**IN THE CIRCUIT COURT OF ST. FRANCOIS COUNTY**
**STATE OF MISSOURI**

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| STATE OF MISSOURI ex rel. Chris Koster, the Attorney General of Missouri, and the Missouri Department of Natural Resources<br><br>Plaintiff,<br><br>v.<br><br>TERRE DU LAC UTILITIES CORP. and<br><br>MICHAEL F. TILLEY<br>1628 SOUTH ST. FRANCOIS ROAD<br>BONNE TERRE, MISSOURI 63628<br><br>Defendants. | ) | Case No. 10SF-CC00186 |

**FIRST AMENDED PETITION FOR PRELIMINARY AND PERMANENT INJUNCTION AND CIVIL PENALTIES**

COMES NOW Plaintiff, the State of Missouri, at the relation of Attorney General Chris Koster, the Missouri Department of Natural Resources, and the Missouri Clean Water Commission, and for its First Amended Petition against Defendants Terre Du Lac Utilities Corp. and Michael F. Tilley states as follows:

**Parties**

1. Chris Koster, is the duly elected, qualified, and acting Attorney General of Missouri. The Attorney General is authorized to institute, in the name and on behalf of the state, all civil proceedings at law or in equity

necessary to protect the rights and interests of the State under § 27.060, RSMo 2000[1]. Section 644.076, RSMo, of the Missouri Clean Water Law authorizes the Attorney General to bring this lawsuit.

2. The Missouri Department of Natural Resources, ("the Department"), is a duly authorized state agency created under § 640.010, RSMo, to administer the programs relating to environmental control and conservation, and to manage the natural resources of the State of Missouri.

3. The Clean Water Commission, ("CWC"), serves as the State's water contaminant control agency and is charged with the supervision of the administration and enforcement of the Missouri Clean Water Law, Chapter 644, RSMo and its implementing regulations. Attorney General Koster, the Department and the Clean Water Commission shall be collectively referred to as "the State" in this Petition unless specifically designated otherwise

4. Defendant Michael F. Tilley ("Mr. Tilley") is a natural person who resides in Bonne Terre, St. Francois County, Missouri, and who, at all relevant times herein, was and remains President of Terre Du Lac Utilities Corp.

5. Defendant Terre Du Lac Utilities Corp. ("TDL") is a Missouri corporation doing business in St. Francois County, having its principal place

[1] All statutory references shall be to the Missouri Revised Statute 2000 unless specifically stated otherwise.

of business at 1628 South St. Francois Road, Bonne Terre, St. Francois County, Missouri.

## Venue and Jurisdiction

6. The actions of the Defendants which give rise to this cause of action took place in St. Francois County and, therefore, venue is proper in this Court pursuant to § 644.076.1, RSMo, and this Court has jurisdiction over all parties.

## General Allegations

7. At all times described in this Petition, Mr. Tilley, either alone or in conjunction with others, exercised control over the operations of TDL and the particular activities that constitute a violation of the Missouri Clean Water Law, Missouri Safe Drinking Water Law, and implementing regulations described herein.

8. TDL is a Public Service Commission regulated utility company which owns and operates three wastewater treatment facilities and a public water system that serves the private community of Terre Du Lac located in St. Francois County, Missouri.

9. The private community of Terre Du Lac comprises approximately 5,200 acres and has 1178 residential homes, sixteen lakes and two golf courses.

10. The three wastewater treatment facilities owned and operated by the Defendants are the Oxidation Ditch, the North Lagoon and the South Lagoon.

11. The Oxidation Ditch serves approximately 650 homes, is owned and operated by Defendants under the authority of Missouri State Operating Permit ("M.S.O.P.") no. MO-0095311 and discharges effluent to an unnamed tributary of the Big River.

12. The North Lagoon is a three cell lagoon with primary and secondary cell aeration. The North Lagoon serves approximately 510 homes, is owned and operated by Defendants under the authority of M.S.O.P. no. MO-0035700 and discharges effluent to Three Hill Creek.

13. The South Lagoon is a single cell lagoon. The South Lagoon serves approximately 18 homes, is owned and operated by Defendants under the authority of M.S.O.P. no. MO-0057312 and discharges effluent to an unnamed tributary of Cabanne Course.

14. The unnamed tributary to the Big River, the Big River, Three Hill Creek, the unnamed tributary to the Cabanne Course and the Cabanne Course are waters of the state as defined in § 644.016(26), RSMo.

15. The wastewater treatment facilities owned and operated by the Defendants are water contaminant sources as defined in § 644.016(24), RSMo.

16. On July 28, 2009 and other dates as yet unknown to Plaintiff, contaminated sludge was bypassing from the Oxidation Ditch. This contaminated sludge was in the Oxidation Ditch's effluent, the clarifier, the grassy area around the wastewater treatment facility and in the unnamed tributary of the Big River.

17. On July 28, 2009 the effluent from the Oxidation Ditch had samples that indicated Total Suspended Solids of 90 mg/L and Total Residual Chlorine of 2.20 mg/L.

18. On July 28, 2009 and other dates as yet unknown to Plaintiff, there were sludge deposits from the North Lagoon owned and operated by the Defendants in the unnamed tributary to Three Hill Creek.

19. On July 28, 2009 and other dates as yet unknown to Plaintiff, there were sludge deposits from the South Lagoon in the unnamed tributary to the Cabanne Course.

20. Pursuant to § 644.076.1, RSMo, it is unlawful for any person to cause or permit any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of §§ 644.006 to 644.141, RSMo, or any standard, rule or regulation promulgated by the Clean Water Commission.

21. The public water system serving Terre du Lac consists of three wells and is identified by the Department as Public Water System ID No.

MO-4036059 and at all times relevant to this petition is a community public water system.

22. Section 640.102(6), defines a public water system as:

> . . . a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least sixty days per calendar year. Such system includes any collection, treatment, storage or distribution facilities used in connection with such system.

23. Safe Drinking Water Regulation 10 CSR 60-2.015(2)(C)11 further specifies that a community public water system is:

> [A] public water system which serves at least fifteen (15) service connections and is operated on a year-round basis or regularly serves at least twenty-five (25) residents on a year-round basis.

24. Safe Drinking Water Regulation 10 CSR 60-2.015(2)(S)9 defines "supplier" as "[a]ny person who owns, controls or operates a public water system."

25. Since 1968, Defendant Terre du Lac Utilities is a "supplier" of drinking water to the residents of Terre du Lac because it owns, operates, or controls the public water system serving Terre du Lac.

26. Since 2003 when Defendant Tilley became president of Terre du Lac Utilities, Tilley is a "supplier" of drinking water to the residents of Terre du Lac because he owns, operates, manages, or controls the public water system.

27. The previous paragraphs are incorporated by reference into each of the following counts as though set forth fully therein.

**Missouri Clean Water Law Violations**

**Count 1 – Causing Pollution to Waters of the State**

28. Pursuant to § 644.051.1(1), RSMo, it is unlawful for any person to cause pollution of any waters of the state or to place or cause or permit to be placed any water contaminant in a location where it is reasonably certain to cause pollution of any waters of the state.

29. On July 28, 2009 and other dates not yet known to Plaintiff, the Defendants caused and permitted the discharge of contaminated sludge from the wastewater treatment facilities owned and operated by them in a location where it was reasonably certain to cause pollution to an unnamed tributary to the Big River, the Big River, Three Hill Creek, the unnamed tributary to the Cabanne Course and the Cabanne Course.

30. Defendants' actions in causing or permitting water contaminants from a water contaminant source to be placed in a location where it was reasonably certain to cause pollution to waters of the state, constitute a violation of §§ 644.051.1(1) and 644.076.1, RSMo.

31. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per

day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 2 – Discharging Water Contaminants**

32. Pursuant to § 644.051.1(2), RSMo and 10 CSR20-7.031, it is unlawful for any person to discharge any water contaminants into any waters of the state which reduce the quality of such waters below the water quality standards established by the Clean Water Commission.

33. The water quality standards applicable to all waters of the state at all times, as determined by the Clean Water Commission at 10 CSR 20-7.031(3), prohibit any water contaminant from preventing the waters of the state from meeting the following conditions:

A. 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;

B. Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor, or prevent full maintenance of beneficial uses;

C. Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life; and

D. Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

34. On or about July 28, 2009 and other dates not yet known to Plaintiff, the Defendants discharged contaminated sludge from the wastewater treatment facilities owned and operated by them to an unnamed tributary to the Big River, the Big River, Three Hill Creek, the unnamed tributary to the Cabanne Course and the Cabanne Course.

35. The discharge of contaminated stormwater to an unnamed tributary to the Big River, the Big River, Three Hill Creek, the unnamed tributary to the Cabanne Course and the Cabanne Course reduced the quality of such waters below the water quality standards established by the Clean Water Commission.

36. Defendants' discharge of water contaminants from a water contaminant source, which reduced the quality of waters below the water quality standards established by the Missouri Clean Water Commission, constitutes a violation of §§ 644.051.1(2) and 644.076.1, RSMo.

37. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

## Count 3 – Failure to Retain Certified Operator

38. Pursuant to 10 CSR 20-9.020(2)(B) and (D) owners or others legally responsible for the operation of a wastewater treatment facility are required to place the direct supervision of the treatment facility and collection system under the responsible charge of an operator who holds a proper level of certification with the Department.

39. Beginning sometime on or before July 28, 2009 and continuing through May 2012, Defendants failed to place the wastewater treatment facilities owned and operated by them under the direct supervision of a certified operator.

40. Defendants' failure to retain a certified operator for each of the wastewater treatment facilities owned or operated by them constitutes separate violations of 10 CSR 20-9.020(2)(B) and (D).

41. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

## Count 4 – Failure to Prevent a Bypass

42. Pursuant to 10 CSR 20-6.010(8)(A)4, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations.

43. Pursuant to the Standard Conditions of M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 permit holders must operate facilities to prevent bypasses.

44. On July 28, 2009 and other days not yet known to Plaintiff, each wastewater treatment plant owned and operated by the Defendants was bypassing or had recently bypassed.

45. Defendants failed to prevent these bypasses.

46. Defendants' failure to prevent each of these bypasses constitutes separate violations of the Standard Conditions of M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 and 10 CSR 20-6.010(8)(A)4.

47. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 5 – Failure to Report a Bypass**

48. Pursuant to 10 CSR 20-6.010 it is unlawful for permittees to fail to notify the Department of a bypass of sewage within 24 hours as required by the conditions of the M.S.O.P.

49. On July 28, 2009 and other days not yet known to Plaintiff, each wastewater treatment plant owned and operated by the Defendants was bypassing or had recently bypassed.

50. Defendants failed to notify the Department within 24 hours of these bypasses.

51. Defendants' failure to notify the Department within 24 hours of each of these bypasses constitutes separate violations of 10 CSR 20-6.010.

52. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 6 – Failure to Comply with Permit Effluent Limits**

53. Pursuant to 10 CSR 20-6.010(8)(A)4, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations.

54. The Oxidation Ditch is run pursuant to M.S.O.P. no. MO-0095311. The Oxidation Ditch's effluent limitations are contained in Part "A" of M.S.O.P. no. MO-0095311.

55. On or about July 28, 2009 and other days not yet known to Plaintiff, Defendants exceeded the effluent limitations of Total Suspended Solids and Total Residual Chlorine at the Oxidation Ditch.

56. Exceeding effluent limits as established by Part "A" of M.S.O.P. no. MO-0095311 constitutes a violation of 10 CSR 20-6.010(8)(A)4.

57. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 7 – Failure to Submit Discharge Monitoring Reports**

58. Pursuant to 10 CSR 20-7.015(9)(A)1, permittees shall submit reports at intervals established by the permit or at any other reasonable intervals required by the Department.

59. Beginning in the year 2008 and continuing to the present, Defendants failed to submit all quarterly Discharge Monitoring Reports (DMRs) to the Department, as required under each M.S.O.P. held by the Defendants.

60. Failure to submit reports, including DMRs, at quarterly intervals violated applicable conditions contained in M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312. Each failure to submit a quarterly DMR constitutes a separate violation of 10 CSR 20-7.015(9)(A)1.

61. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 8 – Failure to Conduct Minimum Laboratory Testing**

62. Pursuant to 10 CSR 20-6.010(8)(A)4, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations.

63. Pursuant to the Standard Conditions of M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 and 10 CSR 20-9.010(5) permit holders must carry out minimum requirements for laboratory testing to ensure adequate wastewater systems in-plant operational control.

64. Beginning March 17, 2006 and continuing to the present, Defendants failed to do minimum requirements for laboratory testing for M.S.O.P. nos. MO-0095311 and MO-0035700.

65. Beginning January 5, 2007 and continuing to the present, Defendants failed to do minimum laboratory testing for M.S.O.P. no. MO-0057312.

66. Each failure to do minimum requirements for laboratory testing as required by M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 constitutes a separate violation of 10 CSR 20-6.010(8)(A)4 and 10 CSR 20-9.010(5).

67. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per

day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

**Count 9 – Failure to Upgrade Facilities**

68. Pursuant to 10 CSR 20-6.010(8)(A)4, permittees shall operate and maintain facilities to comply with the Missouri Clean Water Law and applicable permit conditions and regulations.

69. Pursuant to the Standard Conditions and Part "D," Schedule of Compliance, of M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 and 10 CSR 20-9.010(5) permit holders must upgrade wastewater treatment facilities to achieve expeditious compliance with applicable standards and limitations and other requirements.

70. Defendants failed to upgrade each wastewater treatment facility as required by M.S.O.P. nos. MO-0095311 and MO-0035700.

71. Failure to upgrade each wastewater treatment facility as required by M.S.O.P. nos. MO-0095311, MO-0035700 and MO-0057312 constitutes a separate violation of 10 CSR 20-6.010(8)(A)4.

72. Pursuant to § 644.076.1, RSMo, Defendants are subject to the imposition of injunctive relief and a civil penalty not to exceed $10,000 per day for each day, or part thereof, that each violation of the Missouri Clean Water Law occurred.

## Missouri Safe Drinking Water Law Violations

### Count 10 – Violations of Maximum Contaminant Level Requirements

73. The Missouri Safe Drinking Water Regulations contain maximum contaminant levels ("MCLs") permissible in public water systems and describe associated monitoring requirements. A supplier of water must collect or have collected samples of the water and must provide for analysis of these samples for designated contaminants on a regular basis, as provided by rule.

74. Since January 2006, Defendant has been violating §§ 640.100 through 640.140 and 10 CSR 60-4.060(1)(A) by failing to meet the Running Annual Average Maximum Containment Level for Radium 226 and 228.

75. Since January 2006, Defendant has been violating §§ 640.100 through 640.140 and 10 CSR 60-4.060(1)(B) by failing to meet the Running Annual Average Maximum Containment Level for Gross Alpha particles.

76. Section 640.130, RSMo, authorizes the imposition of injunctive relief and a civil penalty in the amount of fifty (50) dollars per day or part thereof for the first violation of the Missouri Safe Drinking Water Law and one hundred (100) dollars per day or part thereof for the second violation and for each violation thereafter.

## Count 11 – Failure to Provide Public Notice

77. Missouri Safe Drinking Water Regulation 10 CSR 60-8.010(1)(A)(3) requires the owner or operator of a public water system to provide public notice to persons served by the water system whenever the owner or operator fails to perform required water quality monitoring as required by the Missouri Safe Drinking Water Regulations.

78. Missouri Safe Drinking Water Regulations 10 CSR 60-8.010(1)(C)(3) and 10 CSR 60-7.010(10) require copies of the public notice to be sent to the Department within ten (10) days of completion of notifying the affected public.

79. Defendants failed to certify to the Department that public notification had been performed between the dates of July 2010 and June 2011, in violation of 10 CSR 60-8.010(1)(A)(3).

80. In 2010, Defendants failed to certify to the Department that a Consumer Confidence Report had been sent to each customer for the year of 2009, in violation of 10 CSR 60-8.030(4)(G).

81. Each of Defendants' failures to provide public notice constitutes separate violations of the Missouri Safe Drinking Water Law and regulations.

82. Section 640.130, RSMo, authorizes the imposition of injunctive relief and a civil penalty in the amount of fifty (50) dollars per day or part

thereof for the first violation of the Missouri Safe Drinking Water Law and one hundred (100) dollars per day or part thereof for the second violation and for each violation thereafter.

