Department’s WET test report form #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
  - (a) For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.
  - (b) Samples submitted for analysis of stormwater discharges shall be collected as a grab.
  - (c) For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
  - (d) A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
  - (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
  - (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
  - (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
  - (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
  - (i) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
  - (j) Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
  - (k) Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
  - (l) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
  - (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
- (2) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (3) If the effluent fails the test, a multiple dilution test shall be performed for BOTH test species within 30 calendar days and biweekly thereafter (for storm water, tests shall be performed on the next and subsequent storm water discharges as they occur, but not less than 7 days apart) until one of the following conditions are met:
  - (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
  - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (4) Failure of a WET test is a violation of this permit.

D. SPECIAL CONDITIONS (continued)

- (5) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
  - (6) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
  - (7) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
  - (8) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
  - (9) Submit a concise summary in tabular format of all WET test results with the annual report.
- (b) PASS/FAIL procedure and effluent limitations:
- (1) To pass a multiple-dilution test:
    - (a) For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC) OF 30% OR LESS, the AEC must be less than three-tenths (0.3) of the LC<sub>50</sub> concentration for the most sensitive of the test organisms; **OR**,
    - (b) For facilities with an AEC greater than 30%, the LC<sub>50</sub> concentration must be greater than 100%; **AND**,
  - (c) All effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; p = 0.05) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required.
- (c) Test Conditions
- (1) Test Type: Acute Static non-renewal
  - (2) All tests, including repeat tests for previous failures, shall include both test species listed below.
  - (3) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
  - (4) Test period: 48 hours at the "Allowable Effluent Concentration" (AEC) specified above.
  - (5) Upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
  - (6) Unless otherwise specified above, multiple-dilution tests will be run with:
    - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
    - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
    - (c) Reconstituted water.
  - (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
  - (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

D. SPECIAL CONDITIONS (continued)

11. Combined Sewer Overflows

(a) CSO OUTFALLS.

The permittee is authorized to discharge from the CSO outfalls listed in Table B and additional CSO outfalls within the boundaries of the permittee's jurisdiction identified after the effective date of this permit, in accordance with the requirements of Section (b) below, and other pertinent provisions of this permit.

(b) "Nine Minimum Controls" Technology-based Requirements.

The permittee shall document implementation its Nine Minimum Controls, and shall retain these records in accordance with the State and Local Records Law as codified in Section 109.200 RSMo. et seq., and standards and regulations promulgated pursuant thereto. The permittee shall continue its compliance with the following technology-based requirements:

- Control 1 – Proper Operation and Maintenance Programs;
- Control 2 – Maximum Use of the Collection System for Storage;
- Control 3 – Review and Modification of Pretreatment Requirements;
- Control 4 – Maximization of Flow to the POTW for Treatment;
- Control 5 – Dry Weather Flows from CSO's are prohibited;
- Control 6 – Control of Solid and Floatable Materials in CSO's;
- Control 7 – Pollution Prevention;
- Control 8 – Public Notification;
- Control 9 – Monitoring to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls.

**TABLE B: COMBINED SEWER OVERFLOW LOCATIONS**

<u>Overflow No.</u>	<u>Description</u>	<u>UTM Coordinates</u>	<u>Receiving Water</u>
W002	Holding Basin CSO	X = 548007, Y = 4398716	Sewer Creek (U)
W003	Grit Chamber CSO	X = 546041, Y = 4398342	Sewer Creek (U)
W005	Highway 63 CSO	X = 545858, Y = 4398334	Sewer Creek (U)

E. LONG TERM CONTROL PLAN

(a) The Department acknowledges the Long Term Control Plan (LTCP) was submitted on June 13, 2008 and was approved by the Department on January 20, 2009.

(b) The permittee shall implement the LTCP according to the schedule in the approved LTCP.

### SUMMARY OF TEST METHODOLOGY FOR ACUTE WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

#### Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$ )
Test acceptability criterion:	90% or greater survival in controls

#### Test conditions for Pimephales promelas:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$ )
Test Acceptability criterion:	90% or greater survival in controls

**Missouri Department of Natural Resources**  
**STATEMENT OF BASIS**  
**FOR THE PURPOSE OF MODIFICATION**  
**OF**  
**MO-0023221**  
**MACON WWTF**

The Federal Water Pollution Control Act ("Clean Water Act" Section 402 Public Law 92-500 as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States, and the release of storm water from certain point sources. All such discharges are unlawful without a permit (Section 301 of the "Clean Water Act"). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Director of the Missouri Department of Natural Resources (Department) under an approved program, operating in accordance with federal and state laws (Federal "Clean Water Act" and "Missouri Clean Water Law" Section 644 as amended). MSOPs are issued for a period of five (5) years unless otherwise specified.

As per [40 CFR Part 124.8(a)] and [10 CSR 20-6.020(1)2.] a Factsheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the Missouri State Operating Permit (operating permit) listed below.

A Statement of Basis is not an enforceable part of an operating permit.

This Statement of Basis is for a Major

**Part I – Facility Information**

Facility Type: POTW  
Facility SIC Code(s): 4952

**Facility Description:**

Trickling filter/lime stabilization/ UV disinfection system/ sludge is being land applied.

Application Date: 07/01/2010  
Expiration Date: 12/29/2010  
Last Inspection: 4/15/2010 In Compliance ; Non-Compliance  Facility not meeting effluent limits.  
Letter of Warning issued, facility returned to compliance by June 8, 2010, no further response from the facility was required.

**OUTFALL(S) TABLE:**

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
001	3.875	Equivalent to Secondary	Municipal	3.3

**Outfall #001 – POTW – SIC #4952 - Certified "A" Operator Required**

Influent lift station/Primary Clarifiers/Trickling filter/Secondary settling/Sludge dewatering/Lime stabilization/Sludge is land applied.  
Design population equivalent is 46,800. Design Flow is 2.5 MGD. Actual Flow is 1.8 MGD.  
Design sludge production is 1310 dry tons/year.

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UTM Coordinates: X = 548087, Y = 4398737

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USGS Basin & Subwatershed No.: (07110006-010002)

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USGS Basin & Subwatershed No.: (07110006-010002)

Outfall #004 – This outfall has been eliminated

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UTM Coordinates: X = 545858, Y = 4398334  
Receiving Stream: Sewer Creek (U)  
First classified stream and ID: Middle Fork Salt River (C)(0123)  
USGS Basin & Subwatershed No.: (07110006-010002)

Comments:

The previous permit was issued with variances which provided relief from ammonia limits and numeric limits on their CSO outfalls. Those variances have expired and do not apply to this renewal permit. In accordance with the Long Term Control Plan, the permittee has agreed to install disinfection on the main facility outfall. *E.coli* limits were given in accordance with the construction operating permit that was public noticed on September 10, 2010.

**Part II – Modification Rationale**

This operating permit is hereby modified to reflect the permittee has added a ultra-violet disinfection system to the facility.

No other changes were made at this time. For a detailed fact sheet, please see the permit issued April 4, 2011.

**Part III – Administrative Requirements**

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit.

**Date of Statement of Basis:** March 4, 2013

Submitted by

Lacey Hirschvogel, Environmental Specialist  
Domestic Wastewater Unit  
Operating Permits Section  
Water Protection Program  
(573)751-9391  
[lacey.hirschvogel@dnr.mo.gov](mailto:lacey.hirschvogel@dnr.mo.gov)

November 2012



Prepared by: Benton & Associates, Inc.

PERMIT # MO-0023221

**NPDES PERMIT MODIFICATION  
SUBMITTAL**

**MACON, MISSOURI**

**WASTEWATER TREATMENT FACILITY**

WATER PROTECTION PROGRAM

DEC 31 2012

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- Incorporate the recently constructed Ultra Violet (UV) disinfection system

It is the intention of Macon Municipal Utilities to have the following modification:

## **NPDES Permit Modification Summary**

**City of Macon Wastewater Treatment Facility NPDES Permit  
Modification  
Permit # MO-0023221**

MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH  
**FORM B2 - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY**



FACILITY NAME  
 City of Macon Wastewater Treatment Facility

PERMIT NO.  
 MO-0023221

COUNTY  
 MACON

**APPLICATION OVERVIEW**

Form B2 has been developed in a modular format and consists of Parts A, B and C and a Supplemental Application Information (Parts D, E, F and G) packet. All applicants must complete Parts A, B and C. Some applicants must also complete parts of the Supplemental Application Information packet. The following items explain which parts of Form B2 you must complete. Submittal of an incomplete application may result in the application being returned.

**BASIC APPLICATION INFORMATION**

A. Basic Application Information for all Applicants. All applicants must complete Part A.  
 B. Additional Application Information for all Applicants. All applicants must complete Part B.  
 C. Certification. All applicants must complete Part C.

**SUPPLEMENTAL APPLICATION INFORMATION**

D. Expanded Effluent Testing Data. A treatment works that discharges effluent to surface water of the United States and meets one or more of the following criteria must complete Part D - Expanded Effluent Testing Data:

- Has a design flow rate greater than or equal to 1 million gallons per day.
- Is required to have or currently has a pretreatment program.
- Is otherwise required by the permitting authority to provide the information.

E. Toxicity Testing Data. A treatment works that meets one or more of the following criteria must complete Part E - Toxicity Testing Data:

- Has a design flow rate greater than or equal to 1 million gallons per day.
- Is required to have or currently has a pretreatment program.
- Is otherwise required by the permitting authority to provide the information.

F. Industrial User Discharges and Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act Wastes. A treatment works that accepts process wastewater from any significant industrial users, also known as SUs, or receives a Resource Conservation and Recovery Act or CERCLA wastes must complete Part F - Industrial User Discharges and Resource Conservation and Recovery Act / CERCLA Wastes.

SUs are defined as:

- All Categorical Industrial Users, or CIUs, subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations 403.6 and 40 Code of Federal Regulations 403.6 and 40 CFR Chapter 1, Subchapter N.
- Any other industrial user that meets one or more of the following:
  - Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
  - Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
  - Is designated as an SUI by the control authority.

G. Combined Sewer Systems. A treatment works that has a combined sewer system must complete Part G - Combined Sewer Systems.

**ALL APPLICANTS MUST COMPLETE PARTS A, B and C**



MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM, WATER POLLUTION CONTROL BRANCH  
**FORM B2 - APPLICATION FOR CONSTRUCTION OR OPERATING PERMIT FOR FACILITIES WHICH RECEIVE PRIMARILY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY**

**FOR AGENCY USE ONLY**

CHECK NUMBER: 62926

DATE RECEIVED: 12/31/12

FEE SUBMITTED: 5,200.00

MP 14243  
 010660

**PART A - BASIC APPLICATION INFORMATION**

1. This application is for:  An operating permit and anti-degradation review public notice.  A construction permit following an appropriate operating permit and anti-degradation review public notice.  A construction permit, a concurrent operating permit and anti-degradation review public notice.  A construction permit (submitted before Aug. 30, 2008 or anti-degradation review is not required).  An operating permit for a new or unpermitted facility.  An operating permit renewal: Permit #MO-\_\_\_\_\_.  An operating permit modification: Permit #MO-0023221

Reason: New UV Disinfection System

Construction Permit # \_\_\_\_\_

Expiration Date \_\_\_\_\_

Funding Agency/Project #: \_\_\_\_\_

1.1 Is this a Federal/State Funded Project?  Yes  No

1.2 Is the appropriate fee included with the application (See instructions for appropriate fee)?  Yes  No

**2. FACILITY**

NAME: Macon Wastewater Treatment Facility

ADDRESS (PHYSICAL): 32319 Vine Street Road

CITY: Macon STATE: MO ZIP: 63552

TITLE: \_\_\_\_\_ TELEPHONE NUMBER WITH AREA CODE: 660-385-2532

**3. OWNER**

NAME: City of Macon

ADDRESS: PO Box 569, 106 Bourke Street

CITY: Macon STATE: MO ZIP: 63552

TITLE: \_\_\_\_\_ TELEPHONE NUMBER WITH AREA CODE: 660-385-3173

**4. CONTINUING AUTHORITY:** Permanent organization which will serve as the continuing authority for the operation, maintenance and modernization of the facility.

NAME: City of Macon

ADDRESS: PO Box 569, 106 West Bourke Street

CITY: Macon STATE: MO ZIP: 63552

CERTIFICATE NUMBER (IF APPLICABLE): \_\_\_\_\_

**5. OPERATOR**

NAME: Ronny Smith

ADDRESS: PO Box 569, 106 West Bourke Street

CITY: City of Macon STATE: MO ZIP: 63552

TITLE: Supervisor WWTF TELEPHONE NUMBER WITH AREA CODE: 660-385-2532

**6. FACILITY CONTACT**

NAME: Ronny Smith

TITLE: Supervisor WWTF

**RECEIVED**  
 DEC 31 2012  
 WATER PROTECTION PROGRAM

FACTORY NAME		PERMIT NO.	OUTFALL NO.
Macon WWTF		MO-0023221	
<b>PART A - BASIC APPLICATION INFORMATION</b>			
<b>7. ADDITIONAL FACILITY INFORMATION</b>			
7.1 BRIEF DESCRIPTION OF FACILITIES Wastewater Treatment Facility consisting of head works, primary settling basins, trickling filters, secondary settling, sludge dewatering and lime stabilization of sludge.			
7.2 TOPOGRAPHIC MAP. ATTACH TO THIS APPLICATION A TOPOGRAPHIC MAP OF THE AREA EXTENDING AT LEAST ONE MILE BEYOND FACILITY PROPERTY BOUNDARIES. THIS MAP MUST SHOW THE OUTLINE OF THE FACILITY AND THE FOLLOWING INFORMATION. (YOU MAY SUBMIT MORE THAN ONE MAP IF ONE MAP DOES NOT SHOW THE ENTIRE AREA.) a. The area surrounding the treatment plant, including all unit processes. b. The location of the downstream landowners. (See Item 10.) c. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable. d. The actual point of discharge. e. Wells, springs, other surface water bodies and drinking water wells that are: (1) within 1/4 mile of the property boundaries of the treatment works, and (2) listed in public record or otherwise known to the applicant. f. Any areas where the sewage sludge produced by the treatment works is stored, treated or disposed. g. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act, or RCRA, by truck, rail or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored or disposed. 7.3 PROCESS FLOW DIAGRAM OR SCHEMATIC. PROVIDE A DIAGRAM SHOWING THE PROCESSES OF THE TREATMENT PLANT. ALSO, PROVIDE A WATER BALANCE SHOWING ALL TREATMENT UNITS, INCLUDING DISINFECTION (E.G. CHLORINATION AND DECHLORINATION), THE WATER BALANCE MUST SHOW DAILY AVERAGE FLOW RATES AT INFLUENT AND DISCHARGE POINTS AND APPROXIMATE DAILY FLOW RATES BETWEEN TREATMENT UNITS. INCLUDE A BRIEF NARRATIVE DESCRIPTION OF THE DIAGRAM. <b>See Attached Exhibit B</b>			
7.4	FACILITY SIC CODE	DISCHARGE SIC CODE:	DISCHARGE NAICS CODE:
4952		221320	
7.5	NUMBER OF SEPARATE DISCHARGE POINTS		
4			
7.6	NUMBER OF PEOPLE PRESENTLY CONNECTED OR POPULATION EQUIVALENT		DESIGN POPULATION EQUIVALENT
5538	NUMBER OF UNITS PRESENTLY CONNECTED		46,800 (per existing permit)
HOMES 2300 +/- APARTMENTS 100 +/- TRAILERS 100 +/- OTHER			
TOTAL DESIGN FLOW (ALL OUTFALLS)		ACTUAL FLOW	
2.5 MGD		1.25 MGD	
7.7	DOES ANY BYPASSING OCCUR ANYWHERE IN THE COLLECTION SYSTEM OR AT THE TREATMENT FACILITY? (If Yes, attach an explanation.)		
Yes <input checked="" type="checkbox"/>		See Attached Exhibit C	
7.8	LENGTH OF THE SANITARY SEWER COLLECTION SYSTEM IN MILES		
53			
7.9	IS INDUSTRIAL WASTE DISCHARGED TO THE FACILITY IDENTIFIED IN ITEM 2?		
Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>	
7.10	WILL THE DISCHARGE BE CONTINUOUS THROUGH THE YEAR?		
Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>	
A.	DISCHARGE WILL OCCUR DURING THE FOLLOWING MONTHS		
B.	HOW MANY DAYS OF THE WEEK WILL THE DISCHARGE OCCUR?		
7.11	IS WASTEWATER LAND APPLIED? (If Yes, Attach Form 1)		
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	
7.12	DOES THIS FACILITY DISCHARGE TO A LOSING STREAM OR SINKHOLE?		
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	
7.13	HAS A WASTE LOAD ALLOCATION STUDY BEEN COMPLETED FOR THIS FACILITY?		
Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>	
7.14	LIST ALL PERMIT VIOLATIONS, INCLUDING EFFLUENT LIMIT EXCEEDANCES IN THE LAST FIVE YEARS. ATTACH A SEPARATE SHEET IF NECESSARY. IF NONE, WRITE NONE.		
None			
<b>8. LABORATORY CONTROL INFORMATION</b>			
LABORATORY WORK CONDUCTED BY PLANT PERSONNEL			
8.1	Lab work conducted outside of plant.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Push-button or visual methods for simple test such as pH, settleable solids.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Additional procedures such as Dissolved Oxygen, Chemical Oxygen Demand, Biological Oxygen Demand, fl ratios, solids, volatile content.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	More advanced determinations such as BOD seeding procedures, fecal coliform, nutrients, total oils, phenols, etc.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Highly sophisticated instrumentation, such as atomic absorption and gas chromatograph.	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

FACILITY NAME Macon WWTF		PERMIT NO. MO-0023221	OUTFALL NO.
<b>PART A - BASIC APPLICATION INFORMATION</b>			
<b>9. SLUDGE HANDLING, USE AND DISPOSAL</b>			
9.1 IS THE SLUDGE A HAZARDOUS WASTE AS DEFINED BY 10 CSR 257 <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
9.2 SLUDGE PRODUCTION, INCLUDING SLUDGE RECEIVED FROM OTHERS Design Dry Tons/Year 1,310 Actual Dry Tons/Year 1,210.5			
9.3 CAPACITY OF SLUDGE HOLDING STRUCTURES			
9.4 SLUDGE STORAGE PROVIDED 58,500 Cubic Feet 55 Days of Storage			
9.5 TYPE OF STORAGE <input type="checkbox"/> Holding Tank <input type="checkbox"/> Basin <input type="checkbox"/> Building <input checked="" type="checkbox"/> Concrete Pad <input type="checkbox"/> Other (Describe) _____			
9.6 SLUDGE TREATMENT <input type="checkbox"/> Anaerobic Digester <input type="checkbox"/> Storage Tank <input checked="" type="checkbox"/> Lime Stabilization <input type="checkbox"/> Lagoon <input type="checkbox"/> Other (Attach Description)			
9.7 SLUDGE USE OR DISPOSAL <input checked="" type="checkbox"/> Land Application <input type="checkbox"/> Contract Hauler <input type="checkbox"/> Hauled to Another Treatment Facility <input type="checkbox"/> Solid Waste Landfill <input type="checkbox"/> Surface Disposal (Sludge Disposal Lagoon, Sludge Held For More Than Two Years) <input type="checkbox"/> Other (Attach Explanation Sheet)			
9.8 PERSON RESPONSIBLE FOR HAULING SLUDGE TO DISPOSAL FACILITY			
NAME City of Macon			
ADDRESS PO Box 569, 106 West Bourke Street		CITY Macon	STATE MO
CONTACT PERSON Ronny Smith		TELEPHONE NUMBER WITH AREA CODE 660-385-2532	PERMIT NO. MO-
9.9 SLUDGE USE OR DISPOSAL FACILITY <input checked="" type="checkbox"/> By Applicant <input type="checkbox"/> By Others (Complete Below)			
NAME			
ADDRESS		CITY	STATE
CONTACT PERSON		TELEPHONE NUMBER WITH AREA CODE	PERMIT NO.
9.10 DO THE SLUDGE OR BIOSOLIDS DISPOSAL COMPLY WITH FEDERAL SLUDGE REGULATIONS UNDER 40 CFR 503? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Attach Explanation)			
10. DOWNSTREAM LANDOWNER(S). (ATTACH ADDITIONAL SHEETS AS NECESSARY.)			
NAME DeForest & Geraldine Darling			
ADDRESS RR#1, Box 315		CITY Kirksville	STATE MO
ZIP 63501			
<b>11. DRINKING WATER SUPPLY INFORMATION</b>			
11.1 SOURCE OF YOUR DRINKING WATER SUPPLY			
A. PUBLIC SUPPLY (MUNICIPAL OR WATER DISTRICT WATER) (IF PUBLIC, PLEASE GIVE NAME OF PUBLIC SUPPLY)			
B. PRIVATE WELL			
C. SURFACE WATER (LAKE, POND OR STREAM)			
11.2 DOES YOUR DRINKING WATER SOURCE SERVE AT LEAST 25 PEOPLE AT LEAST 60 DAYS PER YEAR (NOT NECESSARILY CONSECUTIVE DAYS)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
11.3 DOES YOUR SUPPLY SERVE HOUSING THAT IS OCCUPIED YEAR ROUND BY THE SAME PEOPLE? THIS DOES NOT INCLUDE HOUSING THAT IS OCCUPIED SEASONALLY? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
<b>END OF PART A</b>			

**MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL**

FACILITY NAME <b>Macon WWTF</b>	PERMIT NO. <b>MO-0023221</b>	OUTFALL NO. <b>001</b>
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**PART B - ADDITIONAL APPLICATION INFORMATION**

**20. INFLOW AND INFILTRATION**

ESTIMATE THE AVERAGE NUMBER OF GALLONS PER DAY THAT FLOW INTO THE TREATMENT WORKS FROM INFLOW AND INFILTRATION.  
Gallons Per Day

BRIEFLY EXPLAIN ANY STEPS UNDERWAY OR PLANNED TO MINIMIZE INFLOW AND INFILTRATION.  
**See Attached Exhibit D**

**20.1 OPERATION AND MAINTENANCE PERFORMED BY CONTRACTOR(S)**

ARE ANY OPERATIONAL OR MAINTENANCE ASPECTS (RELATED TO WASTEWATER TREATMENT AND EFFLUENT QUALITY) OF THE TREATMENT WORKS THE RESPONSIBILITY OF A CONTRACTOR?  
Yes  No  If Yes, list the name, address, telephone number and status of each contractor and describe the contractor's responsibilities. (Attach additional pages if necessary.)