**WHEREFORE**, the State asks this Court for a Judgment granting the following relief:

A. Issuing a preliminary and permanent injunction prohibiting Defendants from any further violations of the Missouri Safe Drinking Water Law and the Missouri Clean Water Law, Chapter 644, RSMo, and the regulations duly promulgated thereunder;

B. Assessing against Defendants a civil penalty in an amount up to Ten Thousand Dollars ($10,000.00) per day, for each day or part thereof that Defendants violated the Missouri Clean Water Law pursuant to § 644.076.1, RSMo;

C. Assessing against Defendants a civil penalty in an amount up to $50.00 per day for the first violation and $100.00 per day for the second violation and for each violation thereafter of the Missouri Safe Drinking Water Law, pursuant to § 640.130, RSMo;

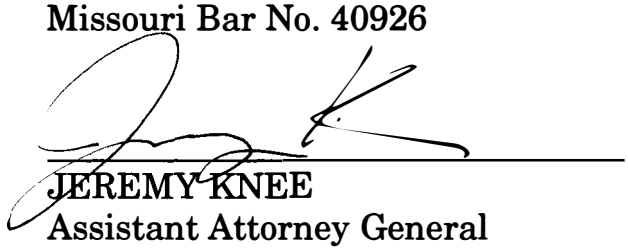
D. Assessing costs of these proceedings against Defendants; and

E. Granting such other relief as may be just and proper.

Respectfully submitted,

**CHRIS KOSTER**
ATTORNEY GENERAL

KARA L. VALENTINE
Assistant Attorney General
Missouri Bar No. 40926



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ATTORNEY FOR THE STATE

**STATE OF MISSOURI**
**IN THE CIRCUIT COURT OF ST. FRANCOIS COUNTY**

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| STATE OF MISSOURI *ex rel.* Chris Koster, Attorney General of Missouri and the Department of Natural Resources, | ) | |
| Plaintiff, | ) | |
| v. | ) | Case No. 10SF-CC00186 |
| TERRE DU LAC UTILITIES CORPORATION, | ) | |
| and | ) | |
| MICHAEL F. TILLEY, | ) | |
| Defendants. | ) | |

**AGREED PARTIAL ORDER OF PRELIMINARY INJUNCTION**

The matter before this Court is the State of Missouri's Petition seeking injunctive relief against and civil penalties from Defendants in an effort to prevent further violations of the Missouri Clean Water Law at the wastewater treatment facilities ("WWTF") serving the private community of Terre du Lac (the "Site"). The Petition also alleges violations of the Missouri Safe Drinking Water Regulations arising out of the operation of a Community Public Water System at the Site.

The parties stipulate to the following Agreed Partial Order of Preliminary Injunction. The provisions of this Order shall be binding upon

the parties to this action as well as their agents, servants, employees, heirs, successors, and assigns. It is equally binding upon all persons, firms, corporations and other entities who are or who will be, acting in concert or privity with or on behalf of the parties to this action or their agents, servants, employees, heirs, successors, and assigns.

The parties agree and understand that this temporary order does not address all of the claims or relief requested in the State's Petition, which includes civil penalties and permanent injunctive relief. Accordingly, the parties acknowledge that additional injunctive work may be necessary to resolve all of the alleged violations.

**IT IS THEREFORE ORDERED AS FOLLOWS:**

**Wastewater**

1. Defendants shall operate all WWTFs at all times in a manner that will produce the best effluent quality possible and in compliance with the terms and conditions of the following Missouri State Operating Permits: MO-0095311, MO-0035700, and MO-0057312.

2. For the time being, Defendants shall not add any additional sewer extensions to any of the WWTFs at the Site, without first giving 14 (fourteen) days advance notice to the Missouri Department of Natural Resources (the "Department").

3. Defendants shall maintain all units or components of the WWTFs

in an operable condition, even if this maintenance requires the purchase and installation of new parts or equipment and the repair of the facilities.

4. Within 45 (forty-five) days of the effective date of this Order, Defendants shall submit to the Department of Natural Resources (the "Department") the annual sludge reports for the years 2007, 2008, 2009, 2010, 2011, 2012, and 2013 as required by Permit Number MO-0095311. In the event the sludge reports are not available, Defendants shall submit documentation explaining why.

5. Within 90 (ninety) days of the effective date of this Order, Defendants shall complete the following operation and maintenance repairs to the **Oxidation Ditch** (Permit Number MO-0095311):

a. Install replacement equipment to provide sufficient aeration after obtaining the necessary construction permit(s);

b. Purchase and install a new or used stationary or mobile unit emergency generator with sufficient generating capacity to supply the oxidation ditch's electrical needs in the event of a power failure; and,

c. Install a perimeter fence with a locking gate in accordance with the standards contained in 10 CSR 20-8.020(11)(C)11.

6. Within 180 (one hundred and eighty) days of the effective date of this Order, Defendants shall complete the following operation and

maintenance repairs to the **North Cell Lagoon** (Permit Number MO-0035700):

a. Install the necessary and required aerators in the primary and secondary lagoon cells in order to provide sufficient aeration to the system;

b. Install a flow effluent monitor to determine the actual flow discharging from the lagoon;

c. Conduct flow monitoring in accordance with 10 CSR 20-9.010(4);

d. Include flow monitoring data on the facility's monthly Discharge Monitoring Reports ("DMR");

e. Submit to the Department design proposals and engineering details intended to bring the lift stations and emergency overflow basins into compliance with the design requirements contained in 10 CSR 20.8.

f. Install a perimeter fence with a locking gate around the WWTF in accordance with the standards contained in 10 CSR 20-8.020(11)(C)11;

g. Construct an all-weather access road to and around the lagoon cells in accordance with 10 CSR 20-8.020(11)(A)2; and,

h. Remove the brush and weeds from the berms and the

fencerows of the lagoon system.

7. Within 90 (ninety) days of the effective date of this Order, Defendants shall complete the following operation and maintenance repairs to the **South Cell Lagoon** (Permit Number MO-0057312):

a. Conduct flow monitoring in accordance with 10 CSR 20-9.010(4);

b. Include flow monitoring information on the DMRs submitted to the Department each month; and,

c. Remove the brush and weeds from the berms and the fencerows of the lagoon system.

8. Within 180 (one hundred and eighty) days of the effective date of this Order, Defendants shall install audio and visual alarms on all lift stations for the north cell lagoon in the collection system.

9. Within 365 (three hundred and sixty five) days of the effective date of this Order, Defendants shall complete the following measures to minimize and/or eliminate unauthorized discharges of wastewater from the WWTFs:

a. Assign a number or letter to each manhole and perform a study on the system, prioritizing the manholes that experience the most sanitary sewer overflows; and,

a. Install high-level flow monitoring alarms on the ten most

problematic manholes.

**Drinking Water**

10. Defendants shall reduce the radionuclides present in the Community Public Water System operating at the Site to levels below the Maximum Containment Level ("MCL").

11. Until Defendants are in compliance with the Missouri Clean Water Law they shall provide public notices on a quarterly basis in accordance with the requirements of 10 CSR 60-8.

12. Within 90 (ninety) days of the effective date of this Order, Defendants shall elect to implement one of the following options and shall promptly notify the Department of their decision:

a. Connect to an approved public water system;

b. Construct a new well or reconstruct an existing well;

c. Construct a treatment system to reduce radionuclide levels below the MCLs.

13. Within 270 (two-hundred seventy) days of the effective date of this Order Defendants shall:

a. Contract with a professional engineer licensed to operate in the State of Missouri to design a connection to an approved public water supply, new well, reconstruct an existing well or construct a treatment system in accordance with the Department's Design Guide

for Community Water Systems dated August 2003; and

b. Submit plans and specifications accompanied with an application for a "Permit to Construct" to the Department's Infrastructure Permits and Engineering Section, Public Drinking Water Branch, P.O. Box 176, Jefferson City, Missouri 65102.

14. Within 12 (twelve) months of the effective date of permit to construct, Defendants shall complete construction.

15. Within 30 (thirty) consecutive days following construction completion, Defendants shall submit, to the Department's Infrastructure Engineering and Permits Section, Public Drinking Water Branch, P.O. Box 176, Jefferson City, Missouri 65102, certification from the professional engineer stating that the project has been completed substantially in accordance with the approved plans and specifications.

16. Once water system modifications have been completed, Defendants will continue to submit radionuclide samples quarterly or as directed by the Department to ensure the public water supply meets the Running Annual Average MCLs of five (5) picocuries per liter (pCi/L) for Combined Radium and fifteen (15) pCi/L for Gross Alpha Particle Activity.

**Department of Natural Resources Access**

17. The Department and its agents shall have authority to enter any facility covered by this Order at all times for the purposes of:

a. Monitoring progress of activity required by this Order;

b. Verifying any data on information submitted to the Department in accordance with the terms of this Order; or,

c. Obtaining samples.

18. This provision in no way limits any right of entry held by the State or the Department pursuant to applicable federal or state laws, regulations, or permits.

**Stipulated Penalties**

19. In the event Defendants fail to comply with the requirements set forth in the preceding paragraphs, they shall be jointly and severally liable for stipulated penalties in accordance with the following schedule:

a. $50 per day for the first thirty (30) days;

b. $250 per day for the next sixty (60) days;

c. $500 per day for every day thereafter.

20. Stipulated penalties shall be due and payable within ten days of demand from the Attorney General's Office. Defendants shall pay stipulated penalties by check made payable to the "*State of Missouri (St. Francois County)*" and mailed, along with a copy of the demand letter to: Collections Specialist, Missouri Attorney General's Office, P.O. Box 899, Jefferson City, MO 65102-0899. That check will be deposited and processed in accordance with Missouri law.

21. The inclusion of stipulated penalty provisions in this Order and the payment of stipulated penalties does not limit the State's ability to pursue other penalties for the same acts: where a violation of this Order also constitutes a violation of a statute, stipulated penalties may be collected in additional to statutory penalties imposed for those violations.

IN WITNESS WHEREOF, the parties have executed this Agreed Order of Preliminary Injunction:

**Michael F. Tilley**

Date: 5-8-15

**Terre Du Lac Utilities Corp.**

By: _____

Title: President

Date: 5-8-15

**Charles Harry Billings**

#60785

Date: 5/11/2015

ATTORNEY FOR DEFENDANTS

**CHRIS KOSTER**
Attorney General

By: _____
Laura E. Elsbury,
Assistant Attorney General

Date: May 13, 2015

ATTORNEY FOR PLAINTIFF

**IT IS SO ORDERED,**

Date: 5/19/15

Honorable Robin Edward Fulton

Terre Du Lac-North WWTF
St. Francois County
MO-0035700

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

March 21, 2016

**Certified Mail: 7015 1520 0000 6789 6421**
**Return Receipt Requested**

Michael Tilley, President
Terre Du Lac Utilities
1628 S. St. Francois Road
Bonne Terre, MO 63628

**NOTICE OF VIOLATION**

Dear Mr. Tilley:

An inspection was conducted by Missouri Department of Natural Resources staff pursuant to the Missouri Clean Water Law on January 26, 2016, as described in the enclosed report. The findings documented non-compliance with the applicable statutory and regulatory requirements of the State of Missouri that are administered by the Department of Natural Resources.

This letter constitutes a Notice of Violation (NOV), SE1606, issued to you for the violations identified in the enclosed report. The non-compliant issue is:

- Failure to comply with the Schedule of Compliance

Please refer to the enclosed inspection report for details on findings and required actions. A written response documenting actions taken to correct the violations is required by the date as specified in the report.

This case has been referred to the department's Water Protection Program enforcement section to take further steps. If you have questions or would like to schedule a time to meet in person, please contact Joan Doerhoff, enforcement section, Water Protection Program, (573) 522-3779, or at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Jackson L. Bostic
Regional Director

Enclosures: Report of Compliance Inspection

c: Mr. Jim Merciel, Missouri Public Service Commission

**Missouri Department of Natural Resources**
**Southeast Regional Office/Water Protection Program**
**Report of Inspection**
**Terre du Lac Utilities, Inc. North Lagoon**
**Rue Orleans/Bonne Terre/St. Francois County**
**MO-0035700**
**March 21, 2016**

## Introduction

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law and at the request of the Water Protection Program Compliance and Enforcement section, I conducted a routine compliance and a sanitary sewer overflow (SSO) inspection of the Terre du Lac Utilities, Inc. North Lagoon (TDL North) wastewater treatment facility (WWTF) in St. Francois County, Missouri, on January 26, 2016. Participants in the inspection were:

Terre du Lac Utilities, Inc.
Mr. Stephen Skiles, Chief Operator (#1360-C) tdlu@charter.net (573) 358-3376 Utility Office

MDNR
Tim Mattingly, Environmental Specialist III

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit MO-0035700, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Facility Description and History

Missouri State Operating Permit MO-0035700 was last issued on February 1, 2015, and expires on June 30, 2018. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The legal description of the TDL North WWTF is listed on the permit as the SW ¼, NW ¼, Section 18, Township 37 North, Range 4 East, in St. Francois County, UTM coordinates x=707431, y=4200540. The receiving stream for this facility is Three Hills Creek, watershed number 07140104-0302.

The TDL North WWTF consists of a three cell lagoon, with aerated primary and secondary cells, plus three lift stations and approximately 652 manholes in the collection system. The design population equivalent is 2,400. The design flow is 240,000 gallons per day with an actual flow of 70,000 gallons per day. The design sludge production is 36.0 dry tons/year.

The facility was last inspected August 14, 2014, and was found to be in non-compliance at that time. The facility has previously been referred to both the Compliance and Enforcement of the Water Protection Program and the Missouri Attorney General's Office.

## Discussion of Inspection and Observations

Prior to the inspection, the files for TDL North WWTF were reviewed, including the Permit Conditions of Missouri State Operating Permit MO-0035700.

The inspection was conducted during normal business hours and was unannounced. Upon arrival at the facility, I located and met with Mr. Stephen Skiles, the Chief Operator for the TDL North Lagoon. Mr. Skiles accompanied the inspector throughout the tour of the lift stations and the WWTF.

The three cell lagoon lies due south of the dam of Lac Carmel in TDL with the access road entering Rue Orleans. The North Lagoon serves approximately the northern one third of the TDL development from the entrance on the north end to the development boundary on the east. The southern extent of the North Lagoon's service area is bounded by St. Francois Road and Stoney Point Road, and extends westward to the property boundary.

Upon driving into the entrance to the North Lagoon, it was apparent that new rock had been hauled into the lane and graded, however there were no roads established around the lagoon cells. Brush and trees had been cleared approximately fifty feet from the gate. The same amount of the old fencing had been removed. Mr. Skiles stated that Mr. Tilley had contacted King Construction to provide a bid to clear the brush and old fencing completely around the lagoon perimeter. The entrance gate was open and did not appear as though it had been moved in some time.

Upon entering the lagoon site, it was obvious that both aerators in the primary cell and both aerators in the secondary cell were fully functional. When we arrived at the discharge area, a new cleared area with rock had been added so a vehicle could turn around and proceed forward from the lagoon discharge area. No flow monitoring device was apparent so Mr. Skiles was asked about the how the flow monitoring was being performed. Mr. Skiles stated that he was using a hand-held flow monitoring device that the Utility Company had ordered. According to Mr. Tilley, this is a temporary method of flow measurement until the major upgrades are made.

There were no offensive odors noticed at the WWTF. The lagoon discharge is the primary source of water for the receiving stream. It was clear with no bottom deposits, odors, or trash present. The effluent was clear, with no offensive odor. Downstream of the discharge point the receiving stream was still very clear with no trash, odors or bottom deposits. The outfall was not marked in the field.

The inspection continued with an examination of each of the three lift stations which pump wastewater to the North Lagoon. The first lift station was behind the TDL Association Office off Rue Bordeaux. The lift station was unchanged since the last inspection. There was no bypassing and no water in the overflow basin.

The second lift station is located in the trailer park area of TDL of Rue Chantilly. This lift station too was unchanged since the last visit. Again, there was no bypassing and only a small amount of water in the bottom of the overflow basin.

Lift station three was located near TDL Utilities maintenance building further down Rue Chantilly. There were no bypassing issues at this lift station and the usual amount of water in this larger overflow basin.

All manholes were to be assigned a means of identification and perform a study on the system prioritizing the manholes that have a history of sanitary sewer overflows. Additionally, the ten

most problematic manholes were to have high-level flow monitoring alarms installed. It did not appear this has been done.

**Sampling and Monitoring**

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen.

Water quality field monitoring was conducted at the following location for the listed parameters. As mentioned earlier, the discharge was clear in color and free of odor. The receiving stream was very clear, free of odor and bottom deposits with a normal flow.

| Outfall 001 | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 7.6 | SU |
| Temperature | 3.1 | °C |
| Dissolved Oxygen | 10.44 | mg/L |

Sampling was conducted at the following location and submitted for laboratory analysis for the parameters listed below. The Environmental Services Program Results of Sample Analyses are following.

| Outfall 001 | | | | | | |
|---|---|---|---|---|---|---|
| **Results of Sample Analyses** | | | **Permit Limits** | | | |
| **Parameters** | **Sample Result** | **Units** | **Daily Max** | **Weekly Average** | **Monthly Average** | **Units** |
| $BOD_5$ | 5.98 | mg/L | | 65 | 45 | mg/L |
| Total Suspended Solids (TSS) | <5 | mg/L | | 120 | 80 | mg/L |
| Ammonia as Nitrogen | 5.09 | mg/L | Monitor only | | | mg/L |

**Compliance Determination and Required Actions**

Based upon observations made at the time of the inspection, a review of Discharge Monitoring Reports, and a file review of the facility, TDL North Lagoon was found to be in non-compliance with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO-0035700.

1. Failed to submit progress reports as required in part "B", Standard Conditions, and part "D", Schedule of Compliance, of Missouri State Operating Permit (MSOP) number MO-0057312[Section 644.076.1, RSMo, and 10 CSR 20-6.010(7)(A)].

REQUIRED ACTION: A schedule of compliance was included in the MSOP requiring TDL Utilities to submit progress reports on achieving compliance with the permitted limit for ammonia. A progress report was due six months after issuance of the permit, September 1, 2015, and on an annual basis after the six month report. Therefore, another

report was due February 1, 2016. No reports have been received. Progress reports must be submitted by April 26, 2016.