NAME

MAILING ADDRESS

TELEPHONE NUMBER WITH AREA CODE

RESPONSIBILITIES OF CONTRACTOR

**20.2 SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION. PROVIDE INFORMATION ABOUT ANY UNCOMPLETED IMPLEMENTATION SCHEDULE OR UNCOMPLETED PLANS FOR IMPROVEMENTS THAT WILL AFFECT THE WASTEWATER TREATMENT, EFFLUENT QUALITY OR DESIGN CAPACITY OF THE TREATMENT WORKS. IF THE TREATMENT WORKS HAS SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES OR IS PLANNING SEVERAL IMPROVEMENTS, SUBMIT SEPARATE RESPONSES FOR EACH. (IF NONE, GO TO QUESTION B-20.3.) LTCP Schedule approved by MODNR**

A. List the outfall number that is covered by this implementation schedule  
outfall No. **001, 002, 003 and 005**  
B. Indicate whether the planned improvements or implementation schedule are required by local, state or federal agencies.  
Yes  No

**20.3 WASTEWATER DISCHARGES:**  
COMPLETE QUESTIONS 20.4 THROUGH 20.7 ONCE FOR EACH OUTFALL (INCLUDING BYPASS POINTS) THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION ON COMBINED SEWER OVERFLOWS IN THIS SECTION.  
**20.4 DESCRIPTION OF OUTFALL**  
OUTFALL NUMBER **001**

A. LOCATION  
**1/4 SW 1/4 Section 14 Township 57N Range 14 E W**  
UTM Coordinates Easting (X): \_\_\_\_\_ Northing (Y): \_\_\_\_\_  
For Universal Transverse Mercator (UTM), Zone 15 North referenced to North American Datum 1983 (NAD83)  
B. Distance from Shore \_\_\_\_\_ ft.  
C. Depth Below Surface (If Applicable) \_\_\_\_\_ ft.  
D. Average Daily Flow Rate **1.25** mgd

E. Does this outfall have either an intermittent or periodic discharge?  
Yes  No  If Yes, Provide the following information:  
Number of Days Per Year Discharge \_\_\_\_\_  
Average Duration of Each Discharge: \_\_\_\_\_  
Average Flow Per Discharge: \_\_\_\_\_ mgd  
Months in Which Discharge Occurs: \_\_\_\_\_

**20.5 DESCRIPTION OF RECEIVING WATER**  
Is Outfall Equipped with a Diffuser? Yes  No

B. Name of Receiving Water  
**Sewer Creek**  
B. Name of Watershed (If Known)  
U.S. Soil Conservation Service 14-Digit Watershed Code (If Known) **0711000-010002**  
B. Name of State Management/River Basin (If Known)  
U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (If Known)  
B. Critical Flow of Receiving Stream (If Applicable) Chronic \_\_\_\_\_ cfs  
Acute \_\_\_\_\_ cfs  
B. Total Hardness of Receiving Stream at Critical Low Flow (If Applicable) \_\_\_\_\_ mg/L of CaCO<sub>3</sub>

FACILITY NAME		PERMIT NO.		OUTFALL NO.	
Macon WWTF		MO-0023221		001	
<b>PART B - ADDITIONAL APPLICATION INFORMATION (CONTINUED)</b>					
20.6 DESCRIPTION OF TREATMENT					
A. WHAT LEVELS OF TREATMENT ARE PROVIDED? Check All That Apply					
<input checked="" type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary <input type="checkbox"/> Advanced <input type="checkbox"/> Other (Describe)					
B. INDICATE THE FOLLOWING REMOVAL RATES (AS APPLICABLE)					
Design BOD <sub>5</sub> Removal Or Design CBOD <sub>5</sub> Removal		97%		Design SS Removal	
Design P Removal		97%		Design N Removal	
Design N Removal		97%		Other	
Design SS Removal		97%		Other	
C. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe: UV disinfection system seasonally (April 1 through October 31)					
If disinfection is by chlorination, is dechlorination used for this outfall? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Does the treatment plant have post aeration? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
20.7 EFFLUENT TESTING DATA. ALL APPLICANTS THAT DISCHARGE TO WATERS OF THE U.S. MUST PROVIDE EFFLUENT TESTING DATA FOR THE FOLLOWING PARAMETERS. PROVIDE THE INDICATED EFFLUENT DATA FOR EACH OUTFALL THROUGH WHICH EFFLUENT IS DISCHARGED. DO NOT INCLUDE INFORMATION OF COMBINED SEWER OVERFLOWS IN THIS SECTION. ALL INFORMATION REPORTED MUST BE BASED ON DATA COLLECTED THROUGH ANALYSIS CONDUCTED USING 40 CFR PART 136 METHODS. IN ADDITION, THIS DATA MUST COMPLY WITH QA/QC REQUIREMENTS OF 40 CFR PART 136 AND OTHER APPROPRIATE QA/QC REQUIREMENTS FOR STANDARD METHODS FOR ANALYTES NOT ADDRESSED BY 40 CFR PART 136.					
OUTFALL NUMBER 001					
PARAMETER		MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE	
pH (Minimum)		7.2		8.15	
pH (Maximum)		8.6		8.15	
FLOW RATE		3.1		1.25	
TEMPERATURE (Winter)		22.1		15.2	
TEMPERATURE (Summer)		27.6		22.3	
*For pH report a minimum and a maximum daily value.					
POLLUTANT		CONC.		UNITS	
MAXIMUM DAILY DISCHARGE		CONC.		UNITS	
AVERAGE DAILY DISCHARGE		CONC.		UNITS	
NO. OF SAMPLES		NO. OF SAMPLES		ANALYTICAL METHOD	
ML/MDL		ML/MDL		ML/MDL	
Conventional and Nonconventional Compounds					
BIOCHEMICAL OXYGEN DEMAND (Report One)		24.6		52	
BOD <sub>5</sub>		mg/L		mg/L	
CBOD <sub>5</sub>		mg/L		mg/L	
FECAL COLIFORM		#/100 mL		#/100 mL	
TOTAL SUSPENDED SOLIDS (TSS)		31.0		52	
AMMONIA (AS N)		0.8		52	
CHLORINE (TOTAL RESIDUAL, TRC)		mg/L		mg/L	
DISSOLVED OXYGEN		mg/L		mg/L	
TOTAL KJELDAHL NITROGEN (TKN)		mg/L		mg/L	
NITRATE PLUS NITRITE NITROGEN		mg/L		mg/L	
OIL AND GREASE		1.1		12	
PHOSPHORUS (TOTAL)		mg/L		mg/L	
TOTAL DISSOLVE SOLIDS (TDS)		mg/L		mg/L	
OTHER		mg/L		mg/L	
<b>END OF PART B</b>					

Submitted of an incomplete application may result in the application being returned. Permit fees for returned applications shall be forfeited. Permit fees for applications being processed by the department that are withdrawn by the applicant shall be forfeited.

- 1. Your facility design flow is equal to or greater than 1,000,000 gallons per day.
  - 2. Your facility is a pretreatment treatment works.
  - 3. Your facility is a combined sewer system.
- Do not complete the remainder of this application, unless:

**END OF PART C. REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.**

**Appropriate Regional Office**

Map of regional offices with addresses and phone numbers is available on the Web at [www.dnr.mo.gov/regions/ro-map.pdf](http://www.dnr.mo.gov/regions/ro-map.pdf).

Send Completed Form to:

For Design Flows Less than 1 Million Gallons Per Day,

Department of Natural Resources  
 Water Protection Program  
 ATTN: NPDES Permits and Engineering Section  
 P.O. Box 176  
 Jefferson City, MO 65102

Send Completed Form to:

For Design Flows of 1 Million Gallons Per Day or Greater,

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

DATE SIGNED

TELEPHONE NUMBER WITH AREA CODE

SIGNATURE

PRINTED NAME AND OFFICIAL TITLE (MUST BE AN OFFICER OF THE COMPANY OR CITY OFFICIAL)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

All applicants must complete the Certification Section. This certification must be signed by an officer of the company or city official. All applicants must complete all applicable sections as explained in the Application Overview. By signing this certification statement, applicants confirm that they have reviewed the entire form and have completed all sections that apply to the facility for which this application is submitted.

**30. CERTIFICATION**

**PART C - CERTIFICATION**



MO 780-1805 (09-08)

FACILITY NAME		PERMIT NO.		OUTFALL NO.		
Macon WWTF		MO-0023221		001		
PART D - EXPANDED EFFLUENT TESTING DATA (CONTINUED)						
40.1 EXPANDED EFFLUENT TESTING DATA (CONTINUED)						
Complete Once for Each Outfall Discharging Effluent to Waters of the State.						
POLLUTANT	MAXIMUM DAILY DISCHARGE			AVERAGE DAILY DISCHARGE		
	CONC	UNITS	MASS	UNITS	CONC	NO. OF SAMPLES
ML/MDL	ANALYTICAL METHOD					
ACROLEIN						
ACRYLONITRILE						
BENZENE						
BROMOFORM						
CARBON						
TETRACHLORIDE						
CHLOROBENZENE						
CHLORODIBROMO-						
METHANE						
CHLOROETHANE						
2-CHLORO-						
ETHYLVINYL ETHER						
CHLOROFORM						
DICHLOROBROMO-						
METHANE						
1,1-DICHLORO-						
ETHANE						
1,2-DICHLORO-						
ETHANE						
TRANS-1,2-						
DICHLOROETHYLENE						
1,1-DICHLORO-						
ETHYLENE						
1,2-DICHLORO-						
PROPANE						
1,3-DICHLORO-						
PROPYLENE						
ETHYLBENZENE						
METHYL BROMIDE						
METHYL CHLORIDE						
METHYLENE						
CHLORIDE						
1,1,2,2-TETRA-						
CHLOROETHANE						
TETRACHLORO-						
ETHANE						
TOLUENE						
3,4-BENZO-						
FLUORANTHENE						
BENZO(GH)						
PHEYLENE						
BENZO(K)						
FLUORANTHENE						







**PART E - TOXICITY TESTING DATA**

**50. TOXICITY TESTING DATA**

Refer to the Supplemental Application Information to determine whether Part E applies to the treatment works.

Publicly owned treatment works, or POTWS, meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points.

A. POTWS with a design flow rate greater than or equal to 1 million gallons per day.

B. POTWS with a pretreatment program (or those that are required to have one under 40 CFR Part 403).

C. POTWS required by the permitting authority to submit data for these parameters

- At a minimum, these results must include quarterly testing for a 12-month period within the past one year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute or chronic toxicity, depending on the range of receiving water dilution. Do not include information about combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- If EPA methods were not used, report the reason for using alternative methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E. If no biomonitoring data is required, do not complete Part E. Refer to the application overview for directions on which other sections of the form to complete.

50.1 REQUIRED TESTS. INDICATE THE NUMBER OF WHOLE EFFLUENT TOXICITY TESTS CONDUCTED IN THE PAST FOUR AND ONE-HALF YEARS. 4

CHRONIC	ACUTE
	X

INDIVIDUAL TEST DATA. Complete the following chart for the last three whole effluent toxicity tests. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported. **See Attached Exhibit E**

MOST RECENT	2 <sup>ND</sup> MOST RECENT	3 <sup>RD</sup> MOST RECENT
-------------	-----------------------------	-----------------------------

**A. TEST INFORMATION**

TEST NUMBER	
TEST SPECIES AND TEST METHOD NUMBER	
AGE AT INITIATION OF TEST	
OUTFALL NUMBER	
DATES SAMPLE COLLECTED	
DATE TEST STARTED	
DURATION	

**B. GIVE TOXICITY TEST METHODS FOLLOWED**

MANUAL TITLE	
EDITION NUMBER AND YEAR OF PUBLICATION	
PAGE NUMBER(S)	
C. GIVE THE SAMPLE COLLECTION METHOD(S) USED. FOR MULTIPLE GRAB SAMPLES, INDICATE THE NUMBER OF GRAB SAMPLES USED.	
24-HOUR COMPOSITE	
GRAB	

**D. INDICATE WHERE THE SAMPLE WAS TAKEN IN RELATION TO DISINFECTION. (CHECK ALL THAT APPLY FOR EACH)**

BEFORE DISINFECTION	<input type="checkbox"/>
AFTER DISINFECTION	<input type="checkbox"/>
AFTER DECHLORINATION	<input type="checkbox"/>

**E. DESCRIBE THE POINT IN THE TREATMENT PROCESS AT WHICH THE SAMPLE WAS COLLECTED**

SAMPLE WAS COLLECTED	
F. FOR EACH TEST, INCLUDE WHETHER THE TEST WAS INTENDED TO ASSESS CHRONIC TOXICITY, ACUTE TOXICITY OR BOTH.	
CHRONIC TOXICITY	<input type="checkbox"/>
ACUTE TOXICITY	<input type="checkbox"/>
G. PROVIDE THE TYPE OF TEST PERFORMED	
STATIC	<input type="checkbox"/>
STATIC STATIC-RENEWAL	<input type="checkbox"/>
FLOW-THROUGH	<input type="checkbox"/>
H. SOURCE OF DILUTION WATER. IF LABORATORY WATER, SPECIFY TYPE; IF RECEIVING WATER, SPECIFY SOURCE	
LABORATORY WATER	
RECEIVING WATER	

**END OF PART E**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.**

Summary of Results (See Instructions)

Date Submitted (MM/DD/YYYY)

If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

**50.3 SUMMARY OF SUBMITTED BIOMONITORING TEST INFORMATION**

If yes, describe:  
 Is the treatment works involved in a toxicity reduction evaluation?  Yes  No

**50.2 TOXICITY REDUCTION EVALUATION**

OTHER (DESCRIBE)			
TEST RUN (MM/DD/YYYY)?			
WHAT DATE WAS REFERENCED TOXICANT WAS REFERENCED TOXICANT TEST WITHIN ACCEPTABLE BOUNDS?			
IS REFERENCE TOXICANT DATA AVAILABLE?			
<b>M. QUALITY CONTROL ASSURANCE</b>			
OTHER (DESCRIBE)			
CONTROL PERCENT SURVIVAL			
LC <sub>25</sub>			
NOEC			
<b>CHRONIC:</b>			
OTHER (DESCRIBE)			
CONTROL PERCENT SURVIVAL			
95% C.I.			
LC <sub>50</sub>			
PERCENT IN SURVIVAL IN 100% EFFLUENT			
<b>ACUTE:</b>			
<b>L. TEST RESULTS</b>			
DISSOLVED OXYGEN			
AMMONIA			
TEMPERATURE			
SALINITY			
pH			
<b>K. PARAMETERS MEASURED DURING THE TEST. (STATE WHETHER PARAMETER MEETS TEST METHOD SPECIFICATIONS)</b>			
<b>J. GIVE THE PERCENTAGE EFFLUENT USED FOR ALL CONCENTRATIONS IN THE TEST SERIES.</b>			
SALT WATER			
FRESH WATER			
<b>I. TYPE OF DILUTION WATER, IF SALT WATER, SPECIFY "NATURAL" OR TYPE OF ARTIFICIAL SEA SALTS OR BRINE USED.</b>			
MOST RECENT	2 <sup>ND</sup> MOST RECENT	3 <sup>RD</sup> MOST RECENT	

**50.1 WHOLE EFFLUENT TOXICITY TESTS DATA (CONTINUED)**

**PART E - TOXICITY TESTING DATA (CONTINUED)**

FACILITY NAME Macon WWTF	PERMIT NO. MO-0023221	OUTFALL NO. 001
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MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME  
Macon WWTF

PERMIT NO.  
MO-0023221

OUTFALL NO.  
001

**PART F - INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

Refer to the Supplemental Application Information to determine whether Part F applies to the treatment works.

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete this form.

**GENERAL INFORMATION**

60.1 PRETREATMENT PROGRAM

Does the treatment works have, or is it subject to, an approved pretreatment program?  
 Yes  No

60.2 NUMBER OF NON-CATEGORICAL SIGNIFICANT INDUSTRIAL USERS, or SIUS AND CATEGORICAL INDUSTRIAL USERS, or CIUS. PROVIDE THE NUMBER OF EACH OF THE FOLLOWING TYPES OF INDUSTRIAL USERS THAT DISCHARGE TO THE TREATMENT WORKS.

A. Number of Non-Categorical SIUS 1

B. Number of CIUS

60.3 SIGNIFICANT INDUSTRIAL USER INFORMATION

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, provide the information requested for each. Submit additional pages as necessary.

NAME  
Con Agra Foods

MAILING ADDRESS  
204 Vine Street

CITY Macon  
STATE MO  
ZIP 63552

60.4 INDUSTRIAL PROCESSES

DESCRIBE ALL OF THE INDUSTRIAL PROCESSES THAT AFFECT OR CONTRIBUTE TO THE SIU'S DISCHARGE.

60.5 PRINCIPAL PRODUCT(S) AND RAW MATERIAL(S)

Describe all of the principle processes and raw materials that affect or contribute to the SIU's discharge.

PRINCIPAL PRODUCT(S)  
Consumer and commercial food products

RAW MATERIAL(S)  
Food products

60.6 FLOW RATE

A. PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.  
gpd  Continuous  Intermittent 300,000 GPD DAF (2012)

B. NON-PROCESS WASTEWATER FLOW RATE. Indicate the average daily volume of non-process wastewater discharged into the collection system in gallons per day, or gpd, and whether the discharge is continuous or intermittent.  
gpd  Continuous  Intermittent 0 GPD

60.7 PRETREATMENT STANDARDS

Indicate whether the SIU is subject to the following

A. Local Limits  Yes  No  
B. Categorical Pretreatment Standards  Yes  No

If subject to categorical pretreatment standards, which category and subcategory?

60.8 PROBLEMS AT THE TREATMENT WORKS ATTRIBUTED TO WASTE DISCHARGED BY THE SIU

Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?  
 Yes  No If Yes, describe each episode

**END OF PART F**  
**REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.**

**B.** Is the discharge (or will the discharge be) continuous or intermittent?  
 Continuous  
 Intermittent  
 If intermittent, describe the discharge schedule:

**A.** Is this waste treated (or will it be treated) prior to entering the treatment works?  
 Yes  
 No  
 If Yes, describe the treatment (provide information about the removal efficiency):

**60.13 WASTE TREATMENT**  
 List the hazardous constituents that are received (or are expected to be received). Included data on volume and concentration, if known. (Attach additional sheets if necessary)

**60.12 POLLUTANTS**  
 Describe the site and type of facility at which the CERCLA/RCA/or other remedial waste originates (or is expected to originate in the next five years).

**60.11 WASTE ORIGIN**  
 Yes  
 No  
 Provide a list of sites and the requested information for each current and future site.

**60.10 CERCLA, OR SUPERFUND, WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER AND OTHER REMEDIAL ACTIVITY WASTEWATER**  
 Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?  
 Yes  
 No

**60.9 RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE**  
 RCRA WASTE. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?  
 Yes  
 No

**WASTE TRANSPORT.** Method by which RCRA waste is received. (Check all that apply)  
 Truck  
 Rail  
 Dedicated Pipe

**WASTE DESCRIPTION.** Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA HAZARDOUS WASTE NUMBER	AMOUNT	UNITS

**PART F - INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES (CONTINUED)**

**60.9 RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE**  
 RCRA WASTE. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?  
 Yes  
 No

**WASTE TRANSPORT.** Method by which RCRA waste is received. (Check all that apply)  
 Truck  
 Rail  
 Dedicated Pipe

**WASTE DESCRIPTION.** Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA HAZARDOUS WASTE NUMBER	AMOUNT	UNITS

**60.9 RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE**  
 RCRA WASTE. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?  
 Yes  
 No

**WASTE TRANSPORT.** Method by which RCRA waste is received. (Check all that apply)  
 Truck  
 Rail  
 Dedicated Pipe

**WASTE DESCRIPTION.** Give EPA hazardous waste number and amount (volume or mass, specify units).

**60.9 RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE**  
 RCRA WASTE. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?  
 Yes  
 No

**WASTE TRANSPORT.** Method by which RCRA waste is received. (Check all that apply)  
 Truck  
 Rail  
 Dedicated Pipe

**WASTE DESCRIPTION.** Give EPA hazardous waste number and amount (volume or mass, specify units).

**MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.**

FACILITY NAME: Macon WWTF

PERMIT NO.: MO-0023221

OUTFALL NO.: 001

MAKE ADDITIONAL COPIES OF THIS FORM FOR EACH OUTFALL.

FACILITY NAME  
Macon WWTF

PERMIT NO  
MO- 0023221

OUTFALL NO.  
002

**PART G - COMBINED SEWER SYSTEMS**

**70. COMBINED SEWER SYSTEMS (COMPLETE THIS PART IF THE TREATMENT WORKS HAS A COMBINED SEWER SYSTEM.)**

Refer to the Supplemental Application Information to determine whether Part G applies to the treatment works.

**70.1 SYSTEM MAP**

Provide a map indicating the following: (May be included with basic application information.)

A. All CSO Discharges.

B. Sensitive Use Areas Potentially Affected by CSOs. (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems and Outstanding Natural Resource Waters.)

C. Waters that Support Threatened and Endangered Species Potentially Affected by CSOs.

**70.2 SYSTEM DIAGRAM See Attached Exhibit F**

Provide a diagram, either in the map provided above or on a separate drawing, of the Combined Sewer Collection System that includes the following information:

A. Locations of Major Sewer Trunk Lines, Both Combined and Separate Sanitary.

B. Locations of Points where Separate Sanitary Sewers Feed into the Combined Sewer System.

C. Locations of In-Line or Off-Line Storage Structures.

D. Locations of Flow-Regulating Devices.

E. Locations of Pump Stations.

**70.3 PERCENT OF COLLECTION SYSTEM THAT IS COMBINED SEWER 11.5%**

**70.4 POPULATION SERVED BY COMBINED SEWER COLLECTION SYSTEM**

**70.5 NAME OF ANY SATELLITE COMMUNITY WITH COMBINED SEWER COLLECTION SYSTEM None**

**70.6 CSO OUTFALLS. COMPLETE THE FOLLOWING ONCE FOR EACH CSO DISCHARGE POINT**

**70.7 DESCRIPTION OF OUTFALL**

A. Outfall Number 002

B. Location

Holding basin overflow at WWTF

C. Distance from Shore (if applicable) \_\_\_\_\_ ft

D. Depth Below Surface (if applicable) \_\_\_\_\_ ft

E. Which of the following were monitored during the last year for this CSO?

Rainfall  CSO Pollutant Concentrations  CSO  CSO Flow Volume  Receiving Water Quality

F. How many storm events were monitored last year?

**70.8 CSO EVENTS**

A. Give the Number of CSO Events in the Last Year  Actual  Approximate

B. Give the Average Duration Per CSO Event 2.5 Hours  Actual  Approximate

C. Give the Average Volume Per CSO Event  Actual  Approximate

D. GIVE THE MINIMUM RAINFALL THAT CAUSED A CSO EVENT IN THE LAST YEAR \_\_\_\_\_ INCHES OF RAINFALL

**70.9 DESCRIPTION OF RECEIVING WATERS**

A. Name of Receiving Water Sewer Creek

B. Name of Watershed/River/Stream System

U.S. Soil Conservation Service 14-Digit Watershed Code (if known) 07110006-010002

Name of State Management/River Basin

U.S. Geological Survey 8-Digit Hydrologic Cataloging Unit Code (if known)

**70.10 CSO OPERATIONS**

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shellfish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable state water quality standard.)

None

**END OF PART G.**

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM B2 YOU MUST COMPLETE.

**INSTRUCTIONS FOR COMPLETING FORM B2**  
**APPLICATION FOR CONSTRUCTION OR OPERATING PERMITS FOR FACILITIES WHICH RECEIVE**  
**BASICALLY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY**  
 (Facilities less than or equal to 100,000 gallons per day of domestic waste must use FORM B.)  
 (Facilities that receive wastes other than domestic must fill out FORM A and other forms as appropriate.)

**PART A – BASIC APPLICATION INFORMATION**

1. Check which parameter is applicable. **Do not check more than one item.** Construction and operating permit refer to permits issued by the Department of Natural Resources, Water Protection Program, Water Pollution Branch.

Effective Sept. 1, 2008, a facility will be required to use *Missouri's Antidegradation Rule and Implementation Procedure*. For more information, his document is available at [www.dnr.mo.gov/env/wpp/docs/aip-cwc-app-050708.pdf](http://www.dnr.mo.gov/env/wpp/docs/aip-cwc-app-050708.pdf). This procedure will be applicable to new and expanded wastewater facilities and requires the proposed discharge to a water body to undergo a level of Antidegradation Review that documents the use of a water body's available assimilative capacity is justified.

1.1 Self – explanatory.  
 1.2 An operating permit and antidegradation review public notice requires a Water Quality/Antidegradation Review Sheet to be submitted with the application (No fee required).

**CONSTRUCTION PERMIT FEES** (Include fee with application.)  
 \$750 for a sewage treatment facility with a design flow of less than 500,000 gallons per day.  
 \$2,200 for sewage treatment facility with a design flow of 500,000 gallons per day or more.  
**DOMESTIC OPERATING PERMIT FEES** (Annual operating permit fees are based on flow.)  
 Annual fee/Design flow  
 \$3,000.....30,000 gpd to 1 mgd  
 \$3,500.....> 1 million gallons per day  
**If the application is for a site-specific permit re-issuance, send no fees.** You will be invoiced separately by the department on the anniversary date of the original permit. Permit fees must be current for the department to reissue the operating permit. Late fees of two percent per month are charged and added to outstanding annual fees. **PUBLIC SEWER SYSTEM OPERATING PERMIT FEES** (City, Public Sewer District, Public Water District, or other publicly owned treatment works). Annual fee is based on number of service connections. The table of fees is in 10 CSR 20-6.011 and is available at [www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf). New Public Sewer System facilities should not submit any fee as the department will invoice the permittee.

**OPERATING PERMIT MODIFICATIONS**, including transfers, are subject to the following fees:

- a. Municipals - \$200 each.
- b. All others – 25 percent of annual fee.

Note: Facility name or address changes where owner, operator and continuing authority remain the same are not considered transfers.

2. Name of Facility – Include the name by which this facility is locally known. Example: Southwest Sewage Treatment Plant, Country Club Mobile Home Park, etc. Provide the street address or location of the facility. If the facility lacks a street name or route number, provide the names of the closest intersection, highway, country road, etc.

2.1 Self – explanatory.  
 2.2 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at [www.dnr.mo.gov/intermapviewer/](http://www.dnr.mo.gov/intermapviewer/).  
 3. Owner – Provide the legal name and address of the owner.  
 3.1 Prior to submitting a permit to public notice, the Department of Natural Resources shall provide the permit applicant 10 days to review the draft permit for nonsubstantive drafting errors. In the interest of expediting permit issuance, permit applicants may waive the opportunity to review draft permits prior to public notice. Check Yes to review the draft permit prior to public notice. Check No to waive the process and expedite the permit.

4. Continuing Authority – Provide the permanent organization, which will serve as the continuing authority for the operation, maintenance and modernization of the facility. The regulatory requirement regarding continuing authority is available at [www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf) or contact the appropriate Department of Natural Resources Regional Office.  
 5. Operator – Provide the name, certificate number and telephone number of the operator of the facility.  
 6. Provide the name, title and work telephone number of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by the department, if necessary.  
 7.1 Provide a brief description of the wastewater treatment facilities.  
 7.2 A topographic map is available on the Web at [www.dnr.mo.gov/intermapviewer/](http://www.dnr.mo.gov/intermapviewer/) or from the Department of Natural Resources' Division of Geology and Land Survey in Rolla, Missouri at 573-368-2125.  
 7.3 Self – explanatory.  
 7.4 For Standard Industrial Codes, visit [www.osha.gov/pls/miscsearch.html](http://www.osha.gov/pls/miscsearch.html) and for the North American Industry Classification System, visit [www.census.gov/nacs](http://www.census.gov/nacs) or contact the appropriate Department of Natural Resources Regional Office.  
 7.5 – 8.1 Self – explanatory.  
 9.1 A copy of 10 CSR 25 is available at [www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25](http://www.sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-25).

9.2 – 9.9 Self – explanatory.

**INSTRUCTIONS FOR COMPLETING FORM B2  
APPLICATION FOR CONSTRUCTION OR OPERATING PERMITS FOR FACILITIES WHICH RECEIVE  
BASICALLY DOMESTIC WASTE AND HAVE A DESIGN FLOW MORE THAN 100,000 GALLONS PER DAY**

(Continued)

- 9.10 Refer to University of Missouri Extension Environmental Quality publications about biosolids - numbers WQ420-426. Available on the Web at <http://extension.missouri.edu/explore/enval/>. Additionally, the federal sludge regulations are available through the U.S. Government Printing Office at [www.gpoaccess.gov/cfr/index.html](http://www.gpoaccess.gov/cfr/index.html).
10. Provide the name and address of the first downstream landowner, different from that of the permitted facility, through whose property the discharge will flow. For discharges that leave the permitted facility and flow under a road or highway, or along the right-of-way, the downstream property owner is the landowner that the discharge flows to after leaving the right-of-way.
11. - 11.3 Self - explanatory.

**PART B - ADDITIONAL APPLICATION INFORMATION**

20. - 20.3 Self - explanatory.
- 20.4 Global Positioning System, or GPS, is a satellite-based navigation system. The department prefers that a GPS receiver is used at the outfall pipe and the displayed coordinates submitted. If access to a GPS receiver is not available, use a mapping system to approximate the coordinates; the department's mapping system is available at [www.dnr.mo.gov/internetmapviewer/](http://www.dnr.mo.gov/internetmapviewer/).
- 20.5 - 20.7 Self - explanatory.

**PART C - CERTIFICATION**

30. Signature - All applications must be signed as follows and the signatures must be original:
- For a corporation, by an officer having responsibility for the overall operation of the regulated facility or activity or for environmental matters.
  - For a partnership or sole proprietorship, by a general partner or the proprietor.
  - For a municipal, state, federal or other public facility, by either a principal executive officer or by an individual having overall responsibility for environmental matters at the facility.
- PART D - EXPANDED EFFLUENT TESTING DATA
- 40.1 Self - explanatory. ML/MDL means minimum limit or minimum detection limit.

**PART E - TOXICITY TESTING DATA**

- 50.1 - 50.3 Self - explanatory.

**PART F - INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES**

60. Federal regulations are available through the U.S. Government Printing Office at [www.gpoaccess.gov/cfr/index.html](http://www.gpoaccess.gov/cfr/index.html).
- 60.1 Self - explanatory
- 60.2 A non-categorical significant industrial user is an industrial user that is not a CIU and meets one or more of the following:
- Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions).
  - Contributes a process waste stream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the treatment plant.
  - Is designated as an SIU by the control authority.
- 60.3 - 60.13 Self - explanatory.

**PART G - COMBINED SEWER SYSTEMS**

70. - 70.10 Self - explanatory.

This completed form, along with the applicable permit fees, should be submitted to the appropriate Department of Natural Resources Office (See end of Part C). Submission of an incomplete application may result in the application being returned. Map of regional offices with addresses and phone numbers are available on the Web at [www.dnr.mo.gov/regions/ro-map.pdf](http://www.dnr.mo.gov/regions/ro-map.pdf). If there are any questions concerning this form, please contact the appropriate Regional Office or the Department of Natural Resources, Water Protection Program, Water Pollution Branch, NPDES Permits and Engineering Section at 573-751-6825.

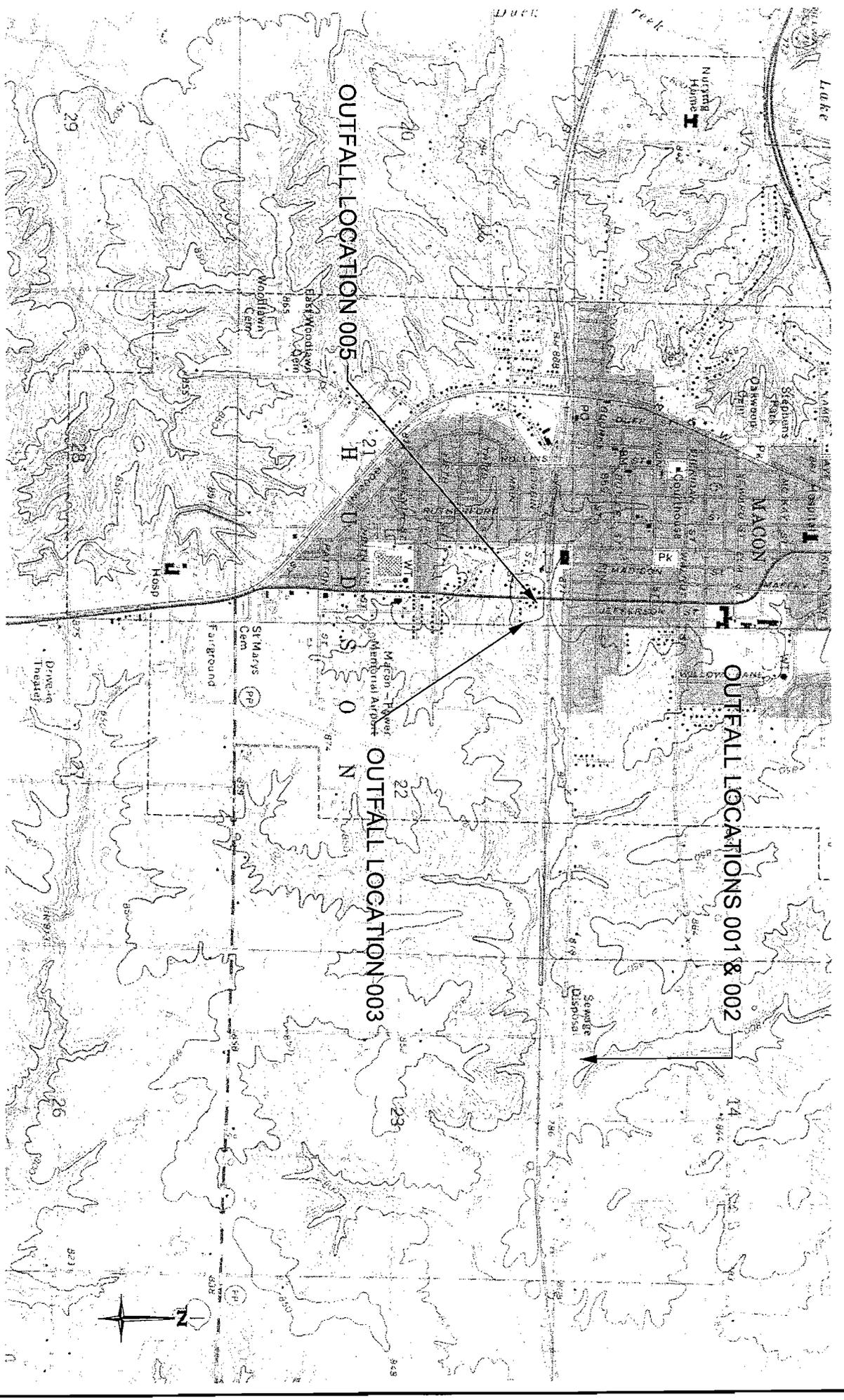
MO 780-1805 (09-08)

**City of Macon Wastewater Treatment Facility NPDES Permit  
Modification  
Permit # MO-0023221**

**EXHIBIT LIST**

Quadrangle Map Excerpt	Exhibit A
WWTP Process Flow Schematic Diagram	Exhibit B
Wastewater Bypass Reports	Exhibit C
Nine Minimum Controls	Exhibit D
Summaries of the Last Three Toxicity Reports and One Complete	Exhibit E
DMR-QA (Latest)	Exhibit F
Combined Sewer System Schematic	Exhibit F

# Exhibit A



**QUADRANGLE MAP EXCERPT**  
 CITY OF MACON  
 MACON WTF NPDES MODIFICATIONS  
 MACON, MISSOURI

**BENTON & ASSOCIATES, INC.**  
 2414 S. Franklin Kirksville, MO 63501  
 (660) 665-3575 (217) 245-4149

Jacksonville Illinois  
 Macomb Illinois  
 Macon Missouri  
 Holt Missouri

No.	Description	Date	Appr.

## **Exhibit B**



## **Exhibit C**

Strength of Bypass: <input checked="" type="checkbox"/> Raw <input type="checkbox"/> Partially Treated	
Type of Bypass: <input type="checkbox"/> Drying Beds <input type="checkbox"/> Pipe Break <input type="checkbox"/> Lagoon/Basin Overflow <input type="checkbox"/> Lift Station <input type="checkbox"/> Clarifier/Filter/Batch Reactor <input checked="" type="checkbox"/> Manhole <input type="checkbox"/> Head Works <input type="checkbox"/> Effluent Weir/Flume	Circumstances Causing the Overflow or Bypass (check all that apply): <input type="checkbox"/> Rain <input checked="" type="checkbox"/> Rain and/or Snow Melt <input type="checkbox"/> Vandalism <input type="checkbox"/> Power Outage <input type="checkbox"/> Plugged Sewer <input type="checkbox"/> Broken Sewer <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Widespread Flooding <input type="checkbox"/> Other (explain below)
Location of the Overflow or Bypass (complete a separate form for each discharge location): <i>Manhole G5-003 Johnsons Field</i>	
Duration of the overflow or bypass (hours and minutes): <i>1 hr. 0 min</i>	Estimated Volume of Wastewater Discharged (gallons): <i>2500 gallons</i>
Start Date: <i>2-16-11</i> Time (to nearest 15 minutes): <input checked="" type="checkbox"/> am <input type="checkbox"/> pm <i>4:00</i>	End Date: <i>2-16-11</i> Time (to nearest 15 minutes): <input type="checkbox"/> am <input checked="" type="checkbox"/> pm <i>5:00</i>
Date(s) and Duration of Overflow or Bypass Occurrence (complete a separate form for each occurrence)	
Overflow or Bypass Details	
Person Representing Permittee Who Contacted MDNR: <i>Robby Smith</i>	MDNR Office and Person Contacted: <i>Michael Heaton</i>
Wastewater Treatment Facility: <i>Macon, Missouri</i>	Date: <i>2-17-11</i> Time: <input checked="" type="checkbox"/> am <input type="checkbox"/> pm <i>8:18</i>
Permittee (Municipality or Facility Name):	Overflow or Bypass Reported to MDNR:
Notification Information	Permit Number: <i>MO - 0023221</i>

**Instructions:** Use this form to report all unscheduled sanitary sewer overflow or bypass occurrences. Attach additional information as necessary to explain or document the overflow or bypass. For the purpose of this report, an overflow or bypass is defined as the diversion of wastewater from any portion of a wastewater treatment facility or sewer system to waters of the state or where the contaminants might reasonably reach waters of the state.

**Use one form per occurrence.** A single occurrence may be more than one day if the circumstance causing the overflow or bypass results in a discharge duration more than 24 hours. If there is a stop and restart of the overflow or bypass within 24-hours, but it is caused by the same circumstance, report it as one occurrence. If the discharges are separated by more than 24 hours, they should be reported as separate occurrences.

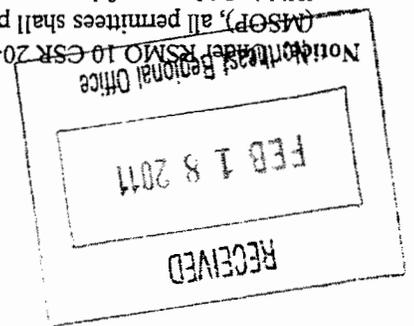
Failure to notify the department as specified may result in civil or criminal penalties for noncompliance.

Within 5 days of the occurrence, provide a written report describing the overflow or bypass, including all information requested on this form. The permittee is required to submit this form or other equivalent written notification.

Within 24 hours of the occurrence, notify the Missouri Department of Natural Resources (MDNR) by telephone. (MSOP), all permittees shall provide the following notices if an unscheduled sanitary sewer overflow or bypass occurs:

*Copy*

# Self Reporting Form For Wastewater Bypasses



Report Completed By Authorized Representative Name (Print) Authorized Representative Signature		Date 2-17-11
Authorized Representative Name (Print) Romy Smith		Title Supervisor Wastewater Treatment
Provide a narrative description to further explain why the overflow or bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer. Flooding should only be indicated as a cause if there is significant flooding that is caused by high river, stream, or lake water levels, not just localized high water in the street. Sewer Main was supercharged from slow snow melt and the manhole overflowed before the automatic gate at the grit chamber could close the gate to slow the flow. Provide the weather conditions if it contributed to the cause of the overflow or bypass. An overflow or bypass may be caused by a series of short rain storms or in combination with a snow melt. The wet weather data should include the cumulative amount of precipitation that caused the overflow or bypass. Date(s) and Duration of Rainfall Start Date 2-16-11 Time (to nearest 15 minutes) <input checked="" type="checkbox"/> pm 4:00 <input type="checkbox"/> am End Date 2-16-11 Time (to nearest 15 minutes) <input type="checkbox"/> am 5:00 <input checked="" type="checkbox"/> pm Amount of Rainfall (nearest rain gauge to 0.1 inch accuracy) Amount of Snow Melt (estimated inches melted) 10"		
Where Did the Discharge from the Overflow or Bypass Go? (check all that apply)		
Provide the name of the local receiving water that the wastewater enters, which could be a nearby stream, river, lake, or wetland. If discharge does not enter directly into a surface water, but indirectly by way of a ditch or storm sewer, trace the path of the ditch or storm sewer to find the receiving water.		
Actions to Correct This Occurrence and Prevent Future Overflows or Bypasses		
Describe what actions were taken to minimize the volume of wastewater discharged from the overflow or bypass reported on this form. Also describe what actions are planned to prevent or minimize future overflows or bypasses. The MSOP permit prohibits bypasses, unless certain specified conditions are met. If the permittee fails to operate and maintain the sewage collection system to prevent overflows and bypasses, they will be subject to enforcement action.		
Closed the gate at the grit chamber manually to stop the overflow.		

Strength of Bypass: <input checked="" type="checkbox"/> Raw <input type="checkbox"/> Partially Treated	
Type of Bypass: <input type="checkbox"/> Drying Beds <input type="checkbox"/> Pipe Break <input type="checkbox"/> Lagoon/Basin Overflow <input type="checkbox"/> Lift Station <input type="checkbox"/> Clarifier/Filter/Batch Reactor <input type="checkbox"/> Effluent Weir/Flume <input type="checkbox"/> Head Works <input checked="" type="checkbox"/> Manhole <input type="checkbox"/> Digester	Circumstances Causing the Overflow or Bypass (check all that apply): <input checked="" type="checkbox"/> Rain <input type="checkbox"/> Rain and/or Snow Melt <input type="checkbox"/> Vandalism <input type="checkbox"/> Power Outage <input type="checkbox"/> Plugged Sewer <input type="checkbox"/> Broken Sewer <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Widespread Flooding <input type="checkbox"/> Other (explain below)
Location of the Overflow or Bypass (complete a separate form for each discharge location): <b>1st manhole east of the overflow basin</b>	
Duration of the overflow or bypass (hours and minutes): <b>5.0 hrs</b>	Estimated Volume of Wastewater Discharged (gallons): <b>1500 gal</b>
Start Date: <b>4-22-11</b> Time (to nearest 15 minutes): <input checked="" type="checkbox"/> am <input type="checkbox"/> pm <b>9:00</b>	End Date: <b>4-22-11</b> Time (to nearest 15 minutes): <input type="checkbox"/> am <input checked="" type="checkbox"/> pm <b>2:00</b>
Dates (s) and Duration of Overflow or Bypass Occurrence (complete a separate form for each occurrence)	
Overflow or Bypass Details	
Person Representing Permittee Who Contacted MDNR: <b>Rewry Smith</b>	MDNR Office and Person Contacted: <b>Jawie</b>
Wastewater Treatment Facility: <b>Macon, Missouri</b>	Date: <b>4-22-11</b> Time: <input checked="" type="checkbox"/> am <input type="checkbox"/> pm <b>3:27</b>
Permittee (Municipality or Facility Name)	Overflow or Bypass Reported to MDNR
Notification Information	Permit Number: <b>MO - 0023221</b>

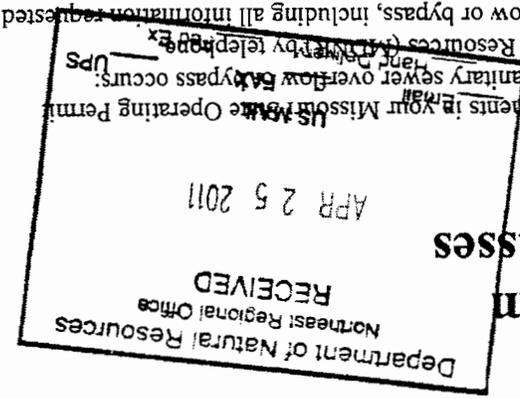
**Instructions:** Use this form to report all unscheduled sanitary sewer overflow or bypass occurrences. Attach additional information as necessary to explain or document the overflow or bypass. For the purpose of this report, an overflow or bypass is defined as the diversion of wastewater from any portion of a wastewater treatment facility or sewer system to waters of the state or where the contaminants might reasonably reach waters of the state.