2. Failed to submit complete discharge monitoring reports as required in part "A" of Missouri State Operating Permit (MSOP) number MO-0035700 [Section 644.076.1, RSMo, and 10 CSR 20-7.015(9)(A)1].

REQUIRED ACTION: Testing for dissolved oxygen, total nitrogen as N, and total phosphorus as P, has not been submitted for the last quarter of 2015. If all the test results exist, they must be submitted to the Department by April 26, 2016.

**Recommendations**

This facility has already been referred to the Water Protection Program Compliance & Enforcement Section for multiple compliance issues. We would recommend that that this wastewater treatment facility and the lift stations receive daily attention. In addition, we recommend that TDL Utilities coordinate their compliance issues with Ms. Joan Doerhoff of the Compliance and Enforcement Section of the Water Protection Program.

**Comments**

I would like to thank Mr. Skiles for his time and assistance during the inspection.

SUBMITTED BY:

Tim Mattingly
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachment #1-Photos 1 through 3**

**Photo #:** 001
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** An overall view of the three cell lagoon system.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 002
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** This is a photo of the primary cell of the lagoon. Note both aerators are functional.

**Date:** 01/26/2016
**Program:** WPC Unit


**Photo #:** 003
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** The secondary cell of the lagoon system. The aerators were also functional in this cell.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #2-Photos 4 through 6**

**Photo #:** 004
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** A view of the third cell of the lagoon system. A skim of ice was present on inspection day.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 005
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** A photo of the discharge structure of the three cell lagoon.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 006
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** Looking downstream from the discharge structure. The discharge is the major contributor of the flow.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #3-Photos 7 through 9**

**Photo #:** 007
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** The Utility did haul some rock on the entrance road to the North Lagoon.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 008
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0087181
**Location:** St. Francois Co.

**Description:** The gate at the entrance of the North Lagoon didn't appear to be usable in its present condition.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 009
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** A photo of lift station number one. Nothing has changed at this site.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #4-Photos 10 through 12**

**Photo #:** 010
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** This is the overflow basin at lift station number one. Basin was empty on the day of inspection.

**Date Taken:** 01/26/2016
**Program:** WPC Unit


**Photo #:** 011
**By:** Tim Mattingly
**Facility:** Rogue Creek Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** Lift station number two. Nothing had changed at this site.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 012
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** The overflow basin at lift station two. A small amount of water is in the bottom of the basin, likely stormwater.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #5-Photos 13 through 14**

**Photo #:** 013
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description: Lift Station number three. No change in the situation here.**

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 014
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0035700
**Location:** St. Francois Co.

**Description:** This is the overflow basin for lift station number three. This is the normal amount of water in this basin.

**Date:** 01/26/2016
**Program:** WPC Unit

Terre Du Lac-South WWTF
St. Francois County
MO-0057312

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

March 21, 2016

**Certified Mail: 7015 1520 0000 6789 6438**
**Returned Receipt Requested**

Michael Tilley, President
Terre Du Lac Utilities
1628 S. St. Francois Road
Bonne Terre, MO 63628

**NOTICE OF VIOLATION**

Dear Mr. Tilley:

An inspection was conducted by Missouri Department of Natural Resources staff pursuant to the Missouri Clean Water Law on January 26, 2016, as described in the enclosed report. The findings documented non-compliance with the applicable statutory and regulatory requirements of the State of Missouri that are administered by the Department of Natural Resources.

This letter constitutes a Notice of Violation (NOV), SE1607, issued to you for the violations identified in the enclosed report. The non-compliant issue is:

- Failure to comply with the Schedule of Compliance

Please refer to the enclosed inspection report for details on findings and required actions. A written response documenting actions taken to correct the violations is required by the date as specified in the report.

This case has been referred to the department's Water Protection Program enforcement section to take further steps. If you have questions or would like to schedule a time to meet in person, please contact Joan Doerhoff, enforcement section, Water Protection Program, (573) 522-3779, or at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Jackson L. Bostic
Regional Director

Enclosures: Report of Compliance Inspection

c: Mr. Jim Merciel, Missouri Public Service Commission

**Missouri Department of Natural Resources**
**Southeast Regional Office/Water Protection Program**
**Report of Inspection**
**Terre du Lac Utilities, Inc. South Lagoon**
**Rue Valerie/Bonne Terre/St. Francois County**
**MO-0057312**
**March 21, 2016**

## Introduction

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law and at the request of the water Protection Program Compliance and Enforcement section, I conducted a routine compliance and a sanitary sewer overflow (SSO) inspection of the Terre du Lac Utilities, Inc. South Lagoon (TDL South) wastewater treatment facility (WWTF) in St. Francois County, Missouri, on January 26, 2016. Participants in the inspection were:

Terre du Lac Utilities, Inc.
Mr. Stephen Skiles, Chief Operator (#1360-C) tdlu@charter.net (573) 358-3376 Utility Office

MDNR
Tim Mattingly, Environmental Specialist III

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit MO-0057312, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Facility Description and History

Missouri State Operating Permit MO-0057312 was last issued on February 1, 2015, and expires on June 30, 2018. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The legal description of the TDL South WWTF is listed on the permit as the SE ¼, NW ¼, Section 20, Township 37 North, Range 4 East, in St. Francois County, UTM coordinates x=709278, y=4198844. The receiving stream for this facility is Cabanne Course, watershed number 07140104-0302.

The TDL South WWTF consists of a one cell lagoon, with approximately 18 manholes in the collection system. The design population equivalent is 40. The design flow is 4,000 gallons per day with an actual flow of 20,800 gallons per day. The design sludge production is 0.84 dry tons/year.

The facility was last inspected August 14, 2014, and was found to be in non-compliance at that time. The facility has previously been referred to both the Compliance and Enforcement of the Water Protection Program and the Missouri Attorney General's Office.

## Discussion of Inspection and Observations

Prior to the inspection, the files for TDL South WWTF were reviewed, including the Permit Conditions of Missouri State Operating Permit MO-0057312.

The inspection was conducted during normal business hours and was unannounced. Upon arrival at the facility, I located and met with Mr. Stephen Skiles, the Chief Operator for the TDL South Lagoon. Mr. Skiles accompanied the inspector throughout the tour of the manholes and the WWTF.

The one cell lagoon lies due west of Rue Valerie in TDL. The South Lagoon serves a small northeastern portion of the TDL development between the area served by the TDL North Lagoon and the TDL Oxidation Ditch. It is bounded by the North St. Francois Road to the north, Champs Elysees to the west, a line between Mia Ct. and Rue Vivian to the south, and the development boundary on the east.

Upon driving into the entrance to the North Lagoon, it was apparent that brush and trees had been cleared approximately one half of the way around the lagoon cell. The entrance gate was still up, however the rest of the fencing was missing, a condition unchanged from the last inspection.

Upon entering the lagoon site there were no offensive odors noticeable. The lagoon discharge is the primary source of water for the receiving stream. What little flow was present was clear with a small area of grayish deposits around the immediate vicinity of the discharge pipe. The effluent was clear, with no offensive odor. Downstream of the discharge point the receiving stream was still very clear with no trash, odors or bottom deposits and very little flow. The outfall was not marked in the field.

All manholes were to be assigned a means of identification and perform a study on the system prioritizing the manholes that have a history of sanitary sewer overflows. Additionally, the ten most problematic manholes were to have high-level flow monitoring alarms installed. It did not appear this has been done.

**Sampling and Monitoring**

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen.

Water quality field monitoring was conducted at the following location for the listed parameters. As mentioned earlier, the discharge was clear in color and free of odor. The receiving stream was very clear, free of odor and bottom deposits with a normal flow.

| Outfall 001 | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 7.3 | SU |
| Temperature | 2.7 | °C |
| Dissolved Oxygen | 5.40 | mg/L |

Sampling was conducted at the following location and submitted for laboratory analysis for the parameters listed below. The Environmental Services Program Results of Sample Analyses are following.

| Outfall 001 | | | | | | |
|---|---|---|---|---|---|---|
| Results of Sample Analyses | | | Permit Limits | | | |
| Parameters | Sample Result | Units | Daily Max | Weekly Average | Monthly Average | Units |
| $BOD_5$ | 6.34 | mg/L | | 65 | 45 | mg/L |
| Total Suspended Solids (TSS) | <5 | mg/L | | 120 | 80 | mg/L |
| Ammonia as Nitrogen | 2.08 | mg/L | Monitor only | | | mg/L |

**Compliance Determination and Required Actions**

Based upon observations made at the time of the inspection, a review of Discharge Monitoring Reports, and a file review of the facility, TDL South Lagoon was found to be in non-compliance with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO-0057312.

1. Failed to submit progress reports as required in part "B", Standard Conditions, and part "D", Schedule of Compliance, of Missouri State Operating Permit (MSOP) number MO-0057312[Section 644.076.1, RSMo, and 10 CSR 20-6.010(7)(A)].

REQUIRED ACTION: A schedule of compliance was included in the MSOP requiring TDL Utilities to submit progress reports on achieving compliance with the permitted limit for ammonia. A progress report was due six months after issuance of the permit, September 1, 2015, and on an annual basis after the six month report. Therefore, another report was due February 1, 2016. No reports have been received. Progress reports must be submitted by April 26, 2016.

**Recommendations**

This facility has already been referred to the Water Protection Program Compliance & Enforcement Section for multiple compliance issues. We would recommend that that this wastewater treatment facility and the lift stations receive daily attention. In addition, we recommend that TDL Utilities coordinate their compliance issues with Ms. Joan Doerhoff of the Compliance and Enforcement Section of the Water Protection Program.

**Comments**

I would like to thank Mr. Skiles for his time and assistance during the inspection.

SUBMITTED BY:

Tim Mattingly
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachment #1-Photos 1 through 3**

**Photo #:** 001
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0057312
**Location:** St. Francois Co.

**Description:** An overall view of where the brush was removed from around the single cell lagoon system.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 002
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0057312
**Location:** St. Francois Co.

**Description:** This is a photo of the single cell lagoon. Approximately half the brush has been removed.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 003
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0057312
**Location:** St. Francois Co.

**Description:** This is a closer view of the water in the lagoon. To the right you will notice the end of the discharge pipe.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #2-Photo 4**

**Photo #:** 004
**By:** Tim Mattingly
**Facility:** TDL Utilities
**Permit:** MO-0057312
**Location:** St. Francois Co.

**Description:** A photo of the discharge pipe. Although not visible in the photo, there was a small area of grayish deposits in the vicinity of the pipe. The outfall pipe was not marked in the field.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
www.dnr.mo.gov

March 21, 2016

**Certified Mail: 7015 1520 0000 6789 6520**
**Returned Receipt Requested**

Michael Tilley, President
Terre Du Lac Utilities
1628 S. St. Francois Road
Bonne Terre, MO 63628

**NOTICE OF VIOLATION**

Dear Mr. Tilley:

An inspection was conducted by Missouri Department of Natural Resources staff pursuant to the Missouri Clean Water Law on January 26, 2016, as described in the enclosed report. The findings documented non-compliance with the applicable statutory and regulatory requirements of the State of Missouri that are administered by the Department of Natural Resources.

This letter constitutes a Notice of Violation (NOV), SE1608, issued to you for the violations identified in the enclosed report. The non-compliant issue is:

- Failure to submit complete and timely discharge monitoring reports

Please refer to the enclosed inspection report for details on findings and required actions. A written response documenting actions taken to correct the violations is required by the date as specified in the report.

This case has been referred to the department's Water Protection Program enforcement section to take further steps. If you have questions or would like to schedule a time to meet in person, please contact Joan Doerhoff, enforcement section, Water Protection Program, (573) 522-3779, or at P.O. Box 176, Jefferson City, MO 65102.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Jackson L. Bostic
Regional Director

Enclosures: Report of Compliance Inspection

c: Mr. Jim Merciel, Missouri Public Service Commission

**Missouri Department of Natural Resources**
**Southeast Regional Office/Water Protection Program**
**Report of Inspection**
**Terre du Lac Utilities, Inc. Oxidation Ditch**
**Capri Ridge Drive/Bonne Terre/St. Francois County**
**MO-0095311**
**March 21, 2016**

## Introduction

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law and at the request of the water Protection Program Compliance and Enforcement section, I conducted a routine compliance and a sanitary sewer overflow (SSO) inspection of the Terre du Lac Utilities, Inc. oxidation ditch (TDL ox ditch) wastewater treatment facility (WWTF) in St. Francois County, Missouri, on January 26, 2016. Participants in the inspection were:

Terre du Lac Utilities, Inc.
Mr. Stephen Skiles, Chief Operator (#1360-C) tdlu@charter.net (573) 358-3376 Utility Office

MDNR
Tim Mattingly, Environmental Specialist III

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit MO-0095311, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Facility Description and History

Missouri State Operating Permit MO-0095311 was last issued on November 1, 2014, and expires on June 30, 2018. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The legal description of the TDL ox ditch WWTF is listed on the permit as the SE ¼, SE ¼, Section 30, Township 37 North, Range 4 East, in St. Francois County, UTM coordinates x=708608, y=4196165. The receiving stream for this facility is a tributary to Big River, watershed number 07140104-0107.

The TDL ox ditch WWTF consists of an oxidation ditch, a single clarifier, and a chlorine tablet disinfection system. There are no manholes in the collection system as the homes on this system are each equipped with a septic tank and pump, pressurizing the collection system. The design population equivalent is 2,500. The design flow is 250,000 gallons per day with an actual flow of 75,000 gallons per day. The design sludge production is 52.5 dry tons/year.

The facility was last inspected August 14, 2014, and was found to be in non-compliance at that time. The facility has previously been referred to both the Compliance and Enforcement of the Water Protection Program and the Missouri Attorney General's Office.

## Discussion of Inspection and Observations

Prior to the inspection, the files for TDL ox ditch WWTF were reviewed, including the Permit Conditions of Missouri State Operating Permit MO-0095311.

The inspection was conducted during normal business hours and was unannounced. Upon arrival at the facility, I located and met with Mr. Stephen Skiles, the Chief Operator for the TDL ox ditch. Mr. Skiles accompanied the inspector throughout the tour of the WWTF.

The oxidation ditch lies at the south central area of the TDL development. The oxidation ditch serves approximately two thirds of TDL development. It is bounded by the South St. Francois Road and Stoney Point Road to the north, the development property boundary to the west, east and south.

Upon driving into the entrance to the TDL ox ditch, it was apparent that the rotor at the far end of the oxidation ditch had not been replaced. We began examining the oxidation ditch. The color of the mixed liquor was normal with a good bacterial floc. No offensive odor was noticeable. The clarifier weir was in need of cleaning however, the water in the clarifier was frozen on top preventing the weir from being cleaned. The disinfection system consists of a tablet chlorinator at the head of a serpentine chamber through which the effluent must pass to achieve the proper detention time. No chlorine tablets were in the chlorination unit as the oxidation ditch is not required to disinfect again until April 1, 2016. The water was clear, with the exception of a small amount of bacterial growth that had sloughed off the walls as a result of the extreme cold. The effluent was clear, with no offensive odor. Downstream of the discharge point the receiving stream was still very clear with no trash, odors or bottom deposits and a small flow.

No generator had been purchased for emergency electrical generation. The gate was not repaired on the day of inspection, however parts for the repair had been ordered. The service road leading into the oxidation ditch had had rock haul on it and it had been graded.

**Sampling and Monitoring**

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen.

Water quality field monitoring was conducted at the following location for the listed parameters. As mentioned earlier, the discharge was clear in color and free of odor. The receiving stream was very clear, free of odor and bottom deposits with a normal flow.

| Outfall 001 | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 7.7 | SU |
| Temperature | 2.4 | °C |
| Dissolved Oxygen | 9.09 | mg/L |

Sampling was conducted at the following location and submitted for laboratory analysis for the parameters listed below. The Environmental Services Program Results of Sample Analyses are following.

| Outfall 001 | | | | | | |
|---|---|---|---|---|---|---|
| Results of Sample Analyses | | | Permit Limits | | | |
| Parameters | Sample Result | Units | Daily Max | Weekly Average | Monthly Average | Units |
| $BOD_5$ | 3.08 | mg/L | | 45 | 30 | mg/L |
| Total Suspended Solids (TSS) | <5 | mg/L | | 45 | 30 | mg/L |
| Ammonia as Nitrogen | 0.18 | mg/L | Monitor only | | | mg/L |

**Compliance Determination and Required Actions**

Based upon observations made at the time of the inspection, a review of Discharge Monitoring Reports, and a file review of the facility, the TDL oxidation ditch was found to be in non-compliance with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO-0095311.

1. Failed to submit complete and timely discharge monitoring reports as required in part "A" of Missouri State Operating Permit (MSOP) number MO-0095311[Section 644.076.1, RSMo, and 10 CSR 20-7.015(9)(A)1].

REQUIRED ACTION: Testing results for E. coli has not been submitted for 7/31/2015. Testing results for total nitrogen and total ammonia as N has not been submitted for 11/30/2015. Testing for dissolved oxygen, total nitrogen as N, and total phosphorus as P has not been submitted for 12/31/2015. If all the test results exist, they must be submitted to the Department by April 26, 2016.

**Recommendations**

This facility has already been referred to the Water Protection Program Compliance & Enforcement Section for multiple compliance issues. We would recommend that that this wastewater treatment facility receive daily attention. In addition, we recommend that TDL Utilities coordinate their compliance issues with Ms. Joan Doerhoff of the Compliance and Enforcement Section of the Water Protection Program.