**Use one form per occurrence.** A single occurrence may be more than one day if the circumstance causing the overflow or bypass results in a discharge duration more than 24 hours. If there is a stop and restart of the overflow or bypass within 24-hours, but it is caused by the same circumstance, report it as one occurrence. If the discharges are separated by more than 24 hours, they should be reported as separate occurrences.

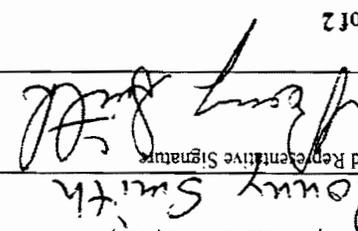
Failure to notify the department as specified may result in civil or criminal penalties for noncompliance.

Notice: Under RSMO 10 CSR 20-7.015 and in accordance with reporting requirements in your Missouri Operating Permit (MSOP), all permittees shall provide the following notices if an unscheduled sanitary sewer overflow or bypass occurs:

- Within 24 hours of the occurrence, notify the Missouri Department of Natural Resources (MDNR) by telephone.
- Within 5 days of the occurrence, provide a written report describing the overflow or bypass, including all information requested on this form. The permittee is required to submit this form or other equivalent written notification.



## Self Reporting Form For Wastewater Bypasses

<b>Overflow or Bypass Details</b> Provide a narrative description to further explain why the overflow or bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer. Flooding should only be indicated as a cause if there is significant flooding that is caused by high river, stream, or lake water levels, not just localized high water in the street.			
Fast intervention line that flows to the lift station at the overflow basin became supercharged letting the manhole overflow			
<b>Wet Weather Data (if applicable)</b> Document the weather conditions if it contributed to the cause of the overflow or bypass. An overflow or bypass may be caused by a series of short rain storms or in combination with a snow melt. The wet weather data should include the cumulative amount of precipitation that caused the overflow or bypass.			
Date(s) and Duration of Rainfall			
Start Date 4-21-11	End Date 4-21-11	Amount of Rainfall (nearest rain gauge to 0.1 inch accuracy) 1.2	Amount of Snow Melt (estimated inches melted) 0
Time (to nearest 15 minutes) <input checked="" type="checkbox"/> 6:00 am <input type="checkbox"/> 6:15 am <input type="checkbox"/> 6:30 am <input type="checkbox"/> 6:45 am <input type="checkbox"/> 7:00 am	Time (to nearest 15 minutes) <input checked="" type="checkbox"/> 6:30 am <input type="checkbox"/> 6:45 am <input type="checkbox"/> 7:00 am <input type="checkbox"/> 7:15 am		
<b>Where Did the Discharge from the Overflow or Bypass Go? (check all that apply)</b> Provide the name of the local receiving water that the wastewater enters, which could be a nearby stream, river, lake, or wetland. If discharge does not enter directly into a surface water, but indirectly by way of a ditch or storm sewer, trace the path of the ditch or storm sewer to find the receiving water.			
<input type="checkbox"/> Runs on ground and absorbs into the soil. <input checked="" type="checkbox"/> Ditch. Name of surface water it drains to: <u>Sewer Creek</u> <input type="checkbox"/> Storm sewer. Name of surface water it drains to: _____ <input type="checkbox"/> Surface water direct discharge: _____ <input type="checkbox"/> Other, describe: _____			
<b>Actions to Correct This Occurrence and Prevent Future Overflows or Bypasses</b> Describe what actions were taken to minimize the volume of wastewater discharged from the overflow or bypass reported on this form. Also describe what actions are planned to prevent or minimize future overflows or bypasses. The MSOP permit prohibits bypasses, unless certain specified conditions are met. If the permittee fails to operate and maintain the sewage collection system to prevent overflows and bypasses, they will be subject to enforcement action.			
New Lift Station should be installed by July 2011			
<b>Report Completed By</b> Authorized Representative Name (Print) Ronny Smith		Authorized Representative Signature 	
Title Supervisor Wastewater		Date 4-21-11	

Strength of Bypass: <input checked="" type="checkbox"/> Raw <input type="checkbox"/> Partially Treated	
Type of Bypass: <input type="checkbox"/> Pipe Break <input type="checkbox"/> Lagoon/Basin Overflow <input type="checkbox"/> Lift Station <input type="checkbox"/> Clarifier/Filter/Batch Reactor <input type="checkbox"/> Manhole <input type="checkbox"/> Head Works <input type="checkbox"/> Effluent Weir/Flume	Type of Bypass: <input type="checkbox"/> Pipe Break <input type="checkbox"/> Lagoon/Basin Overflow <input type="checkbox"/> Lift Station <input type="checkbox"/> Clarifier/Filter/Batch Reactor <input checked="" type="checkbox"/> Manhole <input type="checkbox"/> Head Works <input type="checkbox"/> Effluent Weir/Flume
Circumstances Causing the Overflow or Bypass (check all that apply): <input checked="" type="checkbox"/> Rain <input type="checkbox"/> Power Outage <input type="checkbox"/> Plugged Sewer <input type="checkbox"/> Broken Sewer <input type="checkbox"/> Vandalism <input type="checkbox"/> Rain and/or Snow Melt <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Widespread Flooding <input type="checkbox"/> Other (explain below)	Circumstances Causing the Overflow or Bypass (check all that apply): <input checked="" type="checkbox"/> Rain <input type="checkbox"/> Power Outage <input type="checkbox"/> Plugged Sewer <input type="checkbox"/> Broken Sewer <input type="checkbox"/> Vandalism <input type="checkbox"/> Rain and/or Snow Melt <input type="checkbox"/> Equipment Failure <input type="checkbox"/> Widespread Flooding <input type="checkbox"/> Other (explain below)
Location of the Overflow or Bypass (complete a separate form for each discharge location): Manhole B5-003 Johnston's Field - Vine Street	
Duration of the overflow or bypass (hours and minutes): 2 Hours	Estimated Volume of Wastewater Discharged (gallons): 6,000 Gallons
Start Date: 5-13-10 Time (to nearest 15 minutes): 6:00 am <input checked="" type="checkbox"/> 6:00 pm <input type="checkbox"/>	End Date: 5-13-10 Time (to nearest 15 minutes): 8:00 am <input checked="" type="checkbox"/> 8:00 pm <input type="checkbox"/>
Date(s) and Duration of Overflow or Bypass Occurrence (complete a separate form for each occurrence)	
Overflow or Bypass Details	
Person Representing Permittee Who Contacted MDNR: Ronny Smith	MDNR Office and Person Contacted: Troy Leland
Permittee (Municipality or Facility Name): Wastewater Treatment Facility Macon, Missouri	Date: 5-13-10 Time: 8:05 am <input checked="" type="checkbox"/> 8:05 pm <input type="checkbox"/>
Notification Information	
Permit Number: MO - 0023221	

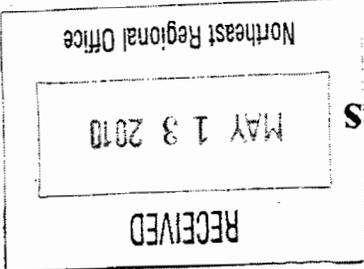
**Use one form per occurrence.** A single occurrence may be more than one day if the circumstance causing the overflow or bypass results in a discharge duration more than 24 hours. If there is a stop and restart of the overflow or bypass within 24-hours, but it is caused by the same circumstance, report it as one occurrence. If the discharges are separated by more than 24 hours, they should be reported as separate occurrences.

**Instructions:** Use this form to report all unscheduled sanitary sewer overflow or bypass occurrences. Attach additional information as necessary to explain or document the overflow or bypass. For the purpose of this report, an overflow or bypass is defined as the diversion of wastewater from any portion of a wastewater treatment facility or sewer system to waters of the state or where the contaminants might reasonably reach waters of the state.

Failure to notify the department as specified may result in civil or criminal penalties for noncompliance.

**Notice:** Under RSMO 10 CSR 20-7.015 and in accordance with reporting requirements in your Missouri State Operating Permit (MSOP), all permittees shall provide the following notices if an unscheduled sanitary sewer overflow or bypass occurs:

- Within 24 hours of the occurrence, notify the Missouri Department of Natural Resources (MDNR) by telephone.
- Within 5 days of the occurrence, provide a written report describing the overflow or bypass, including all information requested on this form. The permittee is required to submit this form or other equivalent written notification.



# Self Reporting Form For Wastewater Bypasses

Provide a narrative description to further explain why the overflow or bypass occurred. For example, describe what equipment failed, what caused the power outage, or what plugged the sewer. Flooding should only be indicated as a cause if there is significant flooding that is caused by high river, stream, or lake water levels. not just localized high water in the street.	
Rain came too hard & fast. Supervisor closed the line. The Automatic gate at the Gait Chamber did not close the line down enough.	
<b>Wet Weather Data (if applicable)</b>	
Document the weather conditions if it contributed to the cause of the overflow or bypass. An overflow or bypass may be caused by a series of short rain storms or in combination with a snow melt. The wet weather data should include the cumulative amount of precipitation that caused the overflow or bypass.	
Date(s) and Duration of Rainfall	
Start Date 5-13-10	End Date 5-13-10
Time (to nearest 15 minutes) <input checked="" type="checkbox"/> 6:00 am <input type="checkbox"/> pm	Time (to nearest 15 minutes) <input checked="" type="checkbox"/> 8:00 am <input type="checkbox"/> pm
Amount of Rainfall (nearest rain gauge to 0.1 inch accuracy) 1.4" Rain	Amount of Snow Melt (estimated inches melted)
Contributing Soil Conditions (saturated, frozen, soil type) Saturated	
Where Did the Discharge from the Overflow or Bypass Go? (check all that apply)	
Provide the name of the local receiving water that the wastewater enters, which could be a nearby stream, river, lake, or wetland. If discharge does not enter directly into a surface water, but indirectly by way of a ditch or storm sewer, trace the path of the ditch or storm sewer to find the receiving water.	
<input type="checkbox"/> Runs on ground and absorbs into the soil. <input checked="" type="checkbox"/> Ditch. Name of surface water it drains to: <u>Sewer Creek</u> <input type="checkbox"/> Storm sewer. Name of surface water it drains to: _____ <input type="checkbox"/> Surface water direct discharge: _____ <input type="checkbox"/> Other, describe: _____	
Actions to Correct This Occurrence and Prevent Future Overflows or Bypasses	
Describe what actions were taken to minimize the volume of wastewater discharged from the overflow or bypass reported on this form. Also describe what actions are planned to prevent or minimize future overflows or bypasses. The MSOP permit prohibits bypasses, unless certain specified conditions are met. If the permittee fails to operate and maintain the sewage collection system to prevent overflows and bypasses, they will be subject to enforcement action.	
I programmed the Automatic gate at the Gait Chamber to close down more.	
Type of Samples Taken:	
<input type="checkbox"/> BOD <input type="checkbox"/> TSS <input type="checkbox"/> Fecal <input type="checkbox"/> Ammonia <input type="checkbox"/> DO <input checked="" type="checkbox"/> None <input type="checkbox"/> Other _____	
Attach copies of any test results.	
Report Completed By: <u>Ronny Smith</u>	
Authorized Representative Name (Print)	
Title: <u>Supervisor - Westwater</u>	
Date: <u>5-13-10</u>	
Authorized Representative Signature: <u>[Signature]</u>	

## **Exhibit D**

C: Roger Rector  
Jack Austin  
Ronny Smith

Stephanie Wilson  
General Manager



Sincerely,

Please contact our office with questions at (660) 385-3173.

Please find enclosed the updated Nine Minimum Controls for the City of Macon's Combined Sewer System. The Appendix C notation is in reference to this document's position in our Combined Sewer Overflow Long-Term Control Plan approved by the Missouri Department of Natural Resources on January 20, 2009. However, content has been updated to reflect current activity.

Dear Mr. Adams:

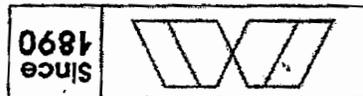
Re: Nine Minimum Controls for the City of Macon, Missouri

Mr. Scott Adams, E.I.  
Missouri Department of Natural Resources  
Northeast Regional Office  
1709 Prospect Drive, #A  
Macon, MO 63552

December 8, 2009

106 West Bourke  
P.O. Box 569  
Macon, Missouri 63552-0569  
Telephone (660) 385-3173  
Fax (660) 385-6554  
STEPHANIE WILSON,  
General Manager

# MACON MUNICIPAL UTILITIES



BOARD OF PUBLIC WORKS  
TIM WATTS, President  
JOHN NEER, Vice President  
JERRY EDWARDS  
J.D. KING  
RENITA WALDRON, Secretary

[Redacted]  
Nine Minimum Controls (NMCs)  
for the City of Macon, Missouri

The City of Macon and Macon Municipal Utilities (MMU) have developed and implemented the nine minimum controls described herewith. This report on NMCs will update the progress that has been achieved towards satisfying the technology-based requirements of the Clean Water Act. This report will also serve as the guide for continuing efforts to implement the NMCs.

The City first developed their NMC plan in 2001. The current state operating permit for the wastewater treatment plant (MO-0023221) includes a schedule of compliance item that requires the permittee submit an annual report documenting the implementation of the NMCs. This report is prepared to fulfill this compliance issue.

The NMCs are not temporary measures. These measures are a part of the City's long term efforts to address Combined Sewer Overflows (CSOs) and to develop a Combined Sewer Overflow Long-Term Control Plan.

All the NMC activities described herewith are either complete and fully implemented or are an ongoing effort. The following focuses on the specific city policies and efforts to reduce the occurrences and severity of CSO events through the continued implementation of the nine minimum controls.

### 1. Proper Operation and Regular Maintenance Programs for the Sewer System and CSO Outfalls.

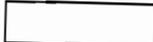
MMU utilizes a systematic and aggressive operation and maintenance (O&M) program for the combined and separate wastewater collection systems.

a. MMU has assigned Roger Rector the primary management responsibility for the CSO project. Roger holds a D operator license in wastewater treatment and is the Assistant General Manager of water and gas distribution plus wastewater collection.

b. Macon's utility and street department staff is knowledgeable of city ordinances pertaining to the prohibition of storm drains to the sewer system. They are trained to identify and report violations of the ordinances. The wastewater collection system personnel and meter readers have identified several locations where storm water has been routed into the sanitary sewer. Those found on private property have been contacted requesting these non-compliance issues be resolved.

c. Operation and maintenance procedures are practiced to minimize the frequency and to improve the water quality of CSOs. Regular procedures that are practiced include:

- Wastewater treatment plant operators minimize the quantity of each CSO at the grit chamber by computerized operation of a gate on the outlet of the grit chamber. The operator presets the position of the gate to maximize the amount of water that can be transported to the wastewater treatment plant via the 24" interceptor without overflowing the manhole on Vine Street. This has successfully prevented some CSO events and reduced the quantity of CSO's in other events. The procedure to



In addition to the above the City now aggressively enforces the ordinances requiring grease traps. All business suspected of needing grease traps have now completed their installations. The city inspects all grease traps quarterly. There has been significant decrease in the amount of grease that accumulates at the wastewater plant. To that end the amount of grease that would be in a CSO is also less.

The city has a pretreatment program in effect and enforces the provisions of the pretreatment permits issued by the city. The city currently has one industry, ConAgra Foods, with wastewater discharge into the combined sewer system. Phase 1 of the wastewater system improvements redirected ConAgra's wastewater from upstream of the grit chamber and Highway 63 CSOs to the 24" interceptor that flows directly to the wastewater treatment plant below the grit chamber.

### 3. Review and Modification of Pretreatment Requirements.

c. The City has entered into newly agreed upon LTCP dated January 20, 2009 with MODNR. The new LTCP calls for a disinfection system to be in place by December 31, 2010. This timeline will allow for the system to be operational for the 2011 recreational season. The City has obtained the Engineering firm of Benton and Associates to complete implementation for the new disinfection system.

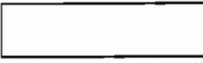
b. This project also provided a separate sanitary sewer that moved high strength wastewater from ConAgra Foods and several areas of the collection system that had separate sanitary sewer. This separate sanitary sewer transports the sanitary waste to the 24" interceptor that flows directly to the wastewater treatment plant. This reduces the sanitary waste that is discharged in wet weather at the grit chamber and Highway 63 CSOs.

a. MMTU has completed construction of Phase 1 of a wastewater system improvements project that included partial storm and sanitary sewer separation. This project included the construction of a storm water collection system that removed storm water from approximately 10% of the city that previously flowed into the 6' combined sewer. Removal of this surface water from the combined sewer increases its capacity to retain storm water flow before discharge in a CSO event.

### 2. Maximize Use of the Collection System for Storage.

d. The MMTU staff utilizes a sewer jet machine purchased in 2004 and the sewer CCTV camera purchased in 2005 to assist in maintaining full capacity in lines to prevent backups and minimize CSOs. A breakdown of maintenance activities is attached to this NMC document for review.

- Quality of the CSO at the grit chamber is improved by the semi-annual cleaning of the grit chamber to remove accumulated grit and debris. The city owns a vacuum excavator to perform these cleaning activities. These cleanings maintain the holding capacity of the grit chambers thus improving the quality of the CSOs.
- automate the gate setting was completed in the Phase 1 sewer separation project.



City ordinances are reviewed on a regular basis to assure they include all the needed requirements to reduce or eliminate stormwater and other contaminants into the sanitary sewer system. Also during 2009 there were 16 areas identified where repairs were made to the combined sewer system. There areas included I&I, broken pipes, and root intrusions.

#### 7. Pollution Prevention Programs.

The grit chamber with a mechanical bar screen is designed to remove settleable solids and floatables from the wastewater. The overflow basin at the wastewater plant acts as a large settling basin and is equipped with a baffle to prevent discharge of floatables. These facilities effectively control solids and floatable materials at these CSOs.

#### 6. Control of Solids and Floatable Materials.

Dry weather overflows and sewer backups are responded to under current Maccon Municipal Utilities policy. Maintenance such as flushing, root treatment, root cutting, or spot repairs are performed at the time of the occurrence. Work orders are generated, to revisit the site of these occurrences to perform preventative maintenance activities as needed.

There are no CSOs during dry weather.

#### 5. Elimination of CSOs During Dry Weather.

Generally, as the volume of the overflow increases, the concentrations of BOD and TSS decrease. Future sampling and analysis will verify the effectiveness of removing these BOD and TSS contributions from the CSO at the grit chamber and Highway 63.

It is anticipated that only 670 lbs/day of BOD and 760 lbs/day TSS from the sanitary sewer will remain in the CSOs at the grit chamber and Highway 63.

The Phase I sewer project was designed to maximize the treatment of wastes by collecting sanitary sewer wastewater from the areas described above and directing them to the 24" interceptor that runs to the wastewater treatment plant.

In 2009 sections of the 24" line were again cleaned, as roots were detected during the most recent video inspection. Also approximately 350' lineal feet of the 24" interceptor along Vine St. was relined with a CIPP lining, plus 2 new manholes were installed at these areas. The 24" lining along with relining of 850' lineal feet of 8" collection system main along the north side of Sunset Dr. is helping to maximize flow to the WWTTP along with reduce inflow and infiltration into the system. The engineering firm of Shafer, Kline & Warren, Inc. was contracted to design and coordinate manhole and relining activities.

In 2003 the City videotaped the entire 72-, 48-, and 24-inch interceptors to determine their condition. The 72-, and 48-, lines are in reasonably good condition; however, the 24-inch line was almost completely blocked by root growth. At that time the roots were cleaned from the 24-inch line. Maintaining full capacity in the 24-inch line helped reduce the CSO's at the grit chamber.

#### 4. Maximization of Flow to the POTW for Treatment.



Nine Minimum Controls

A copy of Maccon's TSS and BOD5 pre-phase 1, and post-phase 1 are attached for staff review. These numbers are findings collected from grab samples as required by our State Operating Permit # Mo-0023221. Assessments are ongoing to establish impact trends of CSO's on receiving waters.

**9. Monitoring of CSO Impacts and the Efficacy of CSO Controls.**

Signs posted at the CSO locations request anyone observing an overflow to report it to the City. The 24 hour number for the City, along with the outfall, and NPDES permit number are posted on each sign.

**8. Public Notification.**

Inspections of the wastewater collection system are either complete or ongoing. In addition to the wastewater collection crews, the meter readers have been trained to identify potential inflows into the combined sewer system and to report those conditions to management.



Macon Municipal Utilities  
 Grab Sample Results at Outfall 003  
 Reported in mg/L

Year	Month	Day	BOD	TSS	# overflows
2003	Jan	0	0	0	0
2003	Feb	0	0	0	0
2003	Mar	0	0	0	0
2003	Apr	73	381	381	5
2003	May	66	460	460	3
2003	Jun	94	235	235	5
2003	Jul	155	278	278	5
2003	Aug	206	409	409	3
2003	Sep	146	463	463	7
2003	Oct	143	150	150	2
2003	Nov	143	315	315	3
2003	Dec	134	267	267	5
Average			97	247	3
2004	Jan	0	0	0	0
2004	Feb	0	0	0	0
2004	Mar	54	151	151	3
2004	Apr	65	173	173	3
2004	May	152	133	133	9
2004	Jun	159	327	327	8
2004	Jul	102	281	281	5
2004	Aug	107	241	241	9
2004	Sep	155	595	595	1
2004	Oct	149	267	267	6
2004	Nov	91	178	178	5
2004	Dec	181	557	557	3
Average			101	242	4
2007	Feb	47	235	235	4
2007	Mar	47	304	304	5
2007	Apr	99	45	45	4
2007	May	105	259	259	3
2007	Jun	47	273	273	4
2007	Jul	139	712	712	1
2007	Aug	147	495	495	4
2007	Sep	55	167	167	1
2007	Oct	77	883	883	3
2007	Nov	0	0	0	0
2007	Dec	230	385	385	1
Average			90	342	3
2008	Feb	164	1035	1035	1
2008	Mar	29	56	56	1
2008	Apr	12	42	42	5
2008	May	16	22	22	4
2008	Jun	23	37	37	4
2008	Jul	29	206	206	6
2008	Aug	0	0	0	0
2008	Sep	15	45	45	3
2008	Oct	10	28	28	2
2008	Nov	0	0	0	0
2008	Dec	11	75	75	2
Average			28	141	3

## **Exhibit E**

# DMRQA-30 Final Complete Report

A Waters Company



NPDES Permit #: M0023221  
 Permit Holder: Ronny Smith  
 Wastewater Supervisor  
 Macon Municipal Utilities  
 32319 Vine St. Road  
 Macon, MO 63552  
 660-385-2532

ERA Customer Number: M097221  
 Report Issued: 07/21/10  
 Study Dates: 03/15/10 - 07/02/10

Test End Point	Performance Evaluation	Reported Value %	Assigned Value %	Acceptance Limits %	Method Description	USEPA Lab Code	Study
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Fathead minnow (Test Code 13)	Acceptable	45.1	30.2	11.3 - 49.1	EPA 2000	M000065	DMRQA30
48hr, Acute, Non-Renewal, 25° C, MHSF							
Ammonium phosphate dibasic							
LC50							
Ceriodaphnia dubia (Test Code 19)	Acceptable	70.7	57.5	21.4 - 93.5	EPA 2002	M000065	DMRQA30
48hr, Acute Renewal, 25° C, MHSF							
Ammonium phosphate dibasic							
LC50							





# DMRQA-31 Final Complete Report

ERA Customer Number: M097221  
 Report Issued: 07/22/11  
 Study Dates: 03/14/11 - 07/01/11

NPDES Permit #: M0023221  
 Permit Holder: Ronny Smith  
 Wastewater Supervisor  
 Macon Municipal Utilities  
 32319 Vine St. Road  
 Macon, MO 63552  
 660-385-2532

Test End Point	Performance Evaluation	Reported Value %	Assigned Value %	Acceptance Limits %	Method Description	USEPA Lab Code	Study
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Fathead minnow (Test Code 13)  
 48hr, Acute, Non-Renewal, 25° C, MHSF  
 Potassium chloride

LC50	Acceptable	45.06	52.9	28.4 - 77.4	EPA 2000	MO00065	DMRQA31
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Ceriodaphnia dubia (Test Code 19)  
 48hr, Acute Renewal, 25° C, MHSF  
 Potassium chloride

LC50	Acceptable	37.89	40.4	10.0 - 70.8	EPA 2002	MO00065	DMRQA31
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# DMRQA32 Final Report

**NPDES Permit #: M0023221**  
**Permit Holder: Ronny Smith**  
**Wastewater Supervisor**  
**Macon Municipal Utilities**  
**32319 Vine St. Road**  
**Macon, MO 63552**  
**660-385-2532**

**ERA Customer Number: M097221**  
**Report issued: 07/27/12**  
**Study Dates: 03/19/12 - 07/06/12**

Test End Point	Performance Evaluation	Reported Value %	Assigned Value %	Acceptance Limits %	Method Description	Study Mean	Study Standard Deviation	USEPA Lab Code	Study
----------------	------------------------	------------------	------------------	---------------------	--------------------	------------	--------------------------	----------------	-------

DMHQA Fathead minnow (Test Code 13) (cat# WET002)	Acceptable	29.7	45.6	23.9 - 67.4	EPA 2000	45.6	10.9	M000065	DMRQA32
48hr. Acute, Non-Renewal, 25°C, MHSF Potassium chloride	Acceptable	34.4	34.2	17.9 - 50.4	EPA 2002	34.2	8.10	M000065	DMRQA32
DA 1A Ceriodaphnia dubia (Test Code 19) (cat# WET008)	Acceptable	34.4	34.2	17.9 - 50.4	EPA 2002	34.2	8.10	M000065	DMRQA32
48hr. Acute Renewal, 25°C, MHSF Potassium chloride	Acceptable	34.4	34.2	17.9 - 50.4	EPA 2002	34.2	8.10	M000065	DMRQA32





**Environmental Protection Agency**

OECA MC 2223A  
WASHINGTON DC 20460

Official Business  
Penalty for Private Use \$300

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EPA  
PERMIT NO. G-35

**DATES TO REMEMBER:**

- March 19, 2012: Verification of Receipt Due  
Order DMR-QA Samples
- July 6, 2012: Study 32 Ends
- August 24, 2012: Final Report Due

**Mailroom: Response Required for Each Permit.  
Please Forward to Responsible Office.**

\*\*AUTO\*\* ALL FOR ADC 630  
 MO0023221  
 RONNIE SMITH  
 Macon WWTF  
 106 W Bourke St City Hall  
 City Hall  
 Macon, MO 63552-1502

**IMPORTANT NOTICE TO NPDES PERMITTEES  
DMR-QA Study 32 Announcement**

# DMR-QA STUDY 32

## IMPORTANT NOTICE TO NPDES PERMITTEES

**Immediately** verify receipt of DMR-QA Study 32 by either filling out the form below and mailing this page to your state coordinator (see pages 10-12 for addresses) or follow the e-mail instructions at the bottom of this page.

The mailed form must be postmarked on or before **March 19, 2012**.

### NPDES PERMITTEE ADDRESS VERIFICATION FORM (AVF)

#### Discharge Monitoring Report - Quality Assurance (DMR-QA) Study 32

Please provide corrections to the mailing address where all DMR-QA paperwork should be sent.

State  NPDES Permit Number

(2-character State Code + 7 digit Permit Code as shown on the mailing label, for example CA1234567)

If Address is correct, you only need to check this box

Facility Name

Contact Name  Title

Mailing Address

City  State  Zip Code

Phone Number  Fax Number

E-mail Address

### ELECTRONIC NOTIFICATION PROCEDURE

You may verify receipt electronically by sending an e-mail on or before **March 19, 2012** to your state DMR-QA coordinator (listed on page 10-12 of the enclosed instructions). The e-mail should be composed in the following manner:

1. Subject line should contain **ONLY** the NPDES Permit number (2-character State Code + 7-digit Permit Code as shown on the mailing label, for example CA1234567). Other information is not needed on the subject line.
2. If there have been any changes to the mailing label on this announcement, the body of the e-mail should contain a list including: Company name, Contact Name/Title, Mailing Address, City, State, Zip Code, Facility Type (select one: federal, state, local or commercial/private). Otherwise, you may simply put "No changes to address" in the body of the e-mail.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

JAN 25 2012

OFFICE OF  
ENFORCEMENT AND  
COMPLIANCE ASSISTANCE

Dear NPDES Permit Holder:

This letter initiates the 2012 Discharge Monitoring Report - Quality Assurance Study (DMR-QA Study 32). By receipt of this letter, you are required, under Clean Water Act (CWA) Section 308, to participate in DMR-QA Study 32 unless your facility is exempted by an EPA waiver.<sup>1</sup> Your participation plays a key role in monitoring the quality of data used to assure the integrity of the CWA's National Pollutant Discharge Elimination System (NPDES) program.

DMR-QA Study 32 covers major and select minor NPDES permit holders. You (the permittee) are responsible for ensuring that results of DMR-QA tests, performed by your in-house and/or contract laboratories, are graded by an accredited Proficiency Testing (PT) Provider. If any graded results are "Not Acceptable," you must follow up with the laboratory to determine the cause of the deficiency and ensure corrective action is taken to prevent future occurrences. To satisfy DMR-QA requirements, your laboratory may use reporting data from a Water Pollution (WP) study administered by an approved accreditation body and performed between January 1, 2012 and July 6, 2012. This provides flexibility to you and your laboratories for performing required DMR-QA tests.

**What do I need to have tested and reported?**

For the chemical and microbiological tests under DMR-QA, you are responsible only for those analytes that are both in your permit and included in Study 32. For the WET tests under DMR-QA, you are responsible only for test organisms that are both in your permit and included in Study 32. You are required to participate even if the test conditions in your permit do not exactly match those in Study 32 (see page 2). Report your final graded results on EPA Form 6400-01 and attached checklists (see pages 14-17) to your state DMR-QA coordinator by August 24, 2012.

**Further information**

Questions on the national program should be addressed to Brian Krausz ([krausz.brian@epa.gov](mailto:krausz.brian@epa.gov)), national DMR-QA coordinator. State and EPA regional DMR-QA contact information is provided on pages 10-12. Please reference your NPDES permit number on all correspondence.

Thank you for your attention to this Clean Water Act 308 requirement.

Sincerely,

*Edward J. Messina*  
Edward J. Messina, Acting Director

Monitoring, Assistance, and Media Programs Division

Enclosures

<sup>1</sup> EPA is authorized to collect this information under Section 308 of the Clean Water Act, 33 U.S.C. § 1318, in order to carry out its responsibilities for protecting the nation's waters. This information is enforceable under 33 U.S.C. § 1319. EPA may grant a waiver from participating in EPA's DMR-QA Study to states with laboratory quality assurance programs approved by EPA as a substitute for the DMR-QA Study. Refer to page 2 of the enclosed Fact Sheet to determine if you are covered by an EPA waiver, or contact your state coordinator.

# DMR-QA Study 32 Instructions

## Table of Contents

2	DMR-QA Study 32 Fact Sheet
4	NPDES Permittee Instructions
6	Chemistry and Microbiology Laboratory Instructions
7	WET Testing Laboratory Instructions
9	Accredited Proficiency Testing Providers
10	State and EPA Regional DMR-QA Coordinators
13	NPDES Permittee Data Report Form
16	Chemistry/Microbiology Analyte Checklist
17	WET Organisms/Test Conditions/End Points Checklist

## Checklist and Schedule for DMR-QA Study 32

Deadline*	Permittee	In-House and Contract Laboratories	PT Providers
March 19, 2012	<input type="checkbox"/> Send Address Verification Form (inside cover of this package) to the State Coordinator by e-mail or postal mail to confirm receipt of Study 32 Announcement <input type="checkbox"/> Study 32 begins <input type="checkbox"/> Order test samples from PT Provider	<input type="checkbox"/> Study 32 begins <input type="checkbox"/> Send ungraded Data Report to PT Providers (include a list of all NPDES permits using your laboratory data)	<input type="checkbox"/> Send PT Provider-graded test results, for each permit (listed by NPDES permit numbers), to: - Laboratory - State and EPA regional DMR-QA coordinators
July 6, 2012	<input type="checkbox"/> Study 32 ends	<input type="checkbox"/> Study 32 ends	
July 27, 2012			<input type="checkbox"/> Forward PT Provider-graded test results to the Permittee
August 10, 2012			
August 24, 2012	<input type="checkbox"/> Forward one copy of the NPDES Permittee Data Report Form, and a copy of the Chemistry/Microbiology and WET Checklists for each laboratory used to the state DMR-QA coordinator	<input type="checkbox"/> Order testing samples from PT Provider for all "Not Acceptable" analyte test results <input type="checkbox"/> Complete and send required corrective action letter as soon as possible to your Permittee	
October 5, 2012	<input type="checkbox"/> Address any "Not Acceptable" data for corrective action with state DMR-QA coordinator <input type="checkbox"/> Submit a completed and signed corrective action report to your state DMR-QA coordinator		

\* All materials must be sent on or before the date provided.

## DMR-QA STUDY 32 FACT SHEET

### What is tested?

The Discharge Monitoring Report - Quality Assurance (DMR-QA) Study 32 addresses the analytic ability of laboratories that perform the chemical, microbiological, and WET analyses required in NPDES permits.

For the chemical and microbiological tests under DMR-QA Study 32, permittees are responsible only for those analyses that are both in the permit and included in Study 32. The laboratories must perform the tests using the same method as routinely done for the permittee's DMR samples. The chemical and microbiological analyses in Study 32 are listed in the "Chemistry/Microbiology/Analyte Checklist" (page 16). Please note for low level mercury, the concentration range is 20 - 100 ng/L (20 - 100 parts per trillion) and for low level residual chlorine, the concentration range is 75 - 250 µg/L (75 - 250 parts per billion). If you have questions about whether you should perform the test using normal mercury and/or total residual chlorine concentration or the low level mercury and/or low level total residual chlorine concentration, contact your state DMR-QA coordinator.

For the WET tests under DMR-QA, permittees are responsible only for test organisms that are both in their permit and included in Study 32. Permittees are required to participate even if the test conditions (e.g., temperature, time of acute test, renewal/non-renewal, synthetic seawater matrix, etc.) in the permit do not exactly match those in Study 32. If they do not exactly match, refer to "WET Testing Laboratory Instructions" (pages 7-8). The WET tests in Study 32 are listed in the "WET Organisms/Test Conditions/End Points Checklist" (page 17).

### Where can laboratories get test samples?

Laboratories (in-house and contract) need to order the required DMR-QA Study 32 samples from a PT Provider that is appropriately accredited by the American Association for Laboratory Accreditation (A2LA), or ACLASS, a brand of the ANSI-ASQ National Accreditation Board. A2LA and ACLASS have each been designated a Proficiency Testing Oversight Body (PTOB)/Proficiency Testing Provider Accreditor (PTPA) by The NELAP Institute (TNI). A list of chemistry, microbiology and WET accredited PT Providers is on page 9.

### What should permittees and laboratories do first?

After reading this study package, the permittee must send in-house and contract laboratories a copy of the enclosed instructions along with the Chemistry/Microbiology and WET checklists (pages 16-17). On the checklist, the permittee must specify what analyses each laboratory must perform.

The laboratory should order samples from an accredited PT Provider (page 9). This should be done early to allow sufficient time for the laboratory to perform the required analyses and report the ungraded results to the PT Provider prior to the close of the DMR-QA study (July 6, 2012).

Permittees can use results from a Water Pollution (WP) study to satisfy some or all of the DMR-QA requirements for Study 32. EPA will accept only those WP results for WP studies occurring between January 1, 2012, and July 6, 2012. If the permittee is using WP results for DMR-QA reporting, the permittee must inform the laboratory that the WP study is being used for DMR-QA and the laboratory must submit the permittee's information to the PT Provider prior to the close of DMR-QA Study 32 (July 6, 2012).

### What to do after laboratories are evaluated?

The PT Providers supply laboratories with proficiency test samples and instructions. After laboratories report their data to the PT Providers, the PT Providers grade the results, and generate a report indicating the results were "Acceptable" or "Not Acceptable". A copy of the graded report is issued to the laboratory by July 27, 2012. The PT Provider submits graded results of the laboratories to the state DMR-QA coordinators by July 27, 2012.

**NOTE: Permittees are not required to report ungraded data to the PT Provider on their laboratories' behalf nor should permittees send ungraded data to their state DMR-QA coordinator.**

Each laboratory forwards a copy of the graded report received from the PT Provider to the permittee by August 10, 2012. The permittee subsequently completes the checklist on pages 16-17, indicating on the checklist the laboratory's grade for each required analyte. One set of checklists must be used per laboratory. The completed checklists, and copies of the laboratory's graded reports to the state coordinator by August 24, 2012.<sup>1</sup> Permittees will not receive graded reports directly from PT Providers unless they are an in-house laboratory. The checklists and EPA Form 6400-01 are also available at [www.epa.gov/compliance/monitoring/programs/cwa/dmr/](http://www.epa.gov/compliance/monitoring/programs/cwa/dmr/)

If any graded results are "Not Acceptable," the permittee must follow up with the laboratory to determine the cause of the deficiency and ensure corrective action is taken to prevent future occurrences. The laboratory must order retesting samples and write a corrective action response for the permittee. The permittee is required to submit a completed and signed corrective action report to the state DMR-QA coordinator by October 5, 2012. The October deadline completes the Study 32 evaluation of the permittee. If the permittee is using WP results for DMR-QA reporting, the permittee must inform the laboratory that the WP study is being used for DMR-QA and the laboratory must submit the permittee's information to the PT Provider prior to the close of DMR-QA Study 32 (July 6, 2012).

#### **State Laboratory Quality Assurance Programs**

Some states have established laboratory quality assurance programs to certify laboratories that perform analyses for wastewater facilities. In addition, your state's laboratory quality assurance program may be approved by EPA as a substitute for DMR-QA.<sup>2</sup> If your state has a laboratory quality assurance program approved by EPA as a substitute for DMR-QA, contact your state coordinator regarding what you should do to satisfy DMR-QA requirements. Some state quality assurance programs certify only a portion of the laboratories that generate NPDES data in that state. If you, as a permittee, use a state-certified laboratory to generate your NPDES data in a state that has been granted a partial exemption by EPA from DMR-QA Study 32, check the "Analyte determined by state-certified laboratory" box(es) on the checklists (pages 16 and 17) for all analytes in your permit analyzed by a certified laboratory.

<sup>1</sup> If the PT Provider submits graded results sorted by permit number to the state DMR-QA coordinator, the permittee is only required to send copies of the checklist and EPA Form 6400-01 to the state coordinator (and is not also required to send graded results). In this case, the laboratory should provide a list of its permittees' permit numbers associated with each required analyte to the PT Provider prior to the close of DMR-QA Study 32 or the WP study.

<sup>2</sup> As of January 1, 2012, permittees in California, Kansas, New Jersey, Nevada, North Carolina, Pennsylvania, South Carolina, Virginia, West Virginia and Wisconsin have laboratory quality assurance programs approved by EPA as a substitute for DMR-QA. Louisiana has an approved laboratory quality assurance program for commercial laboratories only. NPDES permittees in Oklahoma that currently participate in their State laboratory accreditation program are also exempted from DMR-QA Study 32. Check with your state coordinator if you have questions about your state's exemption status.

## NPDES Permittee Instructions DMR-QA Study 32

1. Follow the instructions on the DMR-QA Study 32 Important Notice (inside front cover of study package) and immediately confirm receipt of this package to your state coordinator via postal mail or e-mail. Your response is required to ensure the package was properly received and to verify your contact information. You must submit your response no later than **March 19, 2012**. If there are updates to your contact information and/or mailing address, include this in your response. If your permit is inactive, please contact your state DMR-QA coordinator immediately.

2. DMR-QA samples must be analyzed by the same in-house and/or contract laboratories that routinely perform the analysis for reporting on your Discharge Monitoring Report (DMR). The laboratories must perform the tests using the same methods as routinely done for your DMR samples.

REPORT RESULTS ONLY FOR THOSE ANALYTES COVERED BY YOUR NPDES PERMIT.

If your state has a laboratory quality assurance program approved by EPA as a substitute for DMR-QA, contact your state coordinator regarding what you should do to satisfy DMR-QA Study 32 requirements. Please refer to Footnote 2 on the DMR-QA Study 32 Fact Sheet for a list of exempted states. See Step #8 for detailed instructions.

3. Send copies of the instructions from this package to each contract laboratory and your in-house laboratory, if applicable. Make certain your in-house and/or contract laboratories understand and complete all requirements. Inform each laboratory to perform the appropriate analyses and submit their results to the PT provider. The instructions pages are listed below:

### Chemistry and Microbiology Analyses

- a) "Chemistry and Microbiology Laboratory Instructions" (page 6)
- b) "Chemistry/Microbiology Analyte Checklist" (page 16).
- c) "Proficiency Testing Providers" (page 9).

### WET Analyses

- a) "WET Testing Laboratory Instructions" (pages 7-8)
- b) "WET Organisms/Test Conditions/End Points Checklist" (page 17). Follow "Guidelines for Choosing the Correct WET Test Organisms/Conditions/End Points" (page 7) to determine the correct DMR-QA WET tests for your laboratory to perform.
- c) "Proficiency Testing Providers" table (page 9).

4. Permittees must ensure that each laboratory uses their U.S. EPA-assigned Laboratory Code on all reported results. Laboratories needing a new U.S. EPA Lab Code or wanting to confirm their old U.S. EPA Lab Code, should contact the following as soon as they determine they need a number:

Mr. Charles Feldmann  
US EPA  
26 W. Martin Luther King Drive, M/5 140  
Cincinnati, OH 45268  
Tel: (513) 569-7671 Fax: (513) 569-7191 E-mail: [feldmann.charles@epa.gov](mailto:feldmann.charles@epa.gov)

If you send e-mail, include your phone number in the message. Submit all requests for lab codes at least one week before the PT Providers' WP specific study due date or one week prior to the DMR-QA Study 32 end date (**July 6, 2012**) to allow time for response.

5. Have your laboratory order samples for analytes that are both in your permit and included in DMR-QA Study 32. Your in-house and contract laboratories must order PT samples from an accredited PT Provider (page 9). Be sure that your laboratory orders the samples early to allow sufficient time to perform the analyses and report results prior to the close of the DMR-QA study. Your laboratory should register your permit number with the PT Provider prior to the close of the DMR-QA Study 32.

**Note:** If your in-house or contract laboratory chooses to use a WP study, please inform the laboratory that all data must be reported to the PT Provider by the published WP study close date, even if it is prior to the DMR-QA deadline of **July 6, 2012**. Tell the laboratory to inform the PT Provider that the WP study is being used to satisfy DMR-QA. WP studies are only valid for DMR-QA Study 32 if the WP study meets the following requirements:

- a) Samples are offered by an accredited PT Provider (page 9).
- b) The WP study does not close before **January 1, 2012**, or after **July 6, 2012**.
- c) The PT Provider shows the WP results from each of the permittee's regulated analytes on the DMR-QA reporting form.

PT Providers are not permitted to accept permittee information from a laboratory after July 6, 2012.

**Checklist for Permittees**

1. Verify receipt of package with your state DMR-QA coordinator by **March 19, 2012**.
2. Notify each laboratory of Study 32 and send a copy of these instructions.
3. Ensure laboratories complete the required analyses and report ungraded data to PT Providers by **July 6, 2012**.
4. Receive graded reports from laboratories by **August 10, 2012**.
5. Complete and sign NPDES Permittee Data Report form on pages 14-15.
6. Complete and sign individual checklists for Chemistry/Microbiology (page 16) and WFT testing (page 17) for each laboratory including EPA Lab Code numbers on the checklist.
7. Send NPDES Permittee Data Report Form (Form 6400-01) and the analyte checklists to your state DMR-QA coordinator by **August 24, 2012**. Include copies of your laboratory's graded reports, unless the PT Provider sends graded results sorted by permit number directly to the state DMR-QA coordinator.
8. If corrective action is required, order retesting samples by **August 24, 2012**.
9. Address any unacceptable results with your state DMR-QA coordinator by **October 5, 2012**.