**Comments**

I would like to thank Mr. Skiles for his time and assistance during the inspection.

SUBMITTED BY:

Tim Mattingly
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachment #1-Photos 1 through 3**

**Photo #:** 001
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** This is a photo of the far end of the oxidation ditch. Notice in the yellow box the mounts where the missing rotor should be located.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 002
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** This picture shows the good color of the mixed liquor and bacterial floc on the date of inspection.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 003
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** A photo of the single clarifier at the end of the oxidation ditch. The weir needed cleaning but due to the ice, this was not possible.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 004
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** The serpentine tablet chlorination system. Again, note the ice in the chlorination detention system.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 005
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** This is the V-notch weir and discharge structure at the end of the serpentine chlorination detention basin.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 006
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** This photo is an old sludge holding tank that was put in without Department approval and is no longer in use. It is slated to be removed.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Attachment #3-Photos 7 through 9**

**Photo #:** 007
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** This is a photo of the sludge storage area. The lid is under the metal plate in the yellow circle. The sludge return line is the pipe with the red arrow pointing at it.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 008
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** A view of the oxidation ditch with the sludge return line (red arrow) in the foreground.

**Date:** 01/26/2016
**Program:** WPC Unit

**Photo #:** 009
**By:** Tim Mattingly
**Facility:** TDL Ox Ditch
**Permit:** MO-0095311
**Location:** St. Francois Co.

**Description:** A picture of the newly rocked and graded entrance road into the ox ditch.

**Date Taken:** 01/26/2016
**Program:** WPC Unit

Terre DuLac Oxidation
Ditch St. Francois County
MO0095311

STATE OF MISSOURI
Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director
# DEPARTMENT OF NATURAL RESOURCES
www.dnr.mo.gov

February 24, 2016

Terre Du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

Dear Permittee:

Missouri State Operating Permit (MSOP) MO0095311 was issued to Terre Du Lac Utilities Corporation for the Terre DuLac Oxidation Ditch in St. Francois County. This permit sets forth specific effluent limitations, monitoring requirements, and specific permit conditions regarding the facility.

Review of your Discharge Monitoring Report(s) for the **monitoring period ending in November 2015** shows that the effluent limitations established in your MSOP have been exceeded. The effluent limits and the values that have exceeded those effluent limits are listed on the enclosed Discharge Monitoring Report Exceedance List.

An exceedance of the effluent limitations established in your permit is a violation of the Missouri Clean Water Law (MCWL), Sections 644.051.1(3) and 644.076.1; Clean Water Commission Regulations 10 CSR 20-7; and your MSOP. It is the department's expectation that you will take the necessary steps to ensure future compliance.

By March 26, 2016, please submit a written response to the address below which explains the reason(s) for the noncompliance and what steps you have taken or will take to prevent further violation(s) of the MCWL.

As always, the department is willing to meet with you to discuss the violation(s) and the actions necessary to bring your facility into compliance. If you would like to schedule a meeting or have questions, please contact Marletta Cozad, at (573) 840-9750, by mail at 2155 North Westwood Blvd., Poplar Bluff, MO 63901, or by email at marletta.cozad@dnr.mo.gov.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Arthur Goodin
Chief, Water Pollution Unit

AG/ckm

Enclosure: Discharge Monitoring Report Exceedance List

Terre DuLac Oxidation Ditch
St. Francois County
MO0095311

## DISCHARGE MONITORING REPORT EXCEEDANCE LIST

| Outfall | Monitoring End Date | Parameter | Units | Permit Limitations | Reported Values |
|---|---|---|---|---|---|
| 001 | 11/30/2015 | Nitrogen. ammonia total (as N) | mg/L | 2.6 - Monthly Avg. | 9.24 |

Terre Du Lac Oxidation Ditch
St. Francois County
MO0095311

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Jeremiah W. (Jay) Nixon, Governor • Sara Parker Pauley, Director

www.dnr.mo.gov

September 21, 2016

Terre Du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

Dear Permittee:

Missouri State Operating Permit (MSOP) MO0095311 was issued to Terre Du Lac Utilities Corporation for the Terre Du Lac Oxidation Ditch in St. Francois County. This permit sets forth specific effluent limitations, monitoring requirements, and specific permit conditions regarding the facility. Review of your Discharge Monitoring Report(s) for the **monitoring period(s) ending in April to June 2016** shows that the effluent limitations established in your MSOP have been exceeded. An exceedance of the effluent limitations established in your permit is a violation of the Missouri Clean Water Law (MCWL), Sections 644.051.1(3) and 644.076.1; Clean Water Commission Regulations 10 CSR 20-7; and your MSOP. The violations are listed on the enclosed Discharge Monitoring Report Exceedance List.

By **October 26, 2016**, please submit a written response to the address below which explains the reason(s) for the violation(s) and what steps you have taken or will take to prevent further violation(s) of the MCWL. As always, the department is willing to meet with you to discuss the violation(s) and the actions necessary to bring your facility into compliance. If you would like to schedule a meeting or have questions, please contact Marletta Cozad at 573-840-9750, by mail at 2155 North Westwood Blvd., Poplar Bluff, MO 63901, or by email at marletta.cozad@dnr.mo.gov.

**If you have already provided this information, the department appreciates your efforts to return your facility to compliance.**

Sincerely,

SOUTHEAST REGIONAL OFFICE

Arthur Goodin
Chief, Water Pollution Unit

AG/ckm

Enclosure: Discharge Monitoring Report Exceedance List

Terre DuLac Oxidation Ditch
St. Francois County
MO0095311

## DISCHARGE MONITORING REPORT EXCEEDANCE LIST

| Outfall | Monitoring End Date | Parameter | Units | Permit Limitations | Reported Values |
|---|---|---|---|---|---|
| 001 | 4/30/2016 | escheria coliform (E. Coli) | #/100mL | 630 - Daily Max. | 1060 |
| 001 | 4/30/2016 | escheria coliform (E. Coli) | #/100mL | 126 - 30 Day Geo. Mean | 9.596 |
| 001 | 6/30/2016 | Nitrogen, ammonia total (as N) | mg/L | 1.3 - Monthly Avg. | 4.75 |

Terre DuLac Oxidation Ditch
St. Francois County
MO0095311

STATE OF MISSOURI

Eric R. Greitens, Governor • Todd Sampsell, Acting Director

# DEPARTMENT OF NATURAL RESOURCES

dnr.mo.gov

January 10, 2017

**CERTIFIED MAIL # 7016 1970 0000 6900 7306**
RETURN RECEIPT REQUESTED

Terre Du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

**NOTICE OF VIOLATION**

Dear Permittee:

The Missouri Department of Natural Resources' Southeast Regional Office is issuing you Notice of Violation (NOV) number SE16243 for significant violations of Missouri State Operating Permit (MSOP) MO0095311 and the Missouri Clean Water Law (MCWL) at Terre DuLac Oxidation Ditch. The department requests that you take immediate action to correct the violations found on the attached list.

MSOP MO0095311 sets forth specific effluent limitations, monitoring requirements, and permit conditions regarding your facility. Failure to comply with effluent limitations established in part "A" of the MSOP is a violation of Sections 644.051.1(3) and 644.076.1, RSMo. **Failure to address the violation(s) may result in heightened enforcement action.**

By **February 10, 2017**, please submit a written response, to the Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901, addressing the above violations and explaining what steps you have taken or will take to prevent future violations. Your facility will be considered not in compliance until the violation(s) is/are addressed. If you have any questions or would like to schedule a meeting in person, please contact Arthur Goodin at 573-840-9750, Arthur.Goodin@dnr.mo.gov or the address above. Thank you for your cooperation in this matter.

**If you have already provided this information, the department appreciates your efforts to return your facility to compliance.**

Sincerely,

SOUTHEAST REGIONAL OFFICE

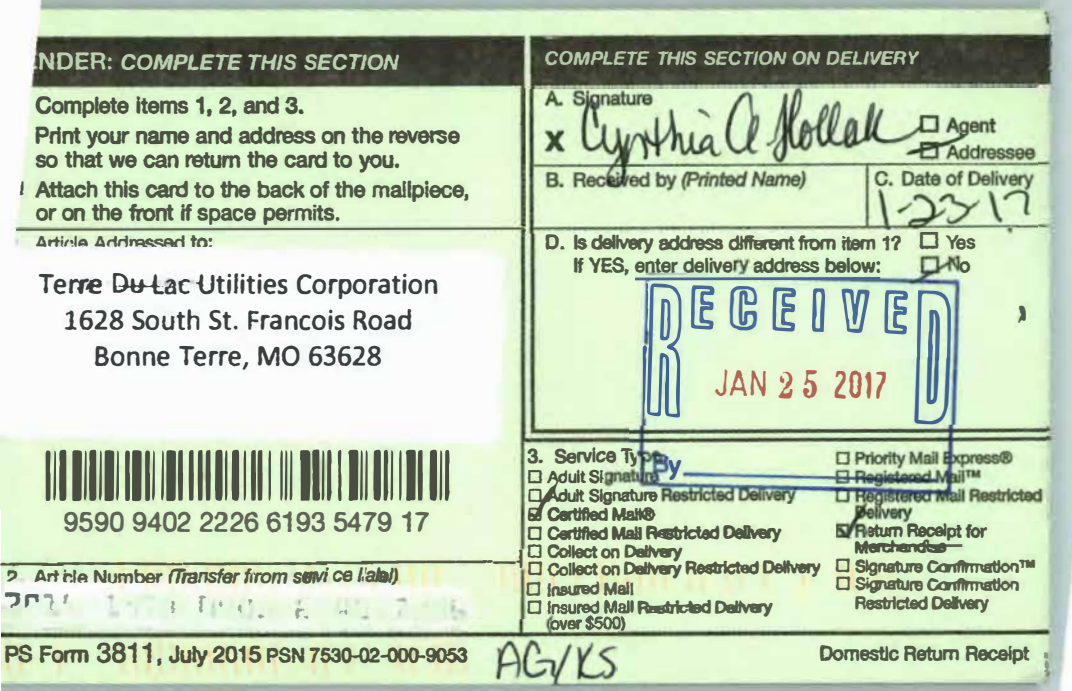
Jackson L. Bostic

Jackson L. Bostic
Regional Director

JLB/ag

c: Joan Doerhoff, Water Protection Program

| Issue | Permitted Feature | Monitoring Period End Date or Event Due Date | Parameter or Event Type |
|---|---|---|---|
| Effluent Violation | 001 | 6/30/2016 | Nitrogen, ammonia total (as N) |
| Effluent Violation | 001 | 7/31/2016 | Nitrogen, ammonia total (as N) |
| Effluent Violation | 001 | 9/30/2016 | Nitrogen, ammonia total (as N) |



NDER: COMPLETE THIS SECTION

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Terre ~~Du Lac~~ Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

9590 9402 2226 6193 5479 17

2. Article Number (Transfer from service label)

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x Cynthia A Hollak ☐ Agent ☒ Addressee

B. Received by (Printed Name) | C. Date of Delivery 1-23-17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

RECEIVED
JAN 25 2017
By

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☒ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)
☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☒ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 AG/KS Domestic Return Receipt

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Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

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- ☐ Return Receipt (hardcopy) $
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- ☐ Adult Signature Restricted Delivery $

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7016 1970 0000 6900 7306

Terre Du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructio

**Appendix--7**
**Page 4 of 4**

Terre du Lac North
St. Francois County
MO-0035700

Eric R. Greitens, Governor • Todd Sampsell, Acting Director
DEPARTMENT OF NATURAL RESOURCES
dnr.mo.gov

January 13, 2017

**Certified Mail # 7016 1970 0000 6900 7320**
**Return Receipt Requested**

Michael Tilley, President
Terre Du Lac Utilities
1628 S. St. Francois Road
Bonne Terre, MO 63628

**NOTICE OF VIOLATION**
**RESPONSE REQUIRED**

Mr. Tilley:

An investigation was conducted by Missouri Department of Natural Resources staff pursuant to Missouri Clean Water Law on January 4, 2017. This Notice of Violation (NOV) number SE171 is being issued for the violations identified during the investigation.

On January 4, 2017, Department Staff visited Terre du Lac in response to a concern regarding a sanitary sewer overflow (SSO) that allowed wastewater to discharge from a manhole near Normandie Drive and run into a nearby stream. The Department was advised by the neighboring homeowner that Terre du Lac had been informed of the SSO prior to our investigation and that no cleanup activities had occurred. Mr. Steve Skiles, Terre du Lac's Wastewater Operator, verified that a work order indicated that Terre du Lac had been notified of the SSO on December 29, 2016.

During the investigation, it was visibly determined that wastewater had discharged out of the manhole, onto the ground and into a nearby stream. Terre du Lac staff indicated that steps would be taken to unblock the clogged line and clean up the impacted area. Observations made during the investigation indicated that Terre du Lac discharged water contaminants into waters of the state which reduced the quality of such waters below the Water Quality Standards established by the Missouri Clean Water Commission [Sections 644.051.1(2) and 644.076.1, RSMo, and 10 CSR 20-7.031 or applicable subsection of 10 CSR 20-7.031]."

Additionally, a review of Department records indicates that no notification of the SSO by Terre du Lac was made prior to the investigation. A telephone notification was made on the afternoon of January 4th. These findings indicate that Terre du Lac failed to make notification of a SSO with twenty-four hours as required by the standard conditions of Missouri State Operating Permit (MSOP) number MO-0035700 [Section 644.076.1, RSMo]."

**A written response documenting actions taken to correct the violations is required by January 30, 2017.** The response must indicate the suspected cause of the SSO, preventative actions that will be taken to prevent future SSO's, cleanup actions conducted with photo documentation of the cleanup, and the suspected cause of the city's failure to report the SSO. The response should also detail future procedures for reporting SSOs to the department.

If you have any questions or would like to schedule a time to meet with department staff to discuss compliance requirements or a resolution to these violations, please contact Mr. Arthur Goodin at (573) 840-9750 in the department's Southeast Regional Office, 2155 N. Westwood Blvd., Poplar Bluff, MO 63901.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Jackson L. Bostic
Regional Director

C: Paul Dickerson, WPP, WPCB, Enforcement Section

Laura Elsbury, Attorney General's Office

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Eric R. Greitens, Governor
Carol S. Comer, Director

December 18, 2017

Mike Tilley
Terre du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

**UNSATISFACTORY FINDINGS**
**RESPONSE REQUIRED**

Staff from the Missouri Department of Natural Resources conducted an inspection on December 13, 2017 of Terre du Lac North Lagoon located on St. Michael St., Bonne Terre, MO in St. Francois County. The entity operates under the Missouri State Operating Permit MO-0035700.

Compliance with the Missouri Clean Water Law was evaluated. The enclosed report is being issued with **Unsatisfactory Findings** for the violations identified.

Please refer to the enclosed report for details on findings and required actions. **A written response documenting actions taken to correct the violations is required by the date specified in the report.**

Fact sheets are available on the Department's website to assist entities with understanding and following environmental requirements.

The Department records will document continued noncompliance of the environmental laws and regulations until the required actions are completed. Please understand that failure to respond or address ongoing violations may result in a follow-up inspection.

If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Arthur Goodin at (573) 840-9750 or in writing at Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901

Sincerely,

SOUTHEAST REGIONAL OFFICE

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit

c: Martin Hummel, Missouri Public Service Commission

Enclosures: Report of Inspection

**Missouri Department of Natural Resources**
**Southeast Regional Office/Water Protection Program**
**Report of Inspection**
**Terre du Lac Utilities North Lagoon**
**1628 South St. Francois Road/Bonne Terre/St. Francois County**
**MO-0035700**
**December 19, 2017**

## Introduction

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, I conducted a routine compliance inspection of the Terre du Lac North Lagoon (TDL North) in St. Francois County, Missouri, on December 13, 2017. Participants in the inspection were:

TDL South
Matt Bequette, Chief Operator (WW-A #8995) (636) 426-0084 Mattb@environmentalh2o.com

Missouri Department of Natural Resources
Tim Mattingly, Environmental Specialist III

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit MO-0035700, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Facility Description and History

Missouri State Operating Permit MO-0035700 was issued on February 1, 2015, and expires on June 30, 2018. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The legal description of Outfall #001for TDL North is listed on the permit as the SW ¼, NW ¼, Sec. 18, T37N, R4E, St. Francois County. The UTM coordinates for this site are x=707431, y=4200540. The receiving stream for this outfall is Three Hills Creek, watershed number 07140104-0302.

The wastewater treatment entity consists of a three cell lagoon, with aerated primary and secondary cells. The design population equivalent is 2,400 with a design flow of 240,000 gallons per day. The actual flow is 70,000 gallons per day. Design sludge production is 36 dry tons per year. The sludge is retained in the lagoon.

A review of the compliance history as recorded in the Missouri Clean Water Information System (MoCWIS) was reviewed from October 1, 2014 through October 30, 2017. One violation was found over that time period. The facility exceeded the limit for biochemical oxygen demand for August 31, 2016. This entity was referred to the Compliance and Enforcement Section of the Water Protection Program on September 4, 2009.