6. Permittees are responsible for ensuring that laboratories submit data on your behalf to the PT Provider by the end of the DMR-QA study 32 (**July 6, 2012**). Laboratories must send ungraded data to the same PT Provider they received samples from.
7. By **July 27, 2012**, PT Provider-graded test results will be sent to the laboratories.
8. Permittees must require laboratories to forward to them, the graded results from the PT Provider by **August 10, 2012**. Using these graded results, permittees must fill out the "Chemistry/Microbiology Analyte" and "WFT Organisms/Test Conditions/End Points" checklists (pages 16-17) for each laboratory, indicating the analyte tests performed by the laboratory and whether the result was Acceptable or Not Acceptable. Make sure the appropriate NPDES permit number and U.S. EPA Lab Code are on each checklist. If you use more than one laboratory, you must use a separate checklist for each laboratory. If a laboratory reports more than one method to you for any single analyte, you must use a separate checklist for each method reported. If you, as a permittee, use a state-certified laboratory to generate your NPDES data in a state that has been granted partial exemption by EPA from DMR-QA Study 32, check the "Analyte determined by state-certified laboratory" boxes on the checklists (pages 16 and 17) for all analytes in your permit analyzed by a certified laboratory.
9. Permittees shall complete the information on the "NPDES Permittee Data Report Form" (pages 14-15). You may also fill and print this using an online interactive form available at: [www.epa.gov/compliance/monitoring/programs/cwa/dmr/](http://www.epa.gov/compliance/monitoring/programs/cwa/dmr/). By **August 2, 2012**, permittees must send a copy of the signed NPDES Permittee Data Report Form and completed checklists from step 8 to each of your permits to your state DMR-QA coordinator. In addition, all graded results must be sent to your state coordinator by **August 24, 2012**, unless the PT Provider sends results directly to the state DMR-QA coordinator. Check with your laboratory to determine whether the PT Provider is sending the graded laboratory data directly to the state DMR-QA coordinator. Permittees shall maintain a copy of the completed NPDES Permittee Data Report Form, checklists and graded laboratory results as a record.
10. After receiving laboratory results, permittees shall consult with the laboratory and investigate any discrepancies or "Not Acceptable" evaluations reported by the PT Provider. Permittees must identify and report to the state DMR-QA coordinator causes and system changes to correct the discrepancies, and avoid their recurrence. Laboratories must order retesting samples by **August 24, 2012** for any "Not Acceptable" results and perform the verification analysis as soon as possible to include the results in the Corrective Action report to be sent to the state DMR-QA coordinator before **October 5, 2012**. The report must include the results of any verification analysis performed.
11. Permittee shall maintain a copy of all completed forms for records for at least three (3) years.

# Chemistry and Microbiology Laboratory Instructions

## DMR-QA Study 32

Your laboratory has been designated to participate in DMR-QA Study 32 by a National Pollutant Discharge Elimination System (NPDES) permittee, because the permittee uses your laboratory to perform chemistry/microbiology analyses. Chemistry/microbiology testing must be performed if the permittee is required to conduct Chemistry/microbiology testing under its NPDES permit during 2012. The permittee is required to report sample data produced by laboratories that routinely perform analyses for Discharge Monitoring Report (DMR) purposes.

1. Each permittee for whom you analyze or provide data in 2012 will determine which analyses you must perform by checking the appropriate boxes on the enclosed "Chemistry/Microbiology Analyte Checklist" (page 16).

2. Order DMR-QA Study 32 chemistry and microbiology samples from one of the PT Providers (page 9). Be sure to allow yourself enough time to perform the analyses before the closing date of DMR-QA Study 32 (July 6, 2012). Please note that low level mercury and low level total residual chlorine are part of the list of required DMR-QA analytes. The concentration ranges are 20 - 100 ng/L (20 - 100 parts per trillion) for low level mercury and 75 - 250 µg/L (75 - 250 parts per billion) for low level total residual chlorine.

**Helpful Hint:** You may be able to utilize the results from a Water Pollution (WP) study to meet the requirements of DMR-QA, if all of the following conditions are met:

- Samples are offered by an accredited PT Provider (page 9).
- The WP study does not close before **January 1, 2012**, or after **July 6, 2012**.
- The PT Provider shows the WP study results of each permittee's regulated analytes on the DMR-QA reporting form.

3. Record your ungraded analytical data and your EPA Lab Code on the Data Reporting Forms received with your samples. Be sure to follow the PT Provider's instructions and deadlines received with these samples.

4. Use of the U.S. EPA-assigned Lab Code on all reported results is required. If you need a new U.S. EPA Lab Code or need to verify your current code, contact Mr. Charles Feldmann (contact information found on page 4, step #4).

5. Send the data requested by each of your permittees to the PT Provider for grading. You must send data to the same PT Provider that you received samples from. Make sure you provide the DMR-QA Study 32 or WP study results to the PT Provider by **July 6, 2012**. If you choose to use a WP study, you must report all data to the PT Provider that published WP study close date, even if it is prior to the DMR-QA deadline of **July 6, 2012**. (Notify the PT Provider that a WP study is being used for DMR-QA and send copies of the analyte checklist(s) if you are reporting via hardcopy).

6. The PT Provider will grade your analyses and send the graded results to you by **July 27, 2012**. If the PT Provider is submitting graded results sorted by permit number to the state DMR-QA coordinator, then you should register your permittees' permit numbers associated with each required analyte with the PT Provider prior to the close of DMR-QA Study 32 or the WP study. Forward the graded results of the analytes to the permittee by **August 10, 2012**, so the permittee can fill out the analyte checklist on page 16.

7. If corrective action is required, notify the permittee. Laboratories must order retesting samples for "Not Acceptable" analyte test results by **August 24, 2012**. You must also identify and report causes and system changes to correct the discrepancies and avoid a recurrence. The corrective action letter and graded retest report need to be forwarded to the permittee as soon as possible.

8. Maintain a copy of all completed order forms for your records.

# WET Testing Laboratory Instructions

## DMR-QA Study 32

Your laboratory has been designated to participate in DMR-QA Study 32 by a National Pollutant Discharge Elimination System (NPDES) permit, because the permittee uses this laboratory to perform Whole Effluent Toxicity (WET) analyses. WET testing must be performed if the permittee is required to conduct WET testing under its NPDES permit during 2012. The permittee is required to report sample data produced by laboratories that routinely perform analyses for its Discharge Monitoring Report (DMR) purposes.

1. Each permittee for whom you analyze or provide data in 2012 will determine which analyses you are to perform by checking the appropriate boxes on the enclosed "WET Organisms/Test Conditions/End Points" (page 17). Ensure that the permittee has selected the test organism and testing conditions that most closely resemble the testing conditions required by the permit for which you are supplying test results. Use the guidelines immediately below and the table "WET Organisms/Test Conditions/End Points" (page 17) to select the proper WET tests.

### Guidelines for Choosing the Correct WET Test Organisms/Conditions/End Points

If the permit requires WET testing with Fathead minnows, *Ceriodaphnia dubia*, *Daphnia magna*, *Daphnia pulex*, *Mysidopsis bahia*, Inland silverside (*Menidia beryllina*) or Sheepshead minnow (*Cyprinodon variegatus*), including temperature, defined in the Test Codes.

If your permit's WET testing conditions for *Ceriodaphnia dubia* specify 48-h acute, non-renewal testing, conduct this test using the static, renewal acute conditions defined by Test Codes 19 and 20. The testing conditions defined for these Test Codes have been proven to provide an appropriate measure of your ability to perform WET testing with *Ceriodaphnia dubia*.

If your permit's WET testing conditions for *Daphnia magna* and *Daphnia pulex* specify 48-h acute renewal testing, you must conduct this test using the non-renewal conditions specified in Test Codes 32 and 38.

If your permit's WET testing conditions require 24, 48, or 96-h acute testing using any of the organisms included in Study 32, use the 48-h acute test conditions specified in the Test Codes.

If your permit requires WET Testing with *Mysidopsis bahia*, Inland silverside (*Menidia beryllina*) or Sheepshead minnow (*Cyprinodon variegatus*) and your laboratory uses an alternate synthetic seawater (e.g. Hawaiian Brands or GP2) other than the 40 Fathoms specified in the Test Codes, your laboratory must still perform testing.

If your permit's WET testing conditions require 20°C acute testing using any of the organisms included in Study 32, use 25°C acute test conditions specified in the Test Codes listed below.

2. Order DMR-QA Study 32 toxicity samples from one of the PT Providers (see page 9). Be sure to allow yourself enough time to perform the analyses before the closing date of DMR-QA Study 32 (July 6, 2012).

3. Record your ungraded analytical data and your EPA Lab Code number on the Data Report Form received with your samples. Be sure to follow the PT Provider's instructions and deadlines received with the samples.

4. Use of the U.S. EPA-assigned Lab Code on all reported results is required. If you need a new U.S. EPA Lab Code or need to verify your current code, contact Mr. Charles Feldmann (contact information found on page 4, step #4).

5. Send the ungraded data requested by each of your permittees to the PT Provider for grading. You need to send it to the same PT Provider that you received samples from. Make sure you provide the DMR-QA Study 32 study results by July 6, 2012.

6. The PT Provider will grade your results and send the graded results to you by July 27, 2012. If the PT Provider is submitting graded results sorted by permit number to the state DMR-QA coordinator, then you should register your permittees' permit numbers associated with each required analyte with the PT Provider prior to the close of DMR-QA Study 32 or the WP study. Forward the graded results of the analytes to the permittee by August 10, 2012 so the permittee can fill out the analyte checklist on page 17.

7. If corrective action is required, notify the permittee. Laboratories need to order retesting samples by **August 24, 2012**. You need to identify and report the causes and all system changes to correct the discrepancies and avoid a recurrence. This corrective action letter and graded retest report need to be forwarded to the permittee as soon as possible.
8. Maintain a copy of all completed order forms for your records.

**References Manuals for WET Tests (see <http://www.epa.gov/waterscience/WET>)**

All tests must be conducted according to the standard methods published in the following EPA manuals. Please consult these manuals for proper test, culturing, and water preparation guidance.

1. *Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, Fifth Edition*, October 2002. U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 821-R-02-012.
2. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, October 2002. U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 821-R-02-013.
3. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition*, October 2002. U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 821-R-02-014.
4. EPA, 2000d. *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)*. U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA/821/B-00/004.

### Accredited Proficiency Testing Providers

Find the following PT Providers on the internet at: <http://www.nelac-institute.org/ptproviders.php>

NELAC-Accredited Provider		Chem	Micro	WET
Environmental Resource Associates (ERA), Arvada, CO Mr. Shawn Kassner (303) 431-8454 or (800) 372-0122 skassner@eraqc.com www.eraqc.com	X	X	X	X
Absolute Standards, Inc., Hamden, CT Mr. Stephen Arpie (203) 281-2917 or (800) 368-1131, stephen@absolutestandards.com www.absolutestandards.com	X	X	X	
Resource Technology Corporation (RTC), Laramie, WY Ms. Jennifer Jones (307) 742-5452 or (800) 576-5690, jones@rt-corp.com www.rt-corp.com	X	X	X	X
Wibby Environmental, Golden, CO Mr. Chuck Wibby (303) 940-0033 or (866) 942-2978, cwibby@wibby.com www.wibby.com	X	X	X	X
NSI Solutions, Inc., Raleigh, NC Mr. Mark Hammersla (919) 957-9672 or (800) 234-7837, mark.hammersla@nsi-es.com www.nsi-es.com	X	X	X	
NYS DOH Environmental Laboratory Approval Program, Albany, NY Dr. Kenneth Aldous (518) 474-7161, elap@health.state.ny.us	X	X	X	



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 Helena, MT 59620-0901  
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 Ltucker@mt.gov  
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 Donna Garden  
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 CNM Division of Environmental  
 Quality  
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 & Natural Resources  
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 tim.flor@state.sd.us  
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 Tennessee DEC  
 Division of Water Pollution Control  
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# EPA Regional DMR-QA Coordinators

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 Seattle, WA 98101  
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**Your coordinator may change. Please consult:**  
<http://www.epa.gov/compliance/contact/monitoring-dmr-state.html>  
**and**  
<http://www.epa.gov/compliance/contact/monitoring-dmr.html>  
**for the latest list of coordinators**  
**For additional questions, contact:**

**US EPA Headquarters**  
 Brian Krausz  
 DMR-QA National Coordinator  
 Office of Compliance  
 1200 Pennsylvania Ave, NW (2223A)  
 Washington, DC 20004  
 (202) 564-3069  
 krausz.brian@epa.gov

1. This is a two-page form.
2. Enter your NPDES permit number at the top of pages 14 and 15.
3. You must fill in the 2-digit **permit extension** field at the top of page 14 if there is an extension for your permit code. If you have one, the extension will appear next to your permit code in the address box on page 14; for example: "NPDES Permittee CA1234567-01." If there is no extension, leave this field blank.
4. Identify each of your laboratories on page 15, including their U.S. EPA Lab code which is a unique identifier number assigned by EPA. (Refer to page 4, item 4 in the Study 32 packet.) (NOTE: The U.S. EPA lab code of the laboratory that produced the data must also appear at the top of the Chemistry/Microbiology and WET testing checklists on pages 16-17.)
5. Make copies of pages 14 and 15. Then attach a copy of these pages to the Chemistry/Microbiology and WET testing checklists. Separate copies of each checklist must be filled out for each laboratory you used. Also, if a laboratory reports more than one method to you for any single analyte, you must use a separate checklist for each method reported. These checklists must indicate the graded results for the analytes tested by the laboratory that are in your permit and required for DMR-QA (Acceptable or Not Acceptable). If you, use a state-certified laboratory to generate your NPDES data in a state that has been granted partial exemption by the EPA Region from the DMR-QA study, check the "Analyte determined by state-certified laboratory" box(es) on the checklists (pages 16 and 17) for all analytes in your permit analyzed by a certified laboratory.
6. Sign and date the certification statement on page 14.
7. Make copies of the NPDES Permittee Data Report form and checklists for your records.
8. Submit the original signed copy of the Permittee Data Packages to the State DMR-QA coordinator **no later than August 24, 2012.**

**Instructions for the NPDES Permittee Data Report Form**

The public reporting and recordkeeping burden for this collection of information is estimated to average 6.3 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, DC 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

**Paperwork Reduction Act Notice**

**ENVIRONMENTAL PROTECTION AGENCY**  
 United States  
 Washington, DC 20460  
 Laboratory DMR-QA Evaluation Study 32  
 Office of Enforcement and Compliance Assurance  
 (These data are collected under the authority of the Federal Water Pollution Control Act.)



# ENVIRONMENTAL PROTECTION AGENCY

United States



Washington, DC 20460

Laboratory DMR-QA Evaluation Study 32

Laboratory Performance Evaluation

Office of Enforcement and Compliance Assurance

(These data are collected under the authority of the Federal Water Pollution Control Act.)

## NPDES Permittee Data Report Form

**Due August 24, 2012**

**Attention:** Follow the instructions on the previous page to complete this form and submit data for evaluation.

NPDES Permit Number  
 State  
 Permit Extension

Permittee Name

Current Permittee Mailing Address

City  State  Zip Code

Phone Number  Fax Number

E-mail

For DMR-QA Study 32, conducted in 2012, the Permittee ensured that their laboratory(s) performing the required analyses:

Received PT Samples  Yes  No  
 Submitted Complete and Accurate Data by July 6, 2012  Yes  No  
 Received a Graded Report by July 27, 2012  Yes  No

### Certification by Permit Holder or Authorized Representative

(as per 40 C.F.R. Section 122.22 - see instructions.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. Each reported value was produced from a single analytical run using the analytical system that routinely performs these analyses to produce compliance monitoring data required under our National Pollutant Discharge Elimination System (NPDES) permit. Neither I nor any of my subordinates compared our results with results from independent analyses conducted by us or any other laboratory before we reported our results to the U.S.EPA. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name of Certifying Official

Title

Signature

Date

Address, phone number and e-mail of certifying official are required if different from above.

Address

Phone Number

E-mail

City  State  Zip Code

**ENVIRONMENTAL PROTECTION AGENCY**



Washington, DC 20460  
 Laboratory DMR-QA Evaluation Study 32  
 Laboratory Performance Evaluation  
 Office of Enforcement and Compliance Assurance  
 (These data are collected under the authority of the Federal Water Pollution Control Act.)

Permittee Name  State  NPDES Permit No.  Permit Extension

**Identification of all CHEM, MICRO and WET laboratories who did analyses for this permit**

Name of Laboratory	Address of Laboratory	U.S. EPA Lab Code	Lab Analysis			State-certified laboratory**
			Check box(es) that apply	WET	Micro	

<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						

\* Lab Types: C = Commercial F = Federal G = Local Government I = Industrial O = Other S = State  
 \*\* See Footnote 2 on DMR-QA Study 32 Fact Sheet

If you need additional space, please make a copy of this page for additional laboratories.

Permittee name \_\_\_\_\_ State \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_ EPA Lab Code \_\_\_\_\_

**Chemistry/Microbiology Analyte Checklist**

DMR-QA Study 32

Analyte Test	Test Required	Laboratory's Graded Result		Analyte determined by state-certified laboratory*
		Acceptable	Not Acceptable (Corrective Action Required)	

Microbiology	Signature	Date
coliform	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>	<input type="checkbox"/>
Trace Metals		
Aluminum	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, total	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>	<input type="checkbox"/>
Mercury (Low Level)	<input type="checkbox"/>	<input type="checkbox"/>
Niobium	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input type="checkbox"/>	<input type="checkbox"/>
Selenium	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input type="checkbox"/>	<input type="checkbox"/>
Sodium	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>	<input type="checkbox"/>
Demands		
5 day BOD	<input type="checkbox"/>	<input type="checkbox"/>
20 day Carbonaceous BOD	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>	<input type="checkbox"/>
Alkalinity, total (CaCO <sub>3</sub> )	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO <sub>3</sub> )	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>	<input type="checkbox"/>
Ammonia as N	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>	<input type="checkbox"/>
Thiophosphate as P	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>	<input type="checkbox"/>
Misc. Analytes		
Non-filterable Residue (TSS)	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low Level)	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	<input type="checkbox"/>

# WET Organisms/Test Conditions/End Points Checklist

DMR-QA Study 32

Permittee name \_\_\_\_\_ State \_\_\_\_\_ NPDES Permit No. \_\_\_\_\_ EPA Lab Code \_\_\_\_\_

Analyte Number	Organisms / Conditions	End Points	Test Required	Laboratory's Graded Result		Analyte determined by state-certified laboratory*
				Acceptable	Not Acceptable (Corrective Action Required)	

754	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF 25°C	LC50	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 14/EPA Method 2000</b>						
755	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 15/EPA Method 1000</b>						
756	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
808	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
810	Fathead minnow ( <i>Pimephales promelas</i> ) - MHSF	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 16/EPA Method 1000</b>						
759	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
812	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
814	Fathead minnow ( <i>Pimephales promelas</i> ) - 20% DMW	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 19/EPA Method 2002</b>						
764	<i>Ceriodaphnia dubia</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 20/EPA Method 2002</b>						
765	<i>Ceriodaphnia dubia</i> - 20% DMW 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 21/EPA Method 1002</b>						
766	<i>Ceriodaphnia dubia</i> - MHSF	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
767	<i>Ceriodaphnia dubia</i> - MHSF	IC25 REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
768	<i>Ceriodaphnia dubia</i> - MHSF	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 22/EPA Method 1002</b>						
769	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
770	<i>Ceriodaphnia dubia</i> - 20% DMW	IC25 REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
771	<i>Ceriodaphnia dubia</i> - 20% DMW	NOEC REPRODUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 32/EPA Method 2021</b>						
788	<i>Daphnia magna</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 38/EPA Method 2021</b>						
794	<i>Daphnia pulex</i> - MHSF 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 42/EPA Method 2007</b>						
798	<i>Mysid (Mysidopsis bahia)</i> 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 43/EPA Method 1007</b>						
799	<i>Mysid (Mysidopsis bahia)</i>	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
816	<i>Mysid (Mysidopsis bahia)</i>	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
818	<i>Mysid (Mysidopsis bahia)</i>	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 44/EPA Method 2006</b>						
803	Inland silverside ( <i>Menidia beryllina</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 45/EPA Method 1006</b>						
824	Inland silverside ( <i>Menidia beryllina</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
825	Inland silverside ( <i>Menidia beryllina</i> )	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
826	Inland silverside ( <i>Menidia beryllina</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 46/EPA Method 2004</b>						
804	Sheepshead minnow ( <i>Cyprinodon variegatus</i> ) 25°C	LC50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Test Code 47/EPA Method 1004</b>						
805	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC SURVIVAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
820	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	IC25 (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
822	Sheepshead minnow ( <i>Cyprinodon variegatus</i> )	NOEC (ON) GROWTH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

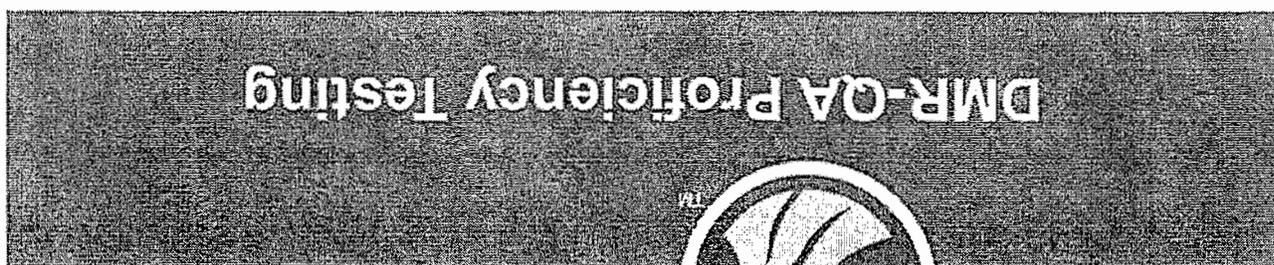
Report Issued Date: 07/27/12

Close Date: 07/06/12

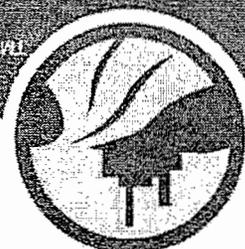
Open Date: 03/19/12

DMR-QA Study

NPDES Permit: MO0023221



*Final Report*



**DMR-QA 32**

Ronny Smith  
Macon Municipal Utilities  
32319 Vine St. Road  
Macon, MO 63552

A Waters Company





A Waters Company

July 27, 2012

Ronny Smith  
Macon Municipal Utilities  
32319 Vine St. Road  
Macon, MO 63552

Enclosed is your final report for ERA's DMR-QA 32 Proficiency Testing study. Your final report includes an evaluation of every result submitted to your permit. Please note that reports were sent on your behalf to your state or regional DMR-QA coordinator. As the permit holder, you are required to review and sign the attached forms and forward them to your DMR-QA coordinator. Your Certificate of Recognition will be mailed at a later date.

If you have any "Not Acceptable" evaluations for the DMR-QA 32 study, a letter of corrective action and an order form for the required remedial samples are attached for your convenience. If you have a "Not Acceptable" evaluation, but there is not an order form or a list of standards for your in-house or outside laboratories, ERA recommends that you contact your DMR-QA Coordinator for their corrective action requirements, if any.

Thank you for your participation in ERA's DMR-QA 32 Proficiency Testing study. If you have any questions, please contact the proficiency testing department, or me, at 1-800-372-0122.

Your DMR-QA coordinator is:

USEPA Region VII  
Robert Bryant  
Water Enforcement  
901 North Fifth Street  
Kansas City, KS 66101  
Phone: 913-551-7354  
Fax: 913 551-7765  
bryant.robert@epa.gov

Sincerely,

A handwritten signature in black ink, appearing to read "Jay R. McBurney".