**Discussion of Inspection and Observations**

On December 4, 2017, I contacted Mr. Mike Tilley by telephone and asked if he or his certified operator would be available to accompany me on a routine compliance inspection of the TDL Ox Ditch on December 12th and13th. He indicated the certified operator, Mr. Matt Bequette, would be available for the inspection. I explained the purpose and scope of the inspection. Mr. Tilley concluded the conversation saying he would look forward to seeing me on December 12th. December 12, 2017, was spent inspecting the TDL Oxidation Ditch and setting up the composite sampler. Mr. Bequette and I agreed to meet at the oxidation ditch the next morning at 10 a.m. From there, we would travel to and inspect both the north and south lagoon systems at Terre du Lac and collect sample aliquots from the lagoons before returning to the oxidation ditch to collect the composite samples.

We met as planned at the TDL Oxidation Ditch at approximately 10 a.m. on December 13, 2017, and proceeded to the north lagoon. The day was slightly overcast as we began the lagoon inspection. The three-cell north lagoon at TDL is located just off St. Michael St. below the Lac Carmel dam. This is a gravity flow system.

The TDL North lagoon is a large lagoon system. Upon arrival at the site, I noticed that the entire fence surrounding the facility was gone. The fence has been an issue going back some years, along with extremely heavy vegetative growth on the berms and in the fence itself. A portion of the fence and most of the heavy brush had been removed from the west side of the lagoon area as of September 15, 2016, during a pop-in visit I made to update progress on the system. On the day of this inspection, all of the remaining fence had been removed. The old gate and its warning sign still remain. The berms were heavily vegetated with grass.

All three surfaces of the cells had substantial coverage of duckweed. There were some open areas of water on the surface likely due to the fact that the area has experienced some frost and cold weather, killing a portion of the duckweed. It was also clear around the one running aerator. In the summer months the third lagoon cell is at least eighty percent covered with duckweed as one can see from the satellite view in the addendum. A heavy coverage of duckweed blocks the interaction between the water's surface and the atmosphere, reducing the opportunity to increase the dissolved oxygen level necessary for biological decomposition of organic matter in the lagoon.

The discharge from the lagoon was clear and had little odor. The flow from the lagoon was normal on the day of inspection. The receiving stream appeared clear with no bottom deposits or trash in the stream.

I collected a grab sample and performed field testing. I also collected a second "duplicate" grab sample for Quality Assurance/Quality Control purposes according to the Environmental Services Program's Standard Operating Procedure. We then left the TDL North lagoon system to return to the oxidation ditch.

**Sampling and Monitoring**
The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen. The results of the field tests are in the following table.

| Outfall 001-Grab Sample | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 7.0 | SU |
| Temperature | 5.2 | °C |
| Dissolved Oxygen | 6.01 | mg/L |

| Outfall 001-Duplicate Sample | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 6.9 | SU |
| Temperature | 5.4 | °C |
| Dissolved Oxygen | 5.92 | mg/L |

A grab sample and a duplicate grab sample of the effluent were collected from the effluent discharge pipe. The aliquots will be analyzed for biochemical oxygen demand and total suspended solids. I delivered these samples to the Washington County Health Department at approximately 1:45 pm. These samples were shipped via the Missouri Health and Senior Services' courier to the Environmental Services Program Laboratory for analysis. The results of the samples were not available at the time this report was written.

**Compliance Determination**

Based upon observations made at the time of the inspection and a review of Discharge Monitoring Reports in MoCWIS, the facility was found to be in **non-compliance** with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO-0035700.

**Unsatisfactory Findings**

1) The facility failed to clearly and sufficiently restrict entry by children, livestock, or unauthorized persons and to protect the facility from vandalism as required in the permit under Special Conditions item 12.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the efforts taken to meet the requirement of Special Condition item 12.**

2) The facility failed to clearly mark Outfall 001 in the field as required in the permit under Special Conditions item 3.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the signage marking Outfall 001 in the field.**

3) The facility failed to place warning signs on each side of the facility enclosure in such position as to be clearly visible from all direction of approach as required in the permit under Special Conditions item 14.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the warning signage on each side of the facility enclosure visible from all direction of approach. Minimum wording shall be "SEWAGE TREATMENT FACILITY-KEEP OUT". Signs shall be made of durable materials with characters at least two inches high and shall be securely fastened to the fence, equipment, or other suitable locations.**

4) The facility failed to keep the berms of the lagoon mowed and kept free of any deep rooted vegetation, animal dens, or other potential sources of damage to the berms as required in the permit under Special Conditions item 19.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the effort taken to mow or remove excessive vegetation from the lagoon berms.**

5) The facility failed to submit a progress report, which was due on February 1, 2017, as required by the special conditions of its Missouri State Operating Permit.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit February 1, 2017 progress report required by the Schedule of Compliance section of the facility's permit.**

**Recommendations**

TDL North has a "Part D.-Schedule of Compliance" in the Missouri State Operating Permit requiring the facility to meet the effluent limits for ammonia and for *Escherichia coli*. This facility is required to be able to meet both of those limits by February 1, 2019.

We also recommend to Mr. Tilley to be mindful of the requirement to submit the interim progress reports to the Department on time.

**Comments**

I would like to thank Mr. Bequette for his time and assistance during the inspection.

SUBMITTED BY:

Tim Mattingly
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit
Southeast Regional Office

## Attachment #1-Photos 1 through 3


**Photo #:** 001
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** A satellite view of the three-cell north lagoon system at Terre du Lac.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 002
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** This is the TDL North three-cell lagoon on the day of inspection.

**Date:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 003
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** A photo of the primary cell of the TDL North lagoon. The aerator in the blue circle will be getting a new electric motor.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

**Attachment #2-Photos 4 through 6**


**Photo #:** 004
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** A view of the secondary cell of the TDL North lagoon. One aerator (on the right) is running but both are operable.

**Date Taken:** 12/13/2017
**Program:** WPC Unit


**Photo #:** 005
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** A picture of the third cell of the TDL North lagoon system.

**Date:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 006
**By:** Tim Mattingly
**Facility:** TDL North
**Permit:** MO-0035700
**Location:** St. Francois County

**Description:** This is a picture of the discharge structure at TDL North.

**Date Taken:**
**Program:** WPC Unit

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Eric R. Greitens, Governor
Carol S. Comer, Director

December 18, 2017

Mike Tilley
Terre du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628

**UNSATISFACTORY FINDINGS**
**RESPONSE REQUIRED**

Staff from the Missouri Department of Natural Resources conducted an inspection on December 13, 2017 of Terre du Lac South Lagoon located on Rue Valerie near the intersection of Rue Calais, Bonne Terre, MO in St. Francois County. The entity operates under the Missouri State Operating Permit MO-0057312.

Compliance with the Missouri Clean Water Law was evaluated. The enclosed report is being issued with **Unsatisfactory Findings** for the violations identified.

Please refer to the enclosed report for details on findings and required actions. **A written response documenting actions taken to correct the violations is required by the date specified in the report.**

Fact sheets are available on the Department's website to assist entities with understanding and following environmental requirements.

The Department records will document continued noncompliance of the environmental laws and regulations until the required actions are completed. Please understand that failure to respond or address ongoing violations may result in a follow-up inspection.

If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Arthur Goodin at (573) 840-9750 or in writing at Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901

Sincerely,

SOUTHEAST REGIONAL OFFICE

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit

c: Martin Hummel, Missouri Public Service Commission

Enclosures: Report of Inspection

**Missouri Department of Natural Resources**
**Southeast Regional Office/Water Protection Program**
**Report of Inspection**
**Terre du Lac Utilities South Lagoon**
**1628 South St. Francois Road/Bonne Terre/St. Francois County**
**MO-0057312**
**December 19, 2017**

## Introduction

Pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, I conducted a routine compliance inspection of the Terre du Lac South Lagoon (TDL South) in St. Francois County, Missouri, on December 13, 2017. Participants in the inspection were:

TDL South
Matt Bequette, Chief Operator (WW-A #8995) (636) 426-0084 Mattb@environmentalh2o.com

Missouri Department of Natural Resources
Tim Mattingly, Environmental Specialist III

This inspection was conducted to determine the facility's compliance with Missouri State Operating Permit MO-0057312, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Facility Description and History

Missouri State Operating Permit MO-0057312 was issued on February 1, 2015, and expires on June 30, 2018. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The legal description of Outfall #001for TDL South is listed on the permit as the SE ¼, NW ¼, Sec. 20, T37N, R4E, St. Francois County. The UTM coordinates for this site are x=709278, y=4198844. The receiving stream for this outfall is Cabanne Course, watershed number 07140104-0302.

The wastewater treatment entity consists of a single cell lagoon. The design population equivalent is 40 with a design flow of 4,000 gallons per day. The actual flow is 20,800 gallons per day. Design sludge production is 0.84 dry tons per year. The sludge is retained in the lagoon.

A review of the compliance history as recorded in the Missouri Clean Water Information System (MoCWIS) was reviewed from October 1, 2014 through October 30, 2017. No violations were found over that time period. However, this entity was referred to the Compliance and Enforcement Section of the Water Protection Program on September 4, 2009.

**Discussion of Inspection and Observations**

On December 4, 2017, I contacted Mr. Mike Tilley by telephone and asked if he or his certified operator would be available to accompany me on a routine compliance inspection of the TDL Ox Ditch on December 12th and 13th. He indicated that the certified operator, Mr. Matt Bequette, would be available for the inspection. I explained the purpose and scope of the inspection. Mr. Tilley concluded the conversation saying he would see me on December 12th. December 12, 2017 was spent inspecting the TDL Oxidation Ditch and setting up the composite sampler. Mr. Bequette and I agreed to meet at the oxidation ditch the next morning at 10 a.m. From there, we would travel to and inspect both the north and south lagoon systems at Terre du Lac and collect sample aliquots from the lagoons before returning to the oxidation ditch to collect the composite samples.

We met as planned at the TDL Oxidation Ditch at approximately 10 a.m. on December 13, 2017. The day was slightly overcast as we began the lagoon inspection. The single-cell south lagoon at TDL is located just off Rue Valerie near the intersection of Rue Calais. This is a gravity flow system serving approximately twenty homes.

Physically, this is a very small lagoon, approximately 100 feet across. There are several issues associated with this lagoon. The first thing I noticed was that the entire fence was gone. The gate and its warning sign still remain. The berms were heavily vegetated with grass.

The surface was approximately fifty percent covered with duckweed. This is likely due to the fact that the area has experienced some frost and cold weather. In the summer months this lagoon is one hundred percent covered with duckweed as one can see from the satellite view in the addendum. A heavy coverage of duckweed blocks the interaction between the water's surface and the atmosphere, reducing the opportunity to increase the dissolved oxygen level necessary for biological decomposition of organic matter in the lagoon.

The discharge from the lagoon also had a very strong septic odor. The lagoon may be hydraulically overloaded. The design flow is 4,000 gallons per day while the actual flow is reported at 20,800 gallons per day. The actual flow is approximately 5.2 times the design flow, allowing very little retention time for treatment.

Extensive duckweed coverage can cause the wastewater to turn septic by reducing the dissolved oxygen levels to near zero. Mr. Bequette informed me that during his routine operational testing he has recorded several days of 1.0 mg/L or less of dissolved oxygen in the lagoon. You will find later in this report where I did check the dissolved oxygen level and found it to be approximately 2.5 mg/L however, the duckweed coverage is reduced to fifty percent, and it had been quite windy the two days previous to my inspection.

I collected a grab sample and performed field testing. I also collected a second "duplicate" grab sample for Quality Assurance/Quality Control purposes according to the Environmental Services Program's Standard Operating Procedure. We then left the TDL South lagoon to travel to the TDL North lagoon system.

## Sampling and Monitoring

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling. Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen. The results of the field tests are in the following table.

| Outfall 001-Grab Sample | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 6.5 | SU |
| Temperature | 5.2 | °C |
| Dissolved Oxygen | 2.54 | mg/L |

| Outfall 001-Duplicate Sample | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 6.7 | SU |
| Temperature | 4.8 | °C |
| Dissolved Oxygen | 2.40 | mg/L |

A grab sample and a duplicate grab sample of the effluent were collected from the effluent discharge pipe. The aliquots will be analyzed for biochemical oxygen demand and total suspended solids. I delivered these samples to the Washington County Health Department at approximately 1:45 pm. These samples were shipped via the Missouri Health and Senior Services' courier to the Environmental Services Program Laboratory for analysis. The results of the samples were not available at the time this report was written.

## Compliance Determination

Based upon observations made at the time of the inspection and a review of Discharge Monitoring Reports in MoCWIS, the facility was found to be in **non-compliance** with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO-0057312.

## Unsatisfactory Findings

1) The facility failed to clearly sufficiently restrict entry by children, livestock, or unauthorized persons and to protect the facility from vandalism as required in the permit under Special Conditions item 12.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the efforts taken to meet the requirement of Special Condition item 12.**

2) The facility failed to clearly mark Outfall 001 in the field as required in the permit under Special Conditions item 3.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the signage marking Outfall 001 in the field.**

3) The facility failed to place warning signs on each side of the facility enclosure in such position as to be clearly visible from all direction of approach as required in the permit under Special Conditions item 14.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the warning signage on each side of the facility enclosure visible from all direction of approach. Minimum wording shall be "SEWAGE TREATMENT FACILITY-KEEP OUT". Signs shall be made of durable materials with characters at least two inches high and shall be securely fastened to the fence, equipment, or other suitable locations.**

4) The facility failed to keep the berms of the lagoon mowed and kept free of any deep rooted vegetation, animal dens, or other potential sources of damage to the berms as required in the permit under Special Conditions item 19.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit photo documentation to the Department of the effort taken to mow or remove excessive vegetation from the lagoon berms.**

5) The facility failed to submit progress reports, which were due on August 1, 2015 and February 1, 2017, as required by the special conditions of its Missouri State Operating Permit.

   REQUIRED ACTION: **By January 19, 2018, the facility must submit the August 1, 2015 and February 1, 2017 progress reports required by the Schedule of Compliance section of the facility's permit.**

**Recommendations**

We would recommend that all options are explored to determine which are most economically feasible to achieve in the time remaining in the facility's Schedule of Compliance. We also recommend to Mr. Tilley to be mindful of the requirement to submit the interim progress reports to the Department on time.

**Comments**

I would like to thank Mr. Bequette for his time and assistance during the inspection.

SUBMITTED BY:

Tim Mattingly
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Arthur Goodin, CHMM
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachment #1-Photos 1 through 3**


**Photo #:** 001
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-0057312
**Location:** St. Francois County

**Description:** This is a satellite view of the TDL South lagoon. It serves approximately 20 homes.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 002
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-005312
**Location:** St. Francois County

**Description:** A photo looking almost due east. You can see the old gate to the right but there is no other fencing left on the perimeter. Very tall vegetation is on the berms.

**Date:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 003
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-0057312
**Location:** St. Francois County

**Description:** A picture of the east side of the lagoon. Note the heavy covering of duck weed.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

**Attachment #2-Photos 4 through 6**

**Photo #:** 004
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-0057312
**Location:** St. Francois County

**Description:** A photo of the west side of the lagoon. Some of the duck weed has been killed by the recently cold temperatures.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 005
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-0057312
**Location:** St. Francois County

**Description:** An overall view of the south lagoon at Terre du Lac.

**Date:** 12/13/2017
**Program:** WPC Unit

**Photo #:** 006
**By:** Tim Mattingly
**Facility:** TDL South
**Permit:** MO-0057312
**Location:** St. Francois County

**Description:** A photo of the discharge pipe at TDL South. Some of what you see on the ground is ice. The water splashing on a rock had frozen.

**Date Taken:** 12/13/2017
**Program:** WPC Unit

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

**Certified Mail # 7016 1970 0000 6898 9337**
**Return Receipt Requested**

August 9, 2019

Terre Du Lac Utilities Corporation
Attn: Mike Tilly
1128 South St. Francois
Bonne Terre, MO 63628

**LETTER OF WARNING**
**RESPONSE REQUIRED**

Dear Mr. Tilly:

Staff from the Department of Natural Resources conducted an inspection on July 10-11, 2019 of the Terre Du Lac Oxidation Ditch wastewater treatment plant (WWTP) located at the south terminus of North Capri Ridge Drive in Terre Du Lac near Bonne Terre, Missouri and in St. Francois County. The Terre Du Lac Oxidation Ditch operates under the authority of Missouri State Operating Permit MO0095311.

Compliance with the Missouri Clean Water Law was evaluated. A Letter of Warning (LOW) is being issued for the violations identified in the enclosed report.

Please direct your attention to the **Compliance Determination, Violations, and Required Actions** section in the enclosed report. The report documents the findings and the actions that you must take to address the violations. **A written response documenting actions taken to correct the violations is required by the date specified in the report.**

Failure to address the required actions will result in the issuance of a Notice of Violation. If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Wesley Hargraves at (573) 840-9789 or in writing at the Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Bradley K. Ledbetter
Environmental Manager

BKL:wh:ks

Enclosure: Report of Inspection

c: Andrew Harris, Public Service Commission, andrew.harris@psc.mo.gov
Logan Cole, WPCP Enforcement Section, logan.cole@dnr.mo.gov

**Missouri Department of Natural Resources**
**Southeast Regional Office**
**Report of Inspection**
**Terre Du Lac Oxidation Ditch**
**South Terminus North Capri Ridge Drive / Bonne Terre / St. Francois County**
**MO0095311**
**August 9, 2019**

## Introduction

I, Wesley Hargraves, conducted a routine compliance inspection of the Terre Du Lac Oxidation Ditch wastewater treatment plant (WWTP) on July 10-11, 2019. Participants during the inspection are listed below.

Terre Du Lac Utilities Corporation

| | | | |
|---|---|---|---|
| Mike Tilly | President/Owner | (573) 747-6803 | tdlu@charter.net |
| Natalie Frazier | Contract Operator | (618) 977-4969 | imincontrols@yahoo.com |
| Hayden Tilly | Maintenance | | |
| John Pratt | Operator/Maintenance | | |
| Robbie Gough | Operator/Maintenance | | |

Missouri Department of Natural Resources

| | | | |
|---|---|---|---|
| Wesley Hargraves | Env. Specialist | (573) 840-9789 | wesley.hargraves@dnr.mo.gov |
| Frank Shovlin | Env. Specialist | (573) 840-9023 | frank.shovlin@dnr.mo.gov |

This inspection was conducted, pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, to determine the facility's compliance with Missouri State Operating Permit (MSOP) MO0095311, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Entity Description and History

The latest issuance of MSOP MO0095311 was placed into effect on January 1, 2019 and expires on December 31, 2022. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The Terre Du Lac - Oxidation Ditch (South Terminus of North Capri Ridge Drive, Bonne Terre, MO 63628) operates under the ownership of the Terre Du Lac Utilities Corporation (1128 South St. Francois Road, Bonne Terre, MO 63628). No additional continuing authority is listed.

The operation of the facility must be by or under the supervision of a certified "C" level wastewater operator. Ms. Natalie Frazier (Certificate #5908, WW-A and DW-D) has been certified at the "A" level for wastewater operations. Mr. John Pratt (Certificate #15493 WW-D) and Mr. Robert Gough (Certificate #15487 WW-D) are also certified at a "D" level. The facility consists of an oxidation ditch, clarifier, and chlorination. Sludge is land applied.

The design population equivalent of the system is 2,500. The design flow is 250,000 gallons per day. Actual flow is listed as 66,000 gallons per day. The design sludge production is 52.5 dry tons per year.

The legal description of the facility is listed on the permit as Section 30, Township 37 North, Range 4 East, in St. Francois County. The UTM GPS coordinates for the facility are X=708638 and Y=4196156, as listed in the permit. The receiving stream for this site is listed as a tributary to Big River (C). The first classified stream segment is identified as 8-20-13 MUDD V1.0 (C) (3960). The facility is part of USGS HUC8 Watershed 07140104.

During review of the facility's Discharge Monitoring Reports (DMRs) for the last 24 months, a couple exceedances were noted. Since the time of the exceedances more recent sample results indicate the cause of these exceedances has been addressed. These are listed in the chart below. Also, no analysis for dissolved oxygen, pH, or flow was reported on the 4th Quarter 2018 DMR. This was a result of the new operator, Ms. Natalie Frazier, not having access to records kept by the old operator when she began operating the facility in January 2019. This is documented in a January 15, 2019, email between Ms. Frazier and Ms. Marletta Cozad of the Southeast Regional Office.

| Reporting Period | Parameter | Sample Result | Permit Limits –Effluent Limitations | | | |
|---|---|---|---|---|---|---|
| | | | Units | Daily Maximum | Weekly Average | Monthly Average |
| July 2018 | Ammonia as N | **11** | mg/L | **5.4** | | **1.3** |
| August 2017 | Ammonia as N | **3** | mg/L | 5.4 | | **1.3** |

Records indicate that annual sludge reports were received from 2013-2016. However, no report has been received for 2017 or 2018.

The Terre Du Lac Utilities Corporation has paid the annual permitting fees associated with MSOP MO0095311. The next payment appears to have just been invoiced on July 16, 2019 and will be due on September 27, 2019.

No Sanitary Sewer Overflow (SSO)/Bypass Reports have been submitted in the last couple of years.

The Terre Du Lac - Oxidation Ditch was last inspected on December 12, 2017. At that time, the facility was found to be in compliance. The Terre Du Lac – Oxidation Ditch is currently under enforcement action following referral on September 4, 2009. Logan Cole is the assigned Case Manager. Logan can be reached at (573) 751-6725 with enforcement related questions.

**Discussion of Inspection and Observations**

Prior to the inspection, the Permit Conditions of MSOP MO0095311 and Discharge Monitoring Reports were reviewed.

The inspection was conducted during normal business hours. Prior notification of the inspection was provided to ensure timely access to the site. Upon arrival on July 10, 2019, Frank Shovlin and I met with Mr. Mike Tilly, Ms. Natalie Frazier, and Mr. Hayden Tilly at the Terre Du Lac offices. We discussed the purpose and scope of the inspection. Mr. Mike Tilly granted permission to access the site and he and Mr. Hayden Tilly accompanied us throughout the inspection on July 10, 2019. Ms. Frazier accompanied us throughout the inspection on July 10, 2019 and the sampling on July 11, 2019. On July 11, 2019, Mr. Pratt and Mr. Gough joined us.

Inspections of the Terre Du Lac – North Three-Cell Lagoon WWTF and the Terre Du Lac – South One-Cell Lagoon WWTF were also conducted. Due to composite sampling requirements associated with the permit for the oxidation ditch and the logistics of sample delivery, it was decided to conduct visual inspections on July 10, 2019 and take samples on July 11, 2019.

We traveled to the Terre Du Lac Oxidation Ditch WWTP and I set up an automated composite sampler. A visual inspection of the plant was then conducted. The facility is fenced and secure. Some sections of the fence had vines and vegetation present that if left to continue to grow could cause damage in the future. Removal will also become more difficult as it grows. Removal as soon as possible is recommended. A gravel road runs right up to the facility providing all-weather access. Access to the plant is provided via a gate locked with a chain. Warning signage was in place.

The oxidation ditch was brown in color with a slight earthy odor. One of the two rotors were inoperable at the time of the inspection. While a single rotor may provide sufficient aeration for the system during normal conditions both rotors should be kept operational. Their use may be rotated if only one is needed, however, the second should be in working order so that it is ready if daily operational monitoring indicates it is needed. It also allows the facility to continue to function in the event that one breaks down. Vegetation was also observed growing on the middle concrete wall separating the two sides of the oxidation ditch. This vegetation should be removed and repairs made to any cracks. Plant roots will accelerate degradation of the concrete. Additionally, if not repaired, winter ice will work in the cracks already formed and further expand these cracks leading to costly repairs in the future. From the oxidation ditch, wastewater flows to a clarifier via an outlet box on the south side of the oxidation ditch. Wastewater flows from the clarifier through a tablet chlorination system and into a contact basin. A couple of deteriorated wooded structures were present in the contact basin. These structures should be removed unless they are integral to the design of the system. If integral to the system, they should be repaired. A v-notch weir is located at the end of the contact basin. The discharge then flows across the concrete conveyance and out to Outfall #001. No Outfall signage was observed during the inspection.

The permit conditions of MSOP MO0095311 and DMRs were reviewed. The facility's Operation and Maintenance Manual and operational monitoring were also discussed. No Operation and Maintenance Manual was available at the time of the inspection. Mr. Tilly believed one had been developed but was unable to find it at the time of the inspection.

At the time of the inspection, operational monitoring was being conducted at the Terre Du Lac Oxidation Ditch but not at the correct frequency. This was discussed with Ms. Frazier in detail and copies of the applicable section of 10 CSR 20-9 and a copy of the Department's Operational Monitoring Report for Mechanical Wastewater Systems were provided. Ms. Frazier stated that operational monitoring would be done as required in the future.

Mr. Shovlin and I returned to the site and took samples on July 11, 2019. Ms. Frazier also took samples for the facility. Additional information regarding sampling is documented in the Sampling and Monitoring section below. Total Residual Chlorine (TRC) analysis indicated a concentration of 0.41 mg/L or 410 µg/L. This exceeds the permitted limitation of < 130 µg/L. De-chlorination was discussed. Ms. Frazier and Mr. Pratt believed that Terre Du Lac Utilities had de-chlorination tablets and a dispenser similar to the one used for chlorination tablets. The de-chlorination had just not been used by the prior operators as sampling had indicated that Total Residual Chlorine limits had been met without the need to chemically de-chlorinate.

When chlorination is in use, de-chlorination should also be used to ensure the facility would meet the TRC permit limit. During the inspection, questions regarding the permit statement "Do not chemically de-chlorinate if it is not needed to meet the limits in your permit" was discussed. If during the non-recreational months, for example, chlorine is not being used then there is no need to chemically de-chlorinate. Unless extensive data can be collected, by undertaking additional monitoring for Total Residual Chlorine prior to the de-chlorination system that indicates de-chlorination is not needed to meet Total Residual Chlorine limits on a consistent basis, then de-chlorination should be used when chlorination is being used.

**Sampling and Monitoring**

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling.

Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, dissolved oxygen, and total residual chlorine. Water quality field monitoring was conducted at the following locations for the listed parameters. The effluent was clear and free of visible solids.

| **Outfall #001** | | | | | |
|---|---|---|---|---|---|
| **Results of Sample Analyses** | | **Permit Limits – Final Effluent Limitations** | | | |
| **Parameters** | **Sample Result** | **Units** | **Daily Max** | **Weekly Average** | **Monthly Average** |
| pH | 6.8 | S.U. | 6.5 – 9.0 | | |
| Temperature | 27.6 | °C | Monitoring | | |
| Dissolved Oxygen | 3.6 | mg/L | Monitoring | | |
| Total Residual Chlorine | **410** | µg/L | **< 130** | | **< 130** |

Sampling was conducted at the following locations and submitted to the Environmental Services Program for laboratory analysis for the parameters listed on the next page.

| Outfall #001 | | | | | |
|---|---|---|---|---|---|
| **Results of Sample Analyses** | | **Permit Limits – Final Effluent Limitations** | | | |
| **Parameters** | **Sample Result** | **Units** | **Daily Max** | **Weekly Average** | **Monthly Average** |
| Total Suspended Solids (TSS) | 11.0 | mg/L | | 45 | 30 |
| Biochemical Oxygen Demand$_5$ ($BOD_5$) | 3.21 | mg/L | | 45 | 30 |
| Ammonia as N | < 0.02 | mg/L | 5.4 | | 1.3 |
| Total Nitrogen | 37.8 | mg/L | Monitoring | | |
| Total Phosphorus | 5.69 | mg/L | Monitoring | | |
| E. coli | 1.0 | #/100 mL | 630 | | 126 |

Total Residual Chlorine limits were exceeded. Exceeding any permit limitation is a violation of the facility's Missouri State Operating Permit effluent limitations and the Missouri Clean Water Law, Sections 644.051.1(1) (3) and 644.076.1

**Compliance Determination, Violations, and Required Actions**

The facility was found to be **not in compliance** with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO0095311, based upon the violations noted below.

**Letter of Warning**

1. During the inspection, the Terre Du Lac Oxidation Ditch failed to comply with the effluent limits contained in Part "A" of MSOP MO0095311 [Sections 644.051.1(3) and 644.076.1], RSMo.

   **Required Action:** The Total Residual Chlorine exceedance must be addressed. Steps must be taken to operate the facility such that effluent limits for Total Residual Chlorine are met. By September 12, 2019, Terre Du Lac Utilities must submit a response outlining the plan to bring the Terre Du Lac Oxidation Ditch into compliance with effluent limits in MSOP MO0095311.

2. Failed to submit annual Form S sludge reporting as required by the standard conditions of MSOP MO0095311 [Section 644.076.1, RSMo].

   MSOP MO0095311 Section B Standard Conditions states:
   In addition to specified conditions stated herein, this permit is subject to the attached Parts I & III standard conditions dates August 1, 2014 and March 1, 2015, and hereby incorporated as though fully set forth herein.

Standard Conditions Part III Section J (2)(a) states:
By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater facilities, sludge lagoons, and sludge, or biosolids disposal facilities.

Form S – Section 1 can be found at:
https://dnr.mo.gov/forms/780-1636-f.pdf

Form S – Sections 2-6 can be found at:
https://dnr.mo.gov/forms/
Once at the Department's Forms Website, select Water Pollution Control from the drop-down box. Then scroll down to the end of the Water Pollution Control section to the Sludge heading. This heading is just above the Stormwater section.

**Required Action:** Annual Sludge Reporting must be submitted as required. By September 12, 2019, Terre Du Lac Utilities must submit the missing reports covering 2017 and 2018, which came due on January 28, 2018 and January 28, 2019. If the data needed cannot be found, a response outlining why this data is not available and an operational change/plan to ensure future records are maintained on file as required must be submitted by September 12, 2019. Standard Conditions Part III requires records be maintained on file at the facility for at least five years.

3. Operational monitoring has not been conducted and recorded at the correct frequency for the Terre Du Lac Oxidation Ditch WWTP.

   During the inspection, copies of 10 CSR 20-9 operational monitoring requirements and the Department's Operational Monitoring Report – Mechanical Wastewater Systems were provided to Ms. Frazier. Ms. Frazier stated her intent to conduct operational monitoring at the correct frequency going forward.

   **Required Action:** Operational monitoring must be carried out as indicated in 10 CSR 20-9. Monitoring records must be available upon request by the Missouri Department of Natural Resources. By September 12, 2019, submit a plan summarizing how operators will coordinate with one another to ensure operational monitoring is conducted daily (Monday – Friday) as required. Also, include how this monitoring will be recorded, where it will be stored, and who to contact to request this data.

4. Failed to clearly mark outfalls as required by the special conditions of MSOP MO0095311 [Section 644.076.1, RSMo].

   MSOP MO0095311 Special Condition #3 states:
   All outfalls must be clearly marked in the field.

   **Required Action:** By September 12, 2019, please provide photographic documentation that signage has been installed, or found and reinstalled, at the outfall.

5. Failed to maintain an Operation and Maintenance manual as required by the special conditions of MSOP MO0095311 [Section 644.076.1, RSMo].

   Special Condition #13 of MSOP MO0095311 states:

   An Operation and Maintenance (O&M) manual shall be maintained by the permittee and made available to the operator. The O&M manual shall include key operating procedures and a brief summary of the operation of the facility.

   **Required Action:** By September 12, 2019, the permittee must submit a response documenting that an O&M manual that provides information regarding key operating procedures and a brief summary of the operation of the facility has been developed for the Terre Du Lac Oxidation Ditch.

All statements/responses should be submitted by mail to the attention of Wesley Hargraves at the Southeast Regional Office of the Missouri Department of Natural Resources, 2155 North Westwood Blvd., Poplar Bluff, MO 63901 or by email to wesley.hargraves@dnr.mo.gov.

**Recommendations**

1. All vegetation growing up fencing should be removed.
2. Plant growth on the separating wall in the middle of the oxidation ditch should be removed and any cracks repaired.
3. The south rotor should be repaired and both rotors maintained in an operational state.
4. Wooden debris from the chlorine contact chamber should be removed or repaired/replaced.
5. No emergency back-up generator was observed at the oxidation ditch site. The installation of an emergency generator or purchase of a mobile generator unit with sufficient capacity to supply the oxidation ditch's power requirements would enable the plant to continue operation during power failures.
6. During field monitoring and the collection of samples a discussion regarding personal protective equipment (PPE) and its use while working with wastewater came up. I would recommend that all employees of Terre Du Lac Utilities wear PPE when working with or around wastewater conveyance or treatment systems. This PPE would consist of protective gloves such as nitrile when working with wastewater, safety glasses or goggles

if splash or spray of wastewater is present or when working with machinery, hearing protection would also be recommended if working in a loud environment. I would also suggest Terre Du Lac Utilities supply needed PPE such as disposable gloves, safety glasses, and ear plugs to encourage their use.

**Additional Comments / Conclusion**

An Agreed Partial Order of Preliminary Injunction was ordered on May 19, 2015 and contains additional required actions covering each of the wastewater treatment systems at Terre Du Lac.

I would like to thank Mr. Mike Tilly, Ms. Natalie Frazier, Mr. Hayden Tilly, Mr. John, Pratt, and Mr. Robbie Gough for their time and assistance during the inspection. If there are any questions concerning this report, please feel free to contact me by phone at (573) 840-9789, by email at wesley.hargraves@dnr.mo.gov, or at 2155 N. Westwood Blvd., Poplar Bluff, Missouri 63901. For questions regarding the status of the enforcement case, contact Logan Cole at (573) 751-6725.

**Signatures**

SUBMITTED BY:

Wesley Hargraves
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Josh Wilkerson
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachments**
Attachment #1 – Photograph (#001) Through Photograph (#008)
Attachment #2 – Aerial View / Site Map

**Photograph #:** 001
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of oxidation ditch and northern rotor. Taken facing south.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 002
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of southern rotor. This rotor was not operable at the time of the inspection. Taken facing south.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 003
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of outlet box to clarifier. Taken facing southeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 004
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of clarifier. Heavy algae growth was observed. Taken facing southwest.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 005
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of tablet chlorination setup. Taken facing west.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 006
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of middle section of chlorine contact basin. Deteriorated wooded structures were present in the contact basin. Taken facing west.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 007
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of end section of contact basin. Taken facing west.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 008
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac Oxidation Ditch
**Permit:** MO0095311
**Location:** St. Francois County

**Description:** View of effluent v-notch weir. Taken facing northwest.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Aerial view of Terre Du Lac Oxidation Ditch via Google Earth**

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

**Certified Mail # 7016 1970 0000 6898 9337**
**Return Receipt Requested**

August 9, 2019

Terre Du Lac Utilities Corporation
Attn: Mike Tilly
1128 South St. Francois
Bonne Terre, MO 63628

**LETTER OF WARNING**
**RESPONSE REQUIRED**

Dear Mr. Tilly:

Staff from the Department of Natural Resources conducted an inspection on July 10-11, 2019 of the Terre Du Lac North – Three Cell Lagoon wastewater treatment facility (WWTF) located at the northwest end of Terre Du Lac on Rue Orleans near Bonne Terre, Missouri and in St. Francois County. The Terre Du Lac North - Three Cell Lagoon operates under the authority of Missouri State Operating Permit MO0035700.