Jay R. McBurney  
Quality Program Manager  
attachments  
jrm



# DMRQA-32 Definitions & Study Discussion

Study Dates: 03/19/12 - 07/06/12

Report Issued: 07/27/12

## DMRQA Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are compliant with the current FoPT tables. A parameter not added to the standard is given an Assigned Value of "> PTRL" per the guidelines contained in the 2009 TNI Standards. The assigned values are directly traceable to the commercially prepared starting materials used to manufacture the PT standards.

The Acceptance Limits are established per the criteria contained in the most current TNI FoPT tables, or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable.

The Performance Evaluation:

Acceptable = Reported Value falls within the

Acceptance Limits.

Not Acceptable = Reported Value falls outside the

Acceptance Limits.

No Evaluation = Reported Value cannot be evaluated.

Not Reported = No Value reported.

The Method Description is the method the laboratory reported to ERA.

## DMRQA Study Discussion

ERA's DMR-QA 32 Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standards and the criteria contained in the current TNI FoPT tables.

ERA's DMR-QA 32 study standards were examined for any anomalies. A full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes met the acceptance criteria contained in the 2009 TNI PT Standard and the criteria contained in the current TNI Fields of Proficiency Testing (FoPT) tables.

The data submitted by participating laboratories was also examined for study anomalies. There were no anomalies observed during the statistical review of the data.

ERA's DMR-QA 32 study reports shall not be reproduced except in their entirety and not without the permission of the participating laboratories. The report must not be used by participating laboratories to claim product endorsement by any agency of the U. S. government.

The data contained herein are confidential and intended for your use only.

If you have any questions or concerns regarding your assessment in ERA's DMRQA Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.

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A Waters Company

**Packing Slip**

Bill To:

Macon Municipal Utilities  
 32319 Vine St Rd  
 Macon, MO, USA 63552  
 Accounts Payable

Ship To:

Macon Municipal Utilities  
 32319 Vine St Rd  
 Macon, MO, USA 63552  
 Ronny Smith

Email Address: mmuwwt@cvalley.net

(660) 385-2532

Order Comments:



QTY	CAT #	Product	Type	Lot #	Study #
1	4030	Solids, Concentrate	PT	Q032-4032	DMROA 32
1	577	pH	PT	Q032-977	DMROA 32
1	578	Demand	PT	Q032-516	DMROA 32
		NET 30	Purchase Order # 9147		Order # 1-4JJJB031912FE
		Payment Terms	Shipping Method		
		FEDEX ECON			

**REPORT ANY PROBLEMS WITHIN 5 DAYS**

Please check all items in the shipment against the attached packing list **immediately** upon receipt. ERA will **immediately** replace any broken or incorrect items related to this shipment that are reported within 5 business days.

**CALL ERA CUSTOMER SERVICE AT 1-888-372-0122 FOR PROBLEMS WITH THIS SHIPMENT**

All products Country of Origin: USA  
 Unless otherwise specified.  
 646679

Invoice #	646679
Customer #	M097221
Date	3/19/2012
Page	1 of 1



**Customer Number: M097221**  
**Macon Municipal Utilities**  
**32319 Vine St Rd**  
**Macon, MO 63552**

**DMR-QA 32 Study**  
Close Date: July 6, 2012

*Online data entry at [www.eraqc.com](http://www.eraqc.com)*



**DMR-QA 32 Proficiency Testing**  
**Instructions and Data Reporting Package**



Please call ERA at 1-800-372-0122 if you have any questions.

If you have any questions or would like further assistance please call 1-800-372-0122.

Order forms and other helpful information related to the DMR-QA 32 study can be found at [www.DMRQA.com](http://www.DMRQA.com)

DMR-QA Reporting Instructions: ERA has posted easy-to-follow, step-by-step DMR-QA reporting instructions for both contract laboratories and permit holders on the eData™ site. These instructions will take you from creating a password to generating your final reporting package, which will include your EPA forms and analyst checklists.

### Announcements:

The easiest and most efficient way to report your data is to use eDATA™, ERA's online data entry system, by visiting [www.eraqc.com](http://www.eraqc.com). You can enter or edit data up until midnight of the day the study closes. The morning after the close of the study the preliminary assigned values and preliminary acceptance limits will be available for you to compare your results. Approximately 21 days after the close of the study your final report will be available in PDF format.

### Online Data Entry:

Many state accrediting agencies are now requiring electronic results from PT providers for their laboratories' certification. Without a USEPA lab code your results may not be accepted for this study. Whether reporting your results on the enclosed data reporting forms or using eDATA™, please report your USEPA Lab Code. If you do not know your EPA lab code, please contact Charles Feldmann at the USEPA (1-513-569-7671).

### USEPA Lab Code Required:

Environmental Resource Associates  
Attn: PT Group  
16341 Table Mountain Parkway  
Golden, Colorado 80403

If mailing results please use the following address:

All results must be reported to ERA no later than 12:00 midnight (Mountain Time), on the above date. You may mail your results, fax them to 1-720-898-6382 or enter them online via ERA's eDATA™ data entry site.

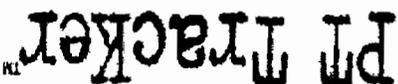
**DMR-QA 32 Study Close Date: Friday, July 06, 2012**

Please forward this information to the person responsible for analyzing and reporting samples for the DMR-QA 32 study.

## DMR-QA 32 INSTRUCTIONS

# IMPORTANT

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## Completing the Data Reporting Cover Sheet

- **USEPA Lab Code:** Enter your Lab Code as assigned by the EPA. If you need a USEPA Lab Code contact USEPA-NERL at 513-569-7671.
- **Laboratory Address:** Enter the mailing address where your final report should be sent.
- **Attestation Statement:** Your Official Laboratory Contact must read, sign and return the Attestation Statement to EPA before we can release your PT results.

## Submitting Your Results

Enter your results online using *eDATA™* at [www.eraqc.com](http://www.eraqc.com).

You can also fax your results to ERA at (720) 898-6382 or mail them to:

ERA  
PT Data Group  
6000 West 54<sup>th</sup> Avenue  
Arvada, CO 80002

## Quality Control

NELAC and most other accrediting authorities require laboratories to treat proficiency testing samples in the same manner that they treat routine samples. This includes the lab's frequency and procedures for analyzing quality control samples.

The best way to ensure consistently high quality for all of your analyses is to have a regular program for analyzing quality control samples. Such a program should consist of the routine analysis of independently prepared and verified QC samples that test your entire preparation and analysis process. Please contact ERA at 1-888-372-0122 if you would like assistance establishing or streamlining your QC program.

## Contact Us

If you have any questions concerning any aspect of the DMR-QA Study, please do not hesitate to call ERA customer service at 1-888-372-0122.

## Safety

ERA products may be hazardous and are intended for use by professional laboratory personnel trained in the competent handling of such materials. Responsibility for the safe use of these products rests entirely with the buyer and/or user. Material Safety Data Sheets (MSDS) for all ERA products are available by calling 1-800-372-0122.



**DMR-QA PT Study**

**Reporting Instructions**

Revision 02/05/2010

**Reporting Results**

- Note that all parameters listed for each chemistry standard in this study are required by EPA/NELAC to be present at concentrations within the ranges shown. As described later, ERA has included some "Additional" bonus chemistry analytes that are of wide interest. Obviously, the analysis of these Additional analytes is voluntary. These analytes will be evaluated using the EPA/NELAC Water Pollution (WP) criteria.
- All analytes listed on the data reporting forms will be present in the DMR-QA standards provided. Please verify that your analytical methods are sensitive enough to produce data down to the PTRL shown for each analyte on its respective instruction sheet. Following the EPA/NELAC evaluation criteria, any chemistry result reported as "<" (less than) or "0" (zero) will be evaluated as "Not Acceptable";
- Do not report results using alpha characters (e.g., ND, Not Detected, BDL, less than, etc.). For USEPA chemistry analytes, these results are reported as "No Evaluation";
- Only fill in the "<" mark sense oval when you need to report a less than value.
- NEVER report a chemistry result with a ">" symbol attached to it. These results are always scored as "Not Acceptable";
- WET analytes may be reported using a ">" symbol if your results require this.
- If you leave a results line blank, you will not be evaluated for that analyte.
- Please report all chemistry and quantitative WET results to three significant figures.
- For each analyte, report the date the sample was analyzed.
- Please include a method reference for each result that you report. Report your method references using the following standardized code.
- Identify the method publisher using the following acronyms:
  - US Environmental Protection Agency – EPA
  - Standard Methods – SM
  - American Society for Testing Materials – ASTM
  - US Geological Survey – USGS

- Examples: If you are using Standard Methods 18<sup>th</sup> Edition 4500-NH<sub>3</sub>-b, you would report SM4500NH3 B 18th. If you are using method 150.1, EPA publication 1982 for pH, you would report EPA150.1 1982.
- If using an in-house method, list the title of the method as completely as possible. You can use up to 15 alphanumeric characters to report each method reference. A reference of "Lab PBMS 015" is acceptable. Please include the method revision date or edition with your method description if you have been instructed to provide that information by your state. This will allow ERA to report the appropriate TNI method code to your agency.
- To increase the accuracy of your final report:
  - Fill in all necessary mark sense ovals completely.
  - Enter only one character per box.
  - Print results as legibly as possible.

**Additional WET Guidance**

- NOBC analytes – Per the USEPA *Criteria Document*, report only test endpoints of <6.25, 6.25, 12.5, 25.0, 50.0, 100 or >100%. Any other reported endpoints will be evaluated as "Not Acceptable";
- non-NOBC analytes – Per the USEPA *Criteria Document*, report only test endpoints of "<6.25", ">100" or values from 6.25 to 100%. Any other endpoints will be evaluated as "Not Acceptable";
- Per USEPA guidance, any endpoint reported using alpha characters (e.g., ND, Not Detected, BDL, etc.) is evaluated as "No Evaluation";

Continued on Back



If you have any questions concerning the instructions listed in this portion of your PT Data Package please feel free to call ERA's Technical Staff at 1-800-372-0122.

This section contains the preparation instructions for all Proficiency Testing samples that you have ordered.

# DMR-QA 32 PT Sample Dilution Instructions

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This section contains the data reporting forms for all DMRQA  
Proficiency Testing samples you have ordered.

# DMR-QA 32 PT Data Reporting Forms

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# DMR-GA 32 Data Reporting Form

ERA Customer Number: M097221

Lab Name: Macon Municipal Utilities

## A) LABORATORY INFORMATION

Below is the information we currently have on file for your laboratory. Please note that the address shown below is where your final report will be sent. If there are any corrections, please fill in the boxes below the appropriate heading.

Lab Name: Macon Municipal Utilities

Mailing Address: 32319 Vine St Rd

\_\_\_\_\_

City: Macon  
ST: MO

Email Address: mmmwtt@cvalley.net

## B) Where would you like ERA to send your final report?

By participating in ERA's Proficiency Testing Study, you will automatically receive a Final Report approximately 21 days after the study closes. To authorize ERA to send a report to your accrediting authority, please fill in the oval to the left of the accrediting authority(ies) to whom you wish ERA to send your Final Report:

<input type="radio"/> Iowa	<input type="radio"/> Nevada	<input type="radio"/> North Carolina (WP)	<input type="radio"/> North Dakota	<input type="radio"/> Virginia	<input type="radio"/> Washington
State ID	State ID	State ID	State ID	State ID	State ID

The agencies listed here will accept DMR-GA for state wastewater or WP accreditation. Only select one of these states if you wish to report data for state WP accreditation.

## C) Read and sign the ATTESTATION STATEMENT

Per the requirements of the USEPA's National Standards Criteria Document, please read this attestation statement. By affixing your signature below, you attest that the results have met the following criteria. 1) No results, or any other aspect of the study, have been revealed to or discussed with any unauthorized person or other laboratory prior to the close of the study. 2) The standards for which you are submitting results were not analyzed by any other laboratory. 3) Your laboratory has not knowingly received standards from any other laboratories. 4) No information was solicited from ERA or any other laboratories concerning the assigned values or acceptance ranges for the standards until the close of the study. 5) All analyses met the criteria for the regulatory agencies to which the results are being sent.

Official Laboratory Signature: \_\_\_\_\_

Official Laboratory Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_

Printed Name of Signator: \_\_\_\_\_

\_\_\_\_\_





A Waters Company

Lab Name: Macon Municipal Utilities

D) Enter OTHER ENTITIES

ERA Customer Number: M097221

DMR-GA 32 Data Reporting Form

In addition to sending your report to your accrediting authority, you may authorize ERA to send copies of your report to other entities (e.g. customers, corporate QA officers, etc.) by simply filling in the information below. If you need ERA to submit your final report to more than two third parties, please photocopy this form.

Company: [ ]

Attention: [ ]

Email: [ ] Phone: [ ]

Mailing Address: [ ]

City: [ ] ST: [ ] Zip: [ ]

Company: [ ]

Attention: [ ]

Email: [ ] Phone: [ ]

Mailing Address: [ ]

City: [ ] ST: [ ] Zip: [ ]

- Return the Data Reporting Cover Sheet plus your "DMR-GA 32 DATA REPORTING FORM(S)" to ERA by Fax or Mail.
- ERA's tax number is 1-720-898-6382
- Total pages: \_\_\_\_\_
- Questions? See the DMR-GA 32 Data Reporting Instructions or call ERA at 1-800-372-0122.







A Waters Company

**DMR-GA 32 Data Reporting Form**

Lab Name: Macon Municipal Utilities

NPDES Permit #:

Permittee Name:

USEPA Lab Code: M000966

**INSTRUCTIONS:**

Please fill in the results, methods references and analysis dates for the analyte(s) you wish to report for the DMR-GA 32 study. Questions? See the Data Reporting Instructions section of your Data Package or call ERA at 1-800-372-0122. Please photocopy this form if you are reporting multiple methods.

**DMRGA Solids Concentrate (cat# 4030)**

Please include Rev/Edition below if required by your agency (20th, 21st, etc.)

TNI Code	Analyte	Units	Reported Value	Method Description & Rev/Edition	Analysis Date (mm-dd)	Rpt Date
1960	Non-Filterable Residue (TSS)	mg/L	<			
1955	Total Dissolved Solids at 180°C	mg/L	<			
1950	Total Solids at 105°C	mg/L	<			

\*For Permittee use only: Place an "X" in the box to the right of each analyte that is required in routine NPDES monitoring and should be included on the Final Permittee DMR-GA 32 report.

**Optional section. Please use to specify Analyst and Work Group.**

TNI Code	Analyte	PTRL Concentration Range	Analyst	Work Group
1960	Non-Filterable Residue (TSS)	14.0		
1955	Total Dissolved Solids at 180°C	98.0		
1950	Total Solids at 105°C	106		



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





A Waters Company

**DMR-GA 32 Data Reporting Form**

ERA Customer Number: M097221

Lab Name: Macon Municipal Utilities

NPDES Permit #:  -

Permittee Name:

USEPA Lab Code: M000966

**INSTRUCTIONS:**

Please fill in the results, methods references and analysis dates for the analyte(s) you wish to report for the DMR-GA 32 study. Questions? See the Data Reporting Instructions section of your Data Package or call ERA at 1-800-372-0122. Please photocopy this form if you are reporting multiple methods.

**DMRGA Demand (cat# 578)**

Please include Rev/Edition below if required by your agency (20th, 21st, etc.)

TNI Code	Analyte	Units	Reported Value	Method Description & Rev/Edition	Analysis Date (mm-dd)	Rpt For DMR
1530	BOD	mg/L	<			<input type="checkbox"/>
1555	CBOD	mg/L	<			<input type="checkbox"/>
1565	COD	mg/L	<			<input type="checkbox"/>
2040	TOC	mg/L	<			<input type="checkbox"/>

\*For Permittee use only: Place an "X" in the box to the right of each analyte that is required in routine NPDES monitoring and should be included on the Final Permittee DMR-GA 32 report.

**Optional section. Please use to specify Analyst and Work Group.**

TNI Code	Analyte	PTL	Concentration Range	Analyst	Work Group
1530	BOD	4.50	15.0 to 250		
1555	CBOD	3.70	15.0 to 250		
1565	COD	17.0	30.0 to 250		
2040	TOC	4.80	6.00 to 100		





REPORT OF ACUTE TOXICITY TESTING  
Macon Wastewater Treatment Facility  
Outfall 001 (24 hour composite) AEC = 100%  
MO-0023221  
EAS LOG# 1501703  
July 25, 2012 through July 27, 2012

Tests performed by:

John P. Clippard / Chemical Analyst at Environmental Analysis South (EAS)  
Kelly J. Ray / Biologist at Environmental Analysis South (EAS)  
Sara C. Shields / Lab Supervisor - Chemist at Environmental Analysis South (EAS)  
David F. Warren / Lab Director - Chemist at Environmental Analysis South (EAS)

1. Report Summation

1.1. Data Summation

1.2. Conclusion

2. Method Summation

2.1. Test Conditions and Methods

2.2. Potassium chloride Reference Salt Test

2.2.1. *Pimephales promelas* data

2.2.2. *Ceriodaphnia dubia* data

2.3. Literature Cited

3. Raw Data Bench Sheets

3.1. Initial observations (page 1)

3.2. Zero hour Observations (page 1)

3.3. Twenty-four (24) hour Observations (page 1)

3.4. Forty-eight (48) hour Observations (page 1)

3.5. Survival Data Table (page 2)

3.6. Test Comments (page 3)

4. Chain of Custody

5. MO DNR "Whole Effluent Toxicity (WET) Test Report (Form 780-1899)

Sara C. Shields, Chemist

Approved by



Based on these results the outfall passed the whole effluent toxicity test with both indicator species.

**Conclusion:**  
 Pimephales promelas 48 hour WET results: LC 50 > 100% by the Graphical Method  
 NOAEC = 100% using Steel's Many-One Rank Test  
 Ceriodaphnia dubia 48 hour WET results: LC 50 > 100% by Trimmed Spearman-Kärber  
 NOAEC = 100% using Steel's Many-One Rank Test

\* Indicates a significant difference at alpha = 0.5 between effluent and control survival data.

Test Solution	Pimephales promelas Acute Toxicity Test 48 Hour Survival	Ceriodaphnia dubia Acute Toxicity Test 48 Hour Survival
Reconstituted Control (RC)	100%	100%
Upstream Control (UC)	N/A	N/A
6.25% Effluent	100%	90%
12.5% Effluent	100%	95%
25% Effluent	100%	100%
50% Effluent	100%	100%
100% Effluent	100%	95%
Estimated 48 Hour LC <sub>50</sub> Value	> 100% Effluent	> 100% Effluent
To Pass: 1. Effluent - LC50 must be > 100% and 2. All concentrations = or < AEC must not have significant difference to control in survival.	1. Yes 2. Yes	1. Yes 2. Yes
Result of Toxicity Test	PASS	PASS

1.1. Multiple Dilution Data Summation

1. REPORT SUMMATION:

REPORT OF ACUTE TOXICITY TESTING  
 Macon Wastewater Treatment Facility  
 Outfall 001 (24 hour composite) AEC = 100%  
 MO-0023221  
 EAS LOG# 1501703  
 July 25, 2012 through July 27, 2012

Environmental Analysis South, Inc. 1700 East Jackson Blvd. • Jackson, MO 63765 • 573-204-8817 • Fax 573-204-8818

Environmental Analysis South, Inc.





**REPORT OF ACUTE TOXICITY TESTING**  
 Macon Wastewater Treatment Facility  
 Outfall 001 (24 hour composite) AEC = 100%  
 MO-0023221  
 EAS LOG# 1501703  
 July 25, 2012 through July 27, 2012

**2. TEST METHOD SUMMARY**

**2.1. TEST CONDITIONS AND METHODS:**

<i>Ceriodaphnia dubia</i>	<i>Pimephales promelas</i>
Test duration: 48 hours	48 hours
Temperature: 24 - 26 degree Celsius	24 - 26 degree Celsius
Light quality: Ambient laboratory illumination	Ambient laboratory illumination
Photoperiod: 16 hour light, 8 hours dark	16 hour light, 8 hours dark
Control Water: Moderately Hard Reconstituted Water	Moderately Hard Reconstituted Water
Dilution Water: Upstream Water - If unavailable or toxic, then control water will be used.	Upstream Water - If unavailable or toxic, then control water will be used.
Size of test vessel: 30 milliliters	250 milliliters
Volume of test solution: 15 milliliters	200 milliliters
Age of test organisms: <24 hours	1 - 14 days (all same age)
Number of organisms/test vessel: 5	10
Number of replicates/concentration: 4	2
Number of organisms/concentration: 20	40 for a single dilution test and 20 for a multiple dilution test
Feeding regime: None (fed prior to test)	None (fed prior to test)
Aeration: None	None
Test acceptability criterion: 90% or greater survival in controls	90% or greater survival in controls

The methodology used for the chemistry data was taken from the *Standard Methods for the Examination of Water and Wastewater*, 18<sup>th</sup> edition (1992). The exception was hardness, which was determined using a Hach EDTA titration test kit. The toxicity tests follow guidelines laid out in the permittee's NPDES permit and were conducted according to EPA approved methods (USEPA 2002).

All test organisms were cultured according to EPA approved methods (USEPA 2002). The *Ceriodaphnia dubia* and the *Pimephales promelas* were obtained from C-K Associates Inc. located in Baton Rouge, Louisiana and shipped overnight for use in the whole effluent toxicity test.



**REPORT OF ACUTE TOXICITY TESTING**

**Macon Wastewater Treatment Facility**  
**Outfall 001 (24 hour composite) AEC = 100%**

**MO-0023221**

**EAS LOG# 1501703**

**July 25, 2012 through July 27, 2012**

**2.2. REFERENCE TOXICITY TEST:**

Environmental Analysis South performs monthly reference toxicity tests. The most recent reference test was initiated on July 11, 2012 using KCL Lot #41713. Following are the results:

**2.2.1. *P. promelas* - 48 hr. Acute Test - LC<sub>50</sub> = 0.900 g/l 95%CI (0.710 g/l - 1.089 g/l)**  
EAS %CV = 10.5%

**National Warning Limits (75<sup>th</sup> percentile) = 19%CV**  
**National Control Limits (90<sup>th</sup> percentile) = 33%CV**

**2.2.2. *C. dubia* - 48 hr. Acute Test - LC<sub>50</sub> = 0.490 g/l 95%CI (0.343 g/l - 0.636g/l)**  
EAS %CV = 14.9%

**National Warning Limits (75<sup>th</sup> percentile) = 29%CV**  
**National Control Limits (90<sup>th</sup> percentile) = 34%CV**

**2.3. LITERATURE CITED:**

1. APHA. 1992. *Standard methods for the examination of water and wastewater*, 18th Ed. American Public Health Association, Washington, D.C.
2. USEPA. 2002. *Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms*, 5th Ed. EPA-821-R-02-012
3. USEPA 2000. *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications under the National Pollutant Discharge Elimination System*, (Table B-2). June 2000. EPA 833-R-00-003.

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027  
Fifth Edition October 2002

CLIENT NAME: Macon Wastewater Treatment Facility, Outfall 001, 24 hr composite

NPDES NUMBER: MO-0023221

TYPE OF METHOD: multiple dilution, 48 hr no-renewal WET, PP and CD species AEC=100%

DATE & TIME OF COLLECTION: 07/23/12 - 07/24/12 by City of Macon

DATE & TIME OF SUBMISSION: 07/25/12 0910 hrs by Fed Ex

Upstream: Sewer Creek

Not available

INITIAL OBSERVATIONS	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	INT EFFL	INT UC	INT RC	X %AEC
LOG NUMBER / ID NUMBER						1501703		RC4044	
pH - SU	07/25/12	0930 hrs	SCS	SB114 (8.8-9.2)	8.88	7.73		7.77	
TEMPERATURE °C RECEIVED	07/25/12	0930 hrs	SCS	EAS 106		4		24	
SPECIFIC CONDUCTANCE umhos	07/25/12	0930 hrs	SCS	ERA203-506 (458-522)	494	897		249	
HARDNESS - ppm	07/25/12	0930 hrs	SCS	ERA P170-507(107-134)	120	280		80	
CHLORINE - ppm	07/25/12	0930 hrs	SCS	tap water	+	<0.04		<0.04	
DISSOLVED OXYGEN - ppm	07/25/12	0930 hrs	SCS	cal@840		7.99		8.42	
TOTAL ALKALINITY - ppm	07/25/12	1600 hrs	SCS	ERA P203-506(105-124)	111.0	159		63.7	
INITIAL AMMONIA - ppm	07/30/12	1200 hrs	SCS	EAS #2446 (8-12)	10.2	0.085		<0.05	
TOTAL DISSOLVED SOLIDS - ppm									
0 HOUR OBSERVATIONS									
pH - SU	07/25/12	1100 hrs	SCS	SB114 (8.8-9.2)	8.88	7.67	UC	7.28	12.50%
TEMPERATURE °C	07/25/12	1100 hrs	SCS	EAS 106		24.3	UC	24.5	7.42%
SPECIFIC CONDUCTANCE umhos	07/25/12	1100 hrs	SCS	ERA203-506 (458-522)	494	240	UC	877	24.2%
DISSOLVED OXYGEN - ppm	07/25/12	1100 hrs	SCS	cal@840		8.3	UC	8.4	555%
								8.4	8.5%
									6.25%
									7.56%

24 HOUR OBSERVATIONS - PP	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.50%	X %AEC
pH - SU	07/26/12	1100 hrs	SCS	SB114 (8.8-9.2)	8.89	7.26	UC	7.46	7.33	7.31	7.35	7.17
TEMPERATURE °C	07/26/12	1100 hrs	SCS	EAS 106		25.1	UC	25.1	25.1	25.1	25.1	25.1
SPECIFIC CONDUCTANCE umhos	07/26/12	1100 hrs	SCS	ERA203-506 (458-522)	5.07	258	UC	898	582	401	323	284
DISSOLVED OXYGEN - ppm	07/26/12	1100 hrs	SCS	cal@840		8.8	UC	7.3	7.4	7.5	7.7	8
48 HOUR OBSERVATIONS - PP												
pH - SU	07/27/12	1100 hrs	SCS	SB114 (8.8-9.2)	8.86	8.14	UC	100%	50%	25%	12.50%	6.25%
TEMPERATURE °C	07/27/12	1100 hrs	SCS	EAS 106		25.1	UC	7.77	8.14	7.99	8.09	8.23
SPECIFIC CONDUCTANCE umhos	07/27/12	1100 hrs	SCS	ERA203-506 (458-522)	495	275	UC	25.1	25.1	25.1	25.1	25.1
DISSOLVED OXYGEN - ppm	07/27/12	1100 hrs	SCS	cal@840		7.9	UC	987	628	424	337	295
FINAL AMMONIA - ppm	07/27/12	1100 hrs	SCS	EAS #2375 (8-12)			UC	7.9	8.1	8.1	7.9	8.4

24 HOUR OBSERVATIONS - CD	DATE	TIME	ANALYST	QC LOT	QC EXP VALUE	RC	UC	100%	50%	25%	12.50%	X %AEC
pH - SU	07/26/12	1100 hrs	SCS	SB114 (8.8-9.2)	8.89	8.13	UC	7.81	7.84	7.91	7.96	8.02
TEMPERATURE °C	07/26/12	1100 hrs	SCS	EAS 106		25.1	UC	25.1	25.1	25.1	25.1	25.1
SPECIFIC CONDUCTANCE umhos	07/26/12	1100 hrs	SCS	ERA203-506 (458-522)	5.07	247	UC	771	550	402	323	269
DISSOLVED OXYGEN - ppm	07/26/12	1100 hrs	SCS	cal@840		8.6	UC	8.7	8.7	8.8	8.9	9.0
48 HOUR OBSERVATIONS - CD												
pH - SU	07/27/12	1100 hrs	SCS	SB114 (8.8-9.2)	8.86	8.11	UC	7.71	7.79	7.88	7.96	8.04
TEMPERATURE °C	07/27/12	1100 hrs	SCS	EAS 106		25.1	UC	25.1	25.1	25.1	25.1	25.1
SPECIFIC CONDUCTANCE umhos	07/27/12	1100 hrs	SCS	ERA203-506 (458-522)	495	264	UC	862	552	398	324	287
DISSOLVED OXYGEN - ppm	07/27/12	1100 hrs	SCS	cal@840		8.2	UC	8.8	8.8	8.8	8.9	8.8
FINAL AMMONIA - ppm	07/27/12	1100 hrs	SCS	EAS #2375 (8-12)			UC	8.8	8.8	8.8	8.9	8.8

*Handwritten signature*

WHOLE EFFLUENT TEST conducted in accordance with US EPA 600/4-90/027  
Fifth Edition October 2002

Macon Wastewater Treatment Facility, Outfall 001, 24 hr composite EAS LOG# 1501703

Analyst 1: DFW  
Analyst 2: KJR  
Analyst 3: SCS

Date Test Began: July 25, 2012 Time Test Began: 1100 hrs

Date Test Finished: July 27, 2012 Time Test Finished: 1100 hrs

P. promelas (PP) AGE: 7 days HATCH NUMBER: 8434 c-k

PERIOD	RC	UC	100%	50%	25%	12.50%	6.25%	X% AEC
0 HR-PP	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
24 HR-PP	10,10		10,10	10,10	10,10	10,10	10,10	
48 HR-PP	10,10		10,10	10,10	10,10	10,10	10,10	

Ceriodaphnia dubia (CD) AGE: <24 hours HATCH NUMBER: 2634 c-k

PERIOD	RC	UC	100%	50%	25%	12.50%	6.25%	X% AEC
0 HR-CD	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE	ALIVE
24 HR-CD	5,5,5,5		5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	5,5,5,5	
48 HR-CD	5,5,5,5		4,5,5,5	5,5,5,5	5,5,5,5	5,5,5,4	5,5,5,4	

Approved by: *[Signature]*

Date: 07/30/2012





MISSOURI DEPARTMENT OF NATURAL RESOURCES  
 WATER PROTECTION PROGRAM - P.O. BOX 176, JEFFERSON CITY MO, 65102  
**WHOLE EFFLUENT TOXICITY (WET) TEST REPORT**  
 (TO BE ATTACHED TO WET TESTS FOR SUBMISSION TO THE REGULATORY AUTHORITY)

**PART A - TO BE COMPLETED IN FULL BY PERMITTEE**

FACILITY NAME Macon Wastewater Treatment Facility	
PERMIT NUMBER MO-0023221	DATE & TIME COLLECTED EFFLUENT 07/23/12 - 07/24/12
COLLECTOR'S NAME City of Macon	PERMIT OUTFALL NUMBER Outfall # 001
RECEIVING STREAM COLLECTION SITE AND DESCRIPTION Sewer Creek -- not available	
PERMIT ALLOWABLE EFFLUENT CONCENTRATION (AEC) 100%	EFFLUENT SAMPLE TYPE (CHECK ONE) <input checked="" type="checkbox"/> 24HR COMPOSITE <input type="checkbox"/> GRAB <input type="checkbox"/> OTHER
SAMPLE NUMBER EFFLUENT 1501703	UPSTREAM SAMPLE TYPE (CHECK ONE) <input type="checkbox"/> 24HR COMPOSITE <input checked="" type="checkbox"/> GRAB <input type="checkbox"/> OTHER not available
PERMITTED EFFLUENT DAILY MAXIMUM LIMITATION FOR CHLORINE mg/L	PERMITTED EFFLUENT DAILY MAXIMUM LIMITATION FOR AMMONIA mg/L

**PART B - TO BE COMPLETED IN FULL BY PERFORMING LABORATORY**

PERFORMING LABORATORY Environmental Analysis South, Inc.	TEST TYPE Acute Static Non renewal Test Multiple Dilution
FINAL REPORT NUMBER MO 1501703	TEST DURATION 48 hour
DATE OF LAST REFERENCE TOXICANT TESTING July 11, 2012	TEST METHOD Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms
DATE AND TIME SAMPLES RECEIVED AT LABORATORY 07/25/12 0910 hrs by Fed Ex	TEST START DATE AND TIME 07/25/12 1100 hrs
SAMPLE DEOCHLORINATED PRIOR TO ANALYSIS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TEST ORGANISM #1 AND AGE Pimphales promelas 7 days
SAMPLE FILTERED PRIOR TO ANALYSIS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TEST ORGANISM #2 AND AGE Ceriodaphnia dubia < 24 hours
EFFLUENT UPSTREAM	90% OR GREATER SURVIVAL IN SYNTHETIC CONTROL? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
EFFLUENT UPSTREAM	reconstituted control
FILTER MESH SIEVE SIZE? None	EFFLUENT ORGANISM #1 % MORTALITY AT AEC LC50 > 100% Effluent
SAMPLE AERATED DURING TESTING? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	UPSTREAM ORGANISM #1 % MORTALITY RC=0%
pH ADJUSTED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TEST RESULT AT AEC FOR ORGANISM #1 <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL
EFFLUENT UPSTREAM	TEST RESULT AT AEC FOR ORGANISM #2 <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

**MINIMUM REQUIRED ANALYTICAL RESULTS FOR THE 100% EFFLUENT SAMPLE**

PARAMETER	RESULT	METHOD	WHEN ANALYZED
Temperature °C	4	SM18 2550B stored at 4 degree C until test setup	07/25/12 0930 hrs
pH Standard Units	7.73	SM18 4500-H B	07/25/12 0930 hrs
Conductance µMhos	897	SM18 2510B	07/25/12 0930 hrs
Dissolved Oxygen mg/L	7.99	SM18 4500-O G	07/25/12 0930 hrs
Total Residual Chlorine mg/L	<0.04	SM18 4500-CI G	07/25/12 0930 hrs
Unionized Ammonia mg/L	0.085X0.03 < 0.010	SM18 4500-NH3 F @ 25 degree C	07/30/12 1200 hrs
Total Alkalinity mg/L	159	SM18 2320B	07/25/12 1600 hrs
Total Hardness mg/L	280	SM18 2340 C	07/25/12 0930 hrs

\*Recommended by USEPA guidance, not a required analysis.

1 Samples shall only be filtered if indigenous organisms are present that may be confused with, or attack, the test organisms.  
 2 Filters shall have a sieve size of 60 microns or greater.

Where no upstream control is available, enter results from laboratory or synthetic control.

PARAMETER	RESULT	NOTES	WHEN ANALYZED
Temperature °C	0 - 6	Unless received by the laboratory on the same day as collected, values outside this range invalidate the test.	Upon receipt

**PRELIMINARY TEST ACCEPTABILITY MATRIX (FOR USE BY PERMITTEE IN DETERMINING TEST VALIDITY)**

PERMIT ALLOWABLE EFFLUENT CONCENTRATION (AEC): As indicated on permit. Test is invalid otherwise.

EFFLUENT SAMPLE TYPE: As indicated on permit. Test is invalid otherwise.

TEST TYPE: Acute Static Non-Renewal Test or other as indicated on permit. Test is invalid otherwise.

TEST DURATION: Forty-eight (48) hours or as indicated on permit. Test is invalid otherwise.

TEST ORGANISMS: As indicated on permit. Test is invalid otherwise.

DILUTION WATER USED TO ACHIEVE AEC: Upstream receiving water required if available.

TEST METHOD: The only acceptable method is the *most current edition* of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, or other as specifically assigned by EPA for determining NPDES compliance. Test is invalid otherwise.

TEST START DATE & TIME: Unless otherwise specified in writing by EPA, if >36 hours lapse between collection and initiation, test is invalid.

FILTER MESH SIZE: Unless otherwise specified in writing by EPA, if sieve size is smaller than 60 microns, test is invalid.

90% OR GREATER SURVIVAL IN LABORATORY CONTROL(S) (Y/N): If NO, test is invalid.

PARAMETER	RESULT	METHOD	WHEN ANALYZED
Temperature °C	24	SM18 2550B stored at 4 degree C until test setup	07/25/12 0930 hrs
pH Standard Units	7.77	SM18 4500-H B	07/25/12 0930 hrs
Conductance µMhos	249	SM18 2510B	07/25/12 0930 hrs
Dissolved Oxygen mg/L	8.42	SM18 4500-O G	07/25/12 0930 hrs
Total Residual Chlorine mg/L	<0.04	SM18 4500-Cl G	07/25/12 0930 hrs
Unionized Ammonia mg/L	<0.05x0.03<0.010	SM18 4500-NH3 F @ 25 degree C	07/30/12 1200 hrs
Total Alkalinity mg/L	63.7	SM18 2320B	07/25/12 1600 hrs
Total Hardness mg/L	80	SM18 2340 C	07/25/12 0930 hrs

\*Recommended by USEPA guidance, not a required analysis.

**WHOLE EFFLUENT TOXICITY (WET) TEST REPORT**  
 (TO BE ATTACHED TO WET TESTS FOR SUBMISSION TO THE REGULATORY AUTHORITY)

**MINIMUM REQUIRED ANALYTICAL RESULTS FOR THE 100% UPSTREAM SAMPLE**

Water Winker  
8.69  
8.90

MACON WASTEWATER SAMPLING RECORD  
CHAIN OF CUSTODY  
DNR-GA  
32

Sample & Location: Effluent Grab - Parallel Barge

Method: 5 Day B.O.D. Method Description: SM 5210

Range: (5.0 - 10.0) DATE: 4-9-13

Bole No. 54.55  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.56  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.57  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.58  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.59  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.60  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.61  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.62  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.63  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.64  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.65  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.66  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.67  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.68  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.69  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.70  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.71  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.72  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.73  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.74  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.75  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.76  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.77  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.78  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.79  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.80  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.81  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.82  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.83  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.84  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.85  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.86  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.87  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.88  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.89  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.90  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.91  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.92  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.93  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

Bole No. 54.94  
Final 8.8  
Initial 8.8  
mg/L of B.O.D. 1.8

$5.3 + 7.0 = 12.3 \div 2 = 6.15 \text{ mg/L}$   
 $3.24 \div 3 = 1.08 \text{ mg/L}$

Bole No.	Final	Initial	mg/L of B.O.D.
54.95	8.7	8.7	0.0
54.96	8.7	8.7	0.0
54.97	8.7	8.7	0.0
54.98	8.7	8.7	0.0
54.99	8.7	8.7	0.0
55.00	8.7	8.7	0.0
55.01	8.7	8.7	0.0
55.02	8.7	8.7	0.0
55.03	8.7	8.7	0.0
55.04	8.7	8.7	0.0
55.05	8.7	8.7	0.0
55.06	8.7	8.7	0.0
55.07	8.7	8.7	0.0
55.08	8.7	8.7	0.0
55.09	8.7	8.7	0.0
55.10	8.7	8.7	0.0
55.11	8.7	8.7	0.0
55.12	8.7	8.7	0.0
55.13	8.7	8.7	0.0
55.14	8.7	8.7	0.0
55.15	8.7	8.7	0.0
55.16	8.7	8.7	0.0
55.17	8.7	8.7	0.0
55.18	8.7	8.7	0.0
55.19	8.7	8.7	0.0
55.20	8.7	8.7	0.0
55.21	8.7	8.7	0.0
55.22	8.7	8.7	0.0
55.23	8.7	8.7	0.0
55.24	8.7	8.7	0.0
55.25	8.7	8.7	0.0
55.26	8.7	8.7	0.0
55.27	8.7	8.7	0.0
55.28	8.7	8.7	0.0
55.29	8.7	8.7	0.0
55.30	8.7	8.7	0.0

B.O.D. Test Performed By: *M. K. Smith*  
 Method Description: SM 5210 C  
 Dry Sample Wt. - Empty Wt. / mL X 1,000,000 = TSS  
 Dry Wt. - 18.6279 Empty Wt. / 500 ml sample x 1,000,000 = 90  
 Dry Wt. - 19.4992 Empty Wt. / 500 ml sample x 1,000,000 = 82.14  
 Average mg/L = 86.2  
 T.S.S. Test Performed By: *M. K. Smith*  
 Method Description: SM 4500-MB  
 pH = 7.28  
 Range (5.0 - 10.0)

pH Test Performed By: *M. K. Smith*



A Waters Company

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**Contact Name** Ronny Smith

**Order #** 14JJJB

**Contact Phone** 6603852532

**Account** M097221

**Contact Fax** 6603956558

**Date** 3/9/2012

**Contact Email** mmuwwt@valley.net

**Shipping Information:**

**Billing Information:**

32319 Vine St Rd  
Macon MO 63552  
Attn: Ronny Smith

32319 Vine St Rd  
Macon MO 63552  
Attn: Accounts Payable

**Processed By** eragc.com

**Shipping Method** FedEx Econ

**PO # / CC Type** 9147

**Purchase Order:** 9147

**Items in Cart:**

Cat. #	Description	Study	Study Date	Ship Date	Price	Qty.	Total
4030	Solids, Concentrate	DMRQA 32	3/19/2012	3/19/2012	\$77.00	1	\$77.00
577	pH	DMRQA 32	3/19/2012	3/19/2012	\$86.00	1	\$86.00
578	Demand	DMRQA 32	3/19/2012	3/19/2012	\$77.00	1	\$77.00
<b>Sub-Total:</b>							\$220.00
<b>Shipping:</b>							\$30.02
<b>Handling Total:</b>							\$10.00
<b>Sales Tax:</b>							\$0.00
<b>Total Amount Due:</b>							\$260.02

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**LABORATORY INFORMATION**

Macon Municipal Utilities  
 32319 Vine St Rd  
 Macon, MO 63552  
 Customer ID: M097221  
 USEPA ID: M000966  
 Contact: Ronny Smith  
 Contact Title: Supervisor  
 Email: mmuwwwtf@cvalley.net  
 Phone: (660) 385-2532  
 Approval Date: 4/16/2012

**REGULATORY AGENCY INFORMATION**

There are no agencies listed to receive reports.

**THIRD PARTY INFORMATION**

There are no third parties listed to receive reports.

All data points that have changed are bold and colored blue.  
 All data points entered after the close of the study are indicated in red.

**pH (cat# 577)**

Analyte	Units	Reported Value	Method Description (NELAC Code and Revision)	Analysis Date (Analysis)
pH	S.U.	7.28	SM4500H + B online (20105208 online)	4/9/2012

**Solids Concentrate (cat# 4030)**

Analyte	Units	Reported Value	Method Description (NELAC Code and Revision)	Analysis Date (Analysis)
Non-Filterable Residue (TSS)	mg/L	86.2	SM2540C online (20050402 online)	4/9/2012
Total Dissolved Solids at 180°C	mg/L	98.0		
Total Solids at 105°C	mg/L	106		

**Demand (cat# 578)**

Analyte	Units	Reported Value	Method Description (NELAC Code and Revision)	Analysis Date (Analysis)
BOD	mg/L	108	SM5210B online (20135200 online)	4/9/2012
CBOD	mg/L	3.70		
COD	mg/L	17.0		
TOC	mg/L	4.80		

**Values Reported To Permittees**

**pH (cat# 577)**

Analyte	Reported Value	Method Description	NPDES #	Contact	Phone #
pH	7.28	SM4500H + B	MO0023221	Ronny Smith	660-385-2532

**Solids Concentrate (cat# 4030)**

Analyte	Reported Value	Method Description	NPDES #	Contact	Phone #
Non-Filterable Residue (TSS)	86.2	SM2540C	MO0023221	Ronny Smith	660-385-2532

**Demand (cat# 578)**

Analyte	Reported Value	Method Description	NPDES #	Contact	Phone #
BOD	108	SM5210B	MO0023221	Ronny Smith	660-385-2532



A Waters Company

**LABORATORY INFORMATION**

Macon Municipal Utilities  
 32319 Vine St Rd  
 Macon, MO 63552  
 Customer ID: M097221  
 USEPA ID: MO00966  
 Contact: Ronny Smith  
 Contact Title: Supervisor  
 Email: mmuwwt@cvalliey.net  
 Phone: (660) 385-2532  
 Approval Date: 4/16/2012

**REGULATORY AGENCY INFORMATION**

There are no agencies listed to receive reports.

**THIRD PARTY INFORMATION**

There are no third parties listed to receive reports.

All data points that have changed are bold and colored blue.  
 All data points entered after the close of the study are indicated in red.

**pH (cat# 577)**

Analyte	Units	Reported Value	PTRL	Method Description (NELAC Code and Revision)	Analysis Date (Analyst)
pH	S.U.	7.28		SM4500H+ B online (20105208 online)	4/9/2012

**Solids Concentrate (cat# 4030)**

Analyte	Units	Reported Value	PTRL	Method Description (NELAC Code and Revision)	Analysis Date (Analyst)
Non-Filterable Residue (TSS)	mg/L	86.2	14.0	SM2540C online (20050402 online)	4/9/2012
Total Dissolved Solids at 180°C	mg/L	98.0			
Total Solids at 105°C	mg/L	106			

**Demand (cat# 578)**

Analyte	Units	Reported Value	PTRL	Method Description (NELAC Code and Revision)	Analysis Date (Analyst)
BOD	mg/L	108	4.50	SM5210B online (20135200 online)	4/9/2012
CBOD	mg/L	3.70			
COD	mg/L	17.0			
TOC	mg/L	4.80			

Reported Values Last Update 4/16/2012

# Exhibit F