Compliance with the Missouri Clean Water Law was evaluated. A Letter of Warning (LOW) is being issued for the violations identified in the enclosed report.

Please direct your attention to the **Compliance Determination, Violations, and Required Actions** section in the enclosed report. The report documents the findings and the actions that you must take to address the violations. **A written response documenting actions taken to correct the violations is required by the date specified in the report.**

Failure to address the required actions will result in the issuance of a Notice of Violation. If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Wesley Hargraves at (573) 840-9789 or in writing at the Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Bradley K. Ledbetter
Environmental Manager

BKL:wh:ks

Enclosure: Report of Inspection
Standard Conditions Part III

c: Andrew Harris, Public Service Commission, andrew.harris@psc.mo.gov
Logan Cole, WPCP Enforcement Section, logan.cole@dnr.mo.gov

**Missouri Department of Natural Resources**
**Southeast Regional Office**
**Report of Inspection**
**Terre Du Lac North - Three Cell Lagoon**
**Northwest of Community on Rue Orleans / Bonne Terre / St. Francois County**
**MO0035700**
**August 9, 2019**

## Introduction

I, Wesley Hargraves, conducted a routine compliance inspection of the Terre Du Lac North – Three Cell Lagoon wastewater treatment facility (WWTF) on July 10-11, 2019. Participants during the inspection are listed below.

Terre Du Lac Utilities Corporation

| | | | |
|---|---|---|---|
| Mike Tilly | President/Owner | (573) 747-6803 | tdlu@charter.net |
| Natalie Frazier | Contract Operator | (618) 977-4969 | imincontrols@yahoo.com |
| Hayden Tilly | Maintenance | | |
| John Pratt | Operator/Maintenance | | |
| Robbie Gough | Operator/Maintenance | | |

Missouri Department of Natural Resources

| | | | |
|---|---|---|---|
| Wesley Hargraves | Env. Specialist | (573) 840-9789 | wesley.hargraves@dnr.mo.gov |
| Frank Shovlin | Env. Specialist | (573) 840-9023 | frank.shovlin@dnr.mo.gov |
| Elizabeth Stephens | Env. Specialist | | |

This inspection was conducted, pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, to determine the facility's compliance with Missouri State Operating Permit (MSOP) MO0035700, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Entity Description and History

The latest issuance of MSOP MO0035700 was placed into effect on January 1, 2019 and expires on June 30, 2023. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The Terre Du Lac North - Three Cell Lagoon (Northwest End of Community on Rue Orleans, Bonne Terre, MO 63628) operates under the ownership of the Terre Du Lac Utilities Corporation (1128 South St. Francois, Bonne Terre, MO 63628). No additional continuing authority is listed.

The operation of the facility must be by or under the supervision of a certified "D" level wastewater operator. Ms. Natalie Frazier (Certificate #5908, WW-A and DW-D) is certified at the "A" level for wastewater operations. Mr. John Pratt (Certificate #15493 WW-D) and Mr. Robert Gough (Certificate #15487 WW-D) are certified at a "D" level. The facility

consists of three lagoon cells with aeration in the primary and secondary cells. Sludge is retained in the lagoon.

The design population equivalent of the system is 2,400. The design flow is 240,000 gallons per day. Actual flow is listed as 64,000 gallons per day. The design sludge production is 36 dry tons per year.

The legal description of the facility is listed on the permit as Section 18, Township 37 North, Range 4 East, in St. Francois County. The UTM GPS coordinates for the facility are X=707431 and Y=4200540, as listed in the permit. The receiving stream for this site is listed as a tributary to Three Hills Creek (C). The first classified stream segment is identified as 8-20-13 MUDD V1.0 (C) (3960). The facility is part of USGS HUC8 Watershed 07140104.

During review of the facility's Discharge Monitoring Reports (DMRs) for the last 24 months, a single exceedance was noted. A Total Suspended Solids (TSS) result was reported as 420 mg/L on the July 2018 DMR. This exceeded both the Monthly Average Limit of 80 mg/L and the Weekly Average Limit of 120 mg/L. Since that time, results for TSS have been well within permitted effluent limitations. Additionally, no analysis for dissolved oxygen, pH, or flow was reported on the 4$^{th}$ Quarter 2018 DMR. This was a result of the new operator, Ms. Natalie Frazier, not having access to records kept by the old operator when she began operating the facility in January 2019. This is documented in a January 15, 2019, email between Ms. Frazier and Ms. Marletta Cozad of the Southeast Regional Office.

No sludge reports have been received for the Terre Du Lac North – Three Cell Lagoon and to Mr. Mike Tilly's knowledge no sludge has been removed from the lagoon basins. When sludge is removed a Form S sludge report must be submitted for the calendar year when the sludge was removed. This report must be submitted By January 28$^{th}$ of the following year.

The Terre Du Lac Utilities Corporation has paid the annual permitting fees associated with MSOP MO0035700.

Over the last few years a single Sanitary Sewer Overflow (SSO) was reported in January 2017.

The Terre Du Lac North - Three Cell Lagoon was last inspected on December 13, 2017. At that time the facility was found to not be in compliance. Lack of fencing, signage, poor maintenance, and failure to submit progress reports were noted during the inspection.

The Terre Du Lac North – Three Cell Lagoon is currently under enforcement action following referral on September 4, 2009. Logan Cole is the assigned Case Manager. Logan can be reached at (573) 751-6725 with enforcement related questions.

**Discussion of Inspection and Observations**

Prior to the inspection, the Permit Conditions of MSOP MO0035700 and Discharge Monitoring Reports were reviewed.

The inspection was conducted during normal business hours. Prior notification of the inspection was provided to ensure timely access to the site. Upon arrival, on July 10, 2019, Frank Shovlin and I met with Mr. Mike Tilly, Ms. Natalie Frazier, and Mr. Hayden Tilly at the Terre Du Lac offices. We discussed the purpose and scope of the inspection. Mr. Mike Tilly granted permission to access the site and he and Mr. Hayden Tilly accompanied us throughout the inspection on July 10, 2019. Ms. Frazier accompanied myself and Mr. Shovlin throughout the inspection on July 10, 2019 and the sampling on July 11, 2019. On July 11, 2019, Mr. Pratt and Mr. Gough joined us. Mr. Hayden Tilly was posting warning signs on July 11, 2019.

Inspections of the Terre Du Lac – South One-Cell Lagoon WWTF and the Terre Du Lac – Mechanical WWTP were also conducted. Due to composite sampling requirements associated with the permit for the mechanical plant and the logistics of sample delivery it was decided to conduct visual inspections on July 10, 2019 and take samples on July 11, 2019.

We traveled to the Terre Du Lac Mechanical WWTP and I set up an automated composite sampler. We then conducted a visual inspection of the mechanical plant and single cell lagoon WWTF. Details of these inspections are contained in separate reports for the Terre Du Lac Mechanical WWTP covered under MSOP MO0095311 and the Terre Du Lac South One Cell Lagoon WWTF covered under MSOP MO0057312.

Following inspection of the other two treatment systems. We made our way to the three lift stations that are part of the collection system leading to the Terre Du Lac – North Three Cell Lagoon WWTF. These three lift stations have been replaced recently as part of Terre Du Lac Utilities attempts to resolve some long standing issues. Each of these lift stations has an associated earthen overflow basin/lagoon. The first lift station and its associated overflow basin was fenced and had a maintained appearance. The second lift station looked the same as the first but the associated basin was overgrown with vegetation. Mr. Tilly explained that they were in the process of rehabilitating these basins. The third lift station utilizes the primary cell of an old three-cell lagoon system as its basin. During a follow-up conversation regarding this old lagoon, Mr. Mike Tilly estimated that this three cell lagoon ceased to be used as a wastewater treatment lagoon when the original lift station was installed in approximately 1977 or 1978. This third station receives flow from both of the other two lift stations and sends it on to the current Terre Du Lac – North Three-Cell Lagoon WWTF. The water in the basin associated with the third lift station was very dark and a faint septic smell was present. The berms had not been maintained and heavy vegetation was present. An attempt was made to verify the conditions of the berm, however, it was determined that due to the density of vegetation a survey of the berm and the old lagoon system itself would take more time than was available on July 10, 2019. Plans were made to return at a future time to look closer at this lagoon system. Mr. Tilly offered to clear a path back to better access the system for our next visit, which was greatly appreciated.

After looking at the lift station in the collection system of the Terre Du Lac North – Three-Cell Lagoon WWTF, we continued to the facility itself. The permit conditions of MSOP MO0035700 and DMRs were reviewed. The facility's Operation and Maintenance Manual, operational monitoring, and the Schedule of Compliance in MSOP MO0035700 were also discussed.

No Operation and Maintenance Manual was available at the time of the inspection. Mr. Tilly believed one had been developed, but was unable to find it at the time of the inspection.

At the time of the inspection, operational monitoring was not being conducted at the Terre Du Lac North Three Cell Lagoon. This was discussed with Ms. Frazier in detail and copies of the applicable section of 10 CSR 20-9 and a copy of the Department's Operational Monitoring Report for Lagoon systems were provided. Ms. Frazier stated that operational monitoring would be done as required in the future.

A visual inspection of the system was made. The facility is fenced and secure. A gravel road runs right up to the facility providing all-weather access. Access to the lagoon is provided via a gate locked with a chain. A second gate to access the outfall was also chained and locked. The need for warning signs that could be seen from all directions of approach was discussed on July 10, 2019. On July 11, 2019, additional signs were attached while samples were being taken.

The first cell of the lagoon is aerated. Two aeration units are used, however, one was in the process of being repaired at the time of the inspection and only one unit was running. Water had a greenish appearance. The inner berms of the lagoon were heavily vegetated and would be ideal for providing cover to burrowing rodents. Deep rooted vegetation appeared to have been kept under control. The second cell of the lagoon is also aerated by two units. These units were both functioning. The inner berms of the second cell were in the same condition as those of the first cell. Extensive duckweed growth was also present. The third cell is unaerated and was covered with a thick layer of duckweed. The inner berm of the third cell was also heavily vegetated same as the other cells. From the third cell of the lagoon, effluent flows into a concrete effluent box. The box is an open topped septic tank with two sections. The effluent pipe from the lagoon is directed down toward the ground. The box slows the flow and likely helps prevent erosion. However, as mentioned, the box is uncovered which allows debris and access by wildlife. At the time of the inspection, a turtle had entered the box and been sucked into the pipe between the two sections of the box. This had resulted in overflowing of the box and stirring of debris from the bottom of the box. The facility appeared to be experiencing a high rate of flow. An outfall sign was posted.

Mr. Shovlin and I returned to the site and took samples on July 11, 2019. Ms. Frazier also took samples for the facility. Additional information regarding sampling is documented in the Sampling and Monitoring section below. Following collection of a sample, the need to add the effluent box as a maintenance item to ensure the pipes were kept unclogged and to clean out material collected in the box was discussed.

The North Three-Cell Lagoon system has a design flow of 240,000 gallons per day and an actual flow determined to be 64,000 gallons per day in MSOP MO0035700 based on information provided to the permit writer. The flow observed during the inspection did not appear to be the flow expected on a facility running at just over a quarter of its capacity. Care should be taken to ensure reported flow data is accurate. There may also be a large fluctuation in flow volume between dry and wet weather conditions. During wet conditions, stormwater can enter into a facility's collection system. These sources of stormwater flow are referred to as inflow and infiltration (I & I). A program which utilizes manhole inspections, smoke testing, or camera work to identify these sources of I & I along with repairs or modifications to eliminate the discovered sources of I&I may benefit the North Three-Cell Lagoon system.

Excessive I & I often leads to sanitary sewer overflows (SSOs) where the pipes of the collection system cannot carry flow to the treatment system quickly enough resulting in back-ups and the discharge of sewage from manholes and clean-outs. At times, discharge into homes can occur. A reduction in I & I will also reduce the occurrence of sanitary sewer overflows during precipitation events. At the time of the inspection the last reported SSO had occurred in January of 2017.

The Southeast Regional Office had been asked to investigate reports of an SSO occurring around Lac Carmel. Following the collection of samples, Mr. Pratt and Mr. Gough assisted Mr. Shovlin and myself in finding the manhole indicated in a photograph supplied to the Department. After a few tries, the correct location was found. It was evident that the photograph supplied was not a recent one. Vegetative growth and lake levels suggested quite some time had passed. The area around the manhole was observed. The area was clean and no evidence of an ongoing SSO was found. A very small amount of material was visible, stuck between the rim and manhole cover. During our search for the correct manhole, SSO's were discussed with Mr. Pratt and Mr. Gough. During this discussion, the requirement to report SSOs was conveyed. Mr. Pratt indicated that they had recently been notified about this requirement by Mr. Mike Tilly about a week before. Mr. Pratt and Mr. Gough were thanked for their help in finding the manhole and Mr. Shovlin and I left.

The Schedule of Compliance in MSOP MO0035700 requires that Terre Du Lac Utilities attain compliance with the final effluent limitations for Ammonia and *E.coli* no later than April 1, 2019. The last Status/Progress Report was received on February 1, 2018 and indicated that improvements to the North Three-Cell Lagoon would be part of the second phase of their plan following the replacement of the community well, replacement of three sewer lift stations, and replacement of the rotor in the Oxidation Ditch wastewater plant. At the time of the inspection, no exceedances had been reported since limitations came into effect on April 1, 2019. However, monitoring data over the past 24 months indicates that the facility is likely to exceed these limitations on a regular basis. Sample results from samples taken during this inspection also indicate exceedances. These are discussed in more detail later in the report.

On July 23, 2019, the Southeast Regional Office was notified by Mr. Mike Tilly that a lift station next to the old three cell lagoon had a problem and that the overflow basin had filled up and

topped the berm on the north side and flowed into the second cell of the old lagoon system. I later found that flow could then pass from the 2nd cell to the 3rd via the original lagoon pipe. After assisting Mr. Tilly in reporting this SSO, I returned to the site with Ms. Elizabeth Stephens and met with Hayden Tilly, Mr. Pratt, and Mr. Gough to assess the situation. The problem had been found and repaired shortly after I had been notified and in the roughly hour and a half it took to arrive at the site, the level of the lagoon had dropped about a foot. A section of pipe had split such that pumped water was spilling right back into the basin and not continuing to the North Three-Cell Lagoon WWTF. A path back to the old three cell lagoon had been made. The overflow basin / primary cell of the old lagoon was no longer topping its berm. The manhole where flow used to pass between the primary and secondary cells had been located and does appear to be filled in, such that water will not flow between the first and second cells under normal conditions. The second cell appeared to be quite full. Less than a foot of freeboard was present in a few locations. Some areas were obscured by dense vegetation as well. Flow continues between the secondary and third cells of the old lagoon. The condition of the third cell was similar to that of the second.

A trench had been cut in the berm of the third cell of the old lagoon by overflowing water. The trench was located next to the old discharge point, which had been filled in. A trickle was discharging via the trench from the third lagoon cell at the time of the visit. Straw bales had been staked in the trench as a temporary measure. The discharge had flowed to a low lying area creating a water logged area that extended north and appeared to turn back east after crossing a fence line. Satellite imagery shows a private pond on the property in that direction.

The need to repair the berm and fully eliminate the discharge and cleanup the area was discussed with Mr. Hayden Tilly, Mr. Pratt, and Mr. Gough. Due to the proximity to the neighboring pond, the need to notify the property owner of the situation and ensure any clean-up actions, such as application of hydrated lime, was done with their knowledge. We also discussed that further follow-up was likely, regarding longer term plans to resolve the issues regarding this old un-addressed lagoon system. Requirements regarding this system can be found in the Compliance Determination, Violations, and Required Actions section later in this report.

Mr. Mike Tilly was contacted to fill him in directly on what was observed during the visit. Ms. Stephens and I then attempted to make contact with the neighboring land owner ourselves. We arrived just in time to see Mr. Hayden Tilly and the property owner heading past a closed gate and down to the area of concern. I went to the door of the house on the property and spoke to the owner who indicated he wasn't the owner but, he talked to him regularly. I left a card that he agreed to deliver to the property owner. Melvyn Curdt, the property owner, contacted me at SERO and we discussed that a spill had occurred and he discussed his past experiences.

**Sampling and Monitoring**

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling.

Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen. Water quality field monitoring was conducted at the following locations for the listed parameters. The collected effluent was clear with a greenish tint and free of visible solids.

| Outfall #001 | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 6.9 | S.U. |
| Temperature | 28.5 | °C |
| Dissolved Oxygen | 4.09 | mg/L |

Sampling was conducted at the following locations and submitted to the Environmental Services Program for laboratory analysis for the parameters listed at the top of the next page.

| Outfall #001 | | | | | |
|---|---|---|---|---|---|
| **Results of Sample Analyses** | | | **Permit Limits – Final Effluent Limitations** | | |
| **Parameters** | **Sample Result** | **Units** | **Daily Max** | **Weekly Average** | **Monthly Average** |
| Total Suspended Solids (TSS) | 16.0 | mg/L | | 120 | 80 |
| Biochemical Oxygen Demand$_5$ ($BOD_5$) | 8.10 | mg/L | | 65 | 45 |
| Ammonia as N | **8.30** | mg/L | **3.8** | | **1.4** |
| Total Nitrogen | 9.63 | mg/L | Monitoring | | |
| Total Phosphorus | 1.46 | mg/L | Monitoring | | |
| E. coli | **> 2419.6** | #/100 mL | **1030** | | **206** |

Ammonia as N and *E. coli* limits were exceeded. Exceeding any permit limitation is a violation of the facility's Missouri State Operating Permit effluent limitations and the Missouri Clean Water Law, Sections 644.051.1(1) (3) and 644.076.1

**Compliance Determination, Violations, and Required Actions**

The facility was found to be **not in compliance** with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO0035700, based upon the violations noted below.

**Letter of Warning**

1. During the inspection, the Terre Du Lac South One Cell Lagoon failed to comply with the effluent limits contained in Part "A" of MSOP MO0035700 [Sections 644.051.1(3) and 644.076.1], RSMo.

   **Required Action:** The Ammonia and *E. coli* exceedances must be addressed. In addition to the result of the sample taken during the inspection, historical data indicates that the facility will continue to regularly exceed effluent limitations in the systems current state. Steps must be taken to upgrade the facility as needed to meet effluent limits for Ammonia as N and *E. coli.* By September 12, 2019, Terre Du Lac Utilities must submit a response outlining the current plan to bring the Terre Du Lac North Three-Cell Lagoon into compliance with effluent limits in MSOP MO0035700.

2. Failed to meet the Schedule of Compliance as outlined in MSOP MO0035700.

   **Required Action:** The response required by violation #1 above regarding Ammonia and E. coli exceedances must include an update on progress in following Terre Du Lac Utilities plan to upgrade the facility.

3. No operational monitoring has been recorded for the Terre Du Lac North Three-Cell Lagoon.

   10 CSR 20-9.010(4) and Part III – Operational Monitoring of the Fact Sheet included in MSOP MO0035700 explains that the facility is required to conduct operational monitoring.

   During the inspection, copies of 10 CSR 20-9 operational monitoring requirements and the Department's Operational Monitoring Report – Lagoon Form was provided to Ms. Frazier. Ms. Frazier stated her intent to conduct operational monitoring as required going forward.

   **Required Action:** Operational monitoring must be carried out as indicated in 10 CSR 20-9 in accordance with MSOP MO0035700. Monitoring records must be available upon request by the Missouri Department of Natural Resources. By September 12, 2019, submit a plan summarizing how operators will coordinate with one another to ensure operational monitoring is conducted twice a week as required. Also, include how this monitoring will be recorded, where it will be stored, and who to contact to request this data.

4. Failed to maintain an Operation and Maintenance manual as required by the special conditions of MSOP MO0035700 [Section 644.076.1, RSMo].

   Special Condition #13 of MSOP MO0035700 states:

   An Operation and Maintenance (O&M) manual shall be maintained by the permittee and made available to the operator. The O&M manual shall include key operating procedures and a brief summary of the operation of the facility.

   **Required Action:** By September 12, 2019 the permittee must submit a response documenting that an O&M manual that provides information regarding key operating procedures and a brief summary of the operation of the facility has been developed for the Terre Du Lac North Three Cell Lagoon.

5. The facility caused or permitted construction, installation or modification of any sewer system or of any water contaminant source, point source or wastewater treatment facility without first receiving a construction permit [Sections 644.051.2 and 644.076.1, RSMo, and 10 CSR 20-6.010(1)(A) and (5)(A)].

   **Required Actions:** Terre Du Lac Utilities must obtain Department approval for the operation of each of the holding basins associated with each of the lift stations in the collection system. This approval process requires an engineering report, by a professional engineer licensed in the State of Missouri, be submitted, along with a sewer extension application.

   Additionally, the 2nd and 3rd cells of the old lagoon and any part of the 1st cell not included in the approved design of the holding basin must be properly closed under a Department approved closure plan in accordance with Standard Conditions Part III.

   By September 12, 2019, the permittee must submit a response documenting efforts made toward getting Department approval for the holding basins and/or closure of un-used portions of the old lagoon and indicating when, based on conversations with the selected engineer, a sewer extension application and closure plan will be submitted.

All statements/responses should be submitted by mail to the attention of Wesley Hargraves at the Southeast Regional Office of the Missouri Department of Natural Resources, 2155 North Westwood Blvd., Poplar Bluff, MO 63901 or by email to wesley.hargraves@dnr.mo.gov.

**Recommendations**

1. The vegetation along the inner berms of the lagoons should trimmed and maintained at a shorter height to discourage borrowing wildlife.
2. The outfall box should added to the regularly scheduled maintenance of the lagoon.
3. An inflow and infiltration program to discover and eliminate non wastewater sources of water from the collection system is recommended.
4. I would recommend covering manholes associated with the old lagoon cells. Open manholes are safety concerns.

**Additional Comments / Conclusion**

An Agreed Partial Order of Preliminary Injunction was ordered on May 19, 2015 and contains additional required actions covering each of the wastewater treatment systems at Terre Du Lac.

I would like to thank Mr. Mike Tilly, Ms. Natalie Frazier, Mr. Hayden Tilly, Mr. John, Pratt, and Mr. Robbie Gough for their time and assistance during the inspection. If there are any questions concerning this report, please feel free to contact me by phone at (573) 840-9789, by email at wesley.hargraves@dnr.mo.gov, or at 2155 N. Westwood Blvd., Poplar Bluff, Missouri 63901. For questions regarding the status of the enforcement case, contact Logan Cole at (573) 751-6725.

**Signatures**

SUBMITTED BY:

Wesley Hargraves

Wesley Hargraves
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Josh Wilkerson

Josh Wilkerson
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachments**
Attachment #1 – Photograph (#001) Through Photograph (#023)
Attachment #2 – Aerial View / Site Maps

| | |
|---|---|
|  | **Photograph #:** 001<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of primary cell. Taken facing south.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 002<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of primary cell and broken aerator. Taken facing southeast.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 003<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of secondary cell. Taken facing southwest.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |

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|---|---|
|  | **Photograph #:** 004<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of third cell. Taken facing west.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 005<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of gate to Outfall. Taken facing north.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 006<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of Outfall #001. Taken facing southeast.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |

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|---|---|
|  | **Photograph #:** 007<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of facility from Lac Carmel dam. Taken facing north.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 008<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of manhole suspected of experiencing an SSO from a similar angle as the photo supplied to the Department. Taken facing northwest.<br><br>**Date Taken:** July 11, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 009<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of holding basin for first lift station.<br><br>**Date Taken:** July 10, 2019<br>**Program:** WPC Unit |

**Photograph #:** 010
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

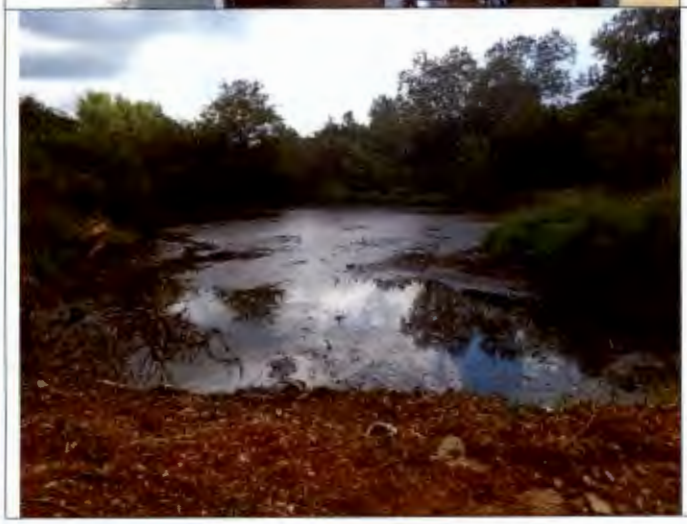
**Description:** View of holding basin for the second observed lift station.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 011
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of second lift station.

**Date Taken:** July 10, 2019
**Program:** WPC Unit



**Photograph #:** 012
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of holding basin associated with the third lift station. Taken facing northeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

| | |
|---|---|
|  | **Photograph #:** 013<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of holding basin associated with the third lift station. Taken facing northeast.<br><br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 014<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of damaged pipe. The cause of the overflow.<br><br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 015<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br>**Description:** View of the berm between the holding basin and the 2nd cell of the old lagoon. Water levels had lowered by the time the Department arrived on site. Taken facing east.<br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |

**Photograph #:** 016
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of manhole between 1st and 2nd cells of the old lagoon.

**Date Taken:** July 23, 2019
**Program:** WPC Unit

**Photograph #:** 017
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of second cell of the old lagoon. Taken facing northeast.

**Date Taken:** July 23, 2019
**Program:** WPC Unit

**Photograph #:** 018
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of manhole between 2nd and 3rd cells of old lagoon.

**Date Taken:** July 23, 2019
**Program:** WPC Unit

| | |
|---|---|
|  | **Photograph #:** 019<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of third cell of old lagoon and second cell in the background. Taken facing east.<br><br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 020<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br>**Description:** View of manhole between 3rd cell and old outfall as well as the temporary straw bale berm placed in the cut where water topped the berm and discharged. Taken facing north.<br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |
|  | **Photograph #:** 021<br>**Taken by:** Wesley Hargraves<br>**Entity:** Terre Du Lac North - Three Cell Lagoon<br>**Permit:** MO0035700<br>**Location:** St. Francois County<br><br>**Description:** View of discharge from 3rd cell of the old lagoon at base of straw bale berm.<br><br>**Date Taken:** July 23, 2019<br>**Program:** WPC Unit |

**Photograph #:** 022
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of area where discharge flowed to. Taken facing west.

**Date Taken:** July 23, 2019
**Program:** WPC Unit

**Photograph #:** 023
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac North - Three Cell Lagoon
**Permit:** MO0035700
**Location:** St. Francois County

**Description:** View of wet area extending past a fence line to the north of the old lagoon. Taken facing north.

**Date Taken:** July 23, 2019
**Program:** WPC Unit


**Aerial view of Terre Du Lac North - Three Cell Lagoon via Google Earth**


**Aerial view of Lift Station #3 and Associated Basin/ Old Three Cell Lagoon via Google Earth**

# STANDARD CONDITIONS FOR NPDES PERMITS
# ISSUED BY
# THE MISSOURI DEPARTMENT OF NATURAL RESOURCES
# MISSOURI CLEAN WATER COMMISSION
# March 1, 2015

## PART III – SLUDGE AND BIOSOLIDS FROM DOMESTIC AND INDUSTRIAL WASTEWATER TREATMENT FACILITIES

### SECTION A – GENERAL REQUIREMENTS

1. This permit pertains to sludge requirements under the Missouri Clean Water Law and regulation for domestic wastewater and industrial process wastewater. This permit also incorporates applicable federal sludge disposal requirements under 40 CFR 503 for domestic wastewater. The Environmental Protection Agency (EPA) has principal authority for permitting and enforcement of the federal sludge regulations under 40 CFR 503 for domestic wastewater. EPA has reviewed and accepted these standard sludge conditions. EPA may choose to issue a separate sludge addendum to this permit or a separate federal sludge permit at their discretion to further address the federal requirements.
2. These PART III Standard Conditions apply only to sludge and biosolids generated at domestic wastewater treatment facilities, including public owned treatment works (POTW), privately owned facilities and sludge or biosolids generated at industrial facilities.
3. Sludge and Biosolids Use and Disposal Practices:
    a. The permittee is authorized to operate the sludge and biosolids treatment, storage, use, and disposal facilities listed in the facility description of this permit.
    b. The permittee shall not exceed the design sludge volume listed in the facility description and shall not use sludge disposal methods that are not listed in the facility description, without prior approval of the permitting authority.
    c. The permittee is authorized to operate the storage, treatment or generating sites listed in the Facility Description section of this permit.
4. Sludge Received from other Facilities:
    a. Permittees may accept domestic wastewater sludge from other facilities including septic tank pumpings from residential sources as long as the design sludge volume is not exceeded and the treatment facility performance is not impaired.
    b. The permittee shall obtain a signed statement from the sludge generator or hauler that certifies the type and source of the sludge
5. These permit requirements do not supersede nor remove liability for compliance with county and other local ordinances.
6. These permit requirements do not supersede nor remove liability for compliance with other environmental regulations such as odor emissions under the Missouri Air Pollution Control Law and regulations.
7. This permit may (after due process) be modified, or alternatively revoked and reissued, to comply with any applicable sludge disposal standard or limitation issued or approved under Section 405(d) of the Clean Water Act or under Chapter 644 RSMo.
8. In addition to STANDARD CONDITIONS, the Department may include sludge limitations in the special conditions portion or other sections of a site specific permit.
9. Alternate Limits in the Site Specific Permit.
   Where deemed appropriate, the Department may require an individual site specific permit in order to authorize alternate limitations:
    a. A site specific permit must be obtained for each operating location, including application sites.
    b. To request a site specific permit, an individual permit application, permit fee, and supporting documents shall be submitted for each operating location. This shall include a detailed sludge/biosolids management plan or engineering report.
10. Exceptions to these Standard Conditions may be authorized on a case-by-case basis by the Department, as follows:
    a. The Department will prepare a permit modification and follow permit notice provisions as applicable under 10 CSR 20-6.020, 40 CFR 124.10, and 40 CFR 501.15(a)(2)(ix)(E). This includes notification of the owner of the property located adjacent to each land application site, where appropriate.
    b. Exceptions cannot be granted where prohibited by the federal sludge regulations under 40 CFR 503.

## SECTION B – DEFINITIONS

1. Best Management Practices include agronomic loading rates, soil conservation practices and other site restrictions.
2. Biosolids means organic fertilizer or soil amendment produced by the treatment of domestic wastewater sludge.
3. Biosolids land application facility is a facility where biosolids are spread onto the land at agronomic rates for production of food or fiber. The facility includes any structures necessary to store the biosolids until soil, weather, and crop conditions are favorable for land application.
4. Class A biosolids means a material that has met the Class A pathogen reduction requirements or equivalent treatment by a Process to Further Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
5. Class B biosolids means a material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PFRP) in accordance with 40 CFR 503.
6. Domestic wastewater means wastewater originating from the sanitary conveniences of residences, commercial buildings, factories and institutions; or co-mingled sanitary and industrial wastewater processed by a (POTW) or a privately owned facility.
7. Industrial wastewater means any wastewater, also known as process water, not defined as domestic wastewater. Per 40 CFR Part 122, process water means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.
8. Mechanical treatment plants are wastewater treatment facilities that use mechanical devices to treat wastewater, including septic tanks, sand filters, extended aeration, activated sludge, contact stabilization, trickling filters, rotating biological discs, and other similar facilities. It does not include wastewater treatment lagoons and constructed wetlands for wastewater treatment.
9. Operating location as defined in 10 CSR 20-2.010 is all contiguous lands owned, operated or controlled by one (1) person or by two (2) or more persons jointly or as tenants in common.
10. Plant Available Nitrogen (PAN) is the nitrogen that will be available to plants during the growing seasons after biosolids application.
11. Public contact site is land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.
12. Sludge is the solid, semisolid, or liquid residue removed during the treatment of wastewater. Sludge includes septage removed from septic tanks or equivalent facilities. Sludge does not include carbon coal byproducts (CCBs)
13. Sludge lagoon is part of a mechanical wastewater treatment facility. A sludge lagoon is an earthen basin that receives sludge that has been removed from a wastewater treatment facility. It does not include a wastewater treatment lagoon or sludge treatment units that are not a part of a mechanical wastewater treatment facility.
14. Septage is the material pumped from residential septic tanks and similar treatment works (with a design population of less than 150 people). The standard for biosolids from septage is different from other sludges.

## SECTION C – MECHANICAL WASTEWATER TREATMENT FACILITIES

1. Sludge shall be routinely removed from wastewater treatment facilities and handled according to the permit facility description and sludge conditions of this permit.
2. The permittee shall operate the facility so that there is no sludge discharged to waters of the state.
3. Mechanical treatment plants shall have separate sludge storage compartments in accordance with 10 CSR 20, Chapter 8. Failure to remove sludge from these storage compartments on the required design schedule is a violation of this permit.

## SECTION D – SLUDGE DISPOSED AT OTHER TREATMENT FACILITY OR CONTRACT HAULER

1. This section applies to permittees that haul sludge to another treatment facility for disposal or use contract haulers to remove and dispose of sludge.
2. Permittees that use contract haulers are responsible for compliance with all the terms of this permit including final disposal, unless the hauler has a separate permit for sludge or biosolids disposal issued by the Department; or the hauler transports the sludge to another permitted treatment facility.
3. Haulers who land apply septage must obtain a state permit.
4. Testing of sludge, other than total solids content, is not required if sludge is hauled to a municipal wastewater treatment facility or other permitted wastewater treatment facility, unless it is required by the accepting facility.

## SECTION E – INCINERATION OF SLUDGE

1. Sludge incineration facilities shall comply with the requirements of 40 CFR 503 Subpart E; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Permittee may be authorized under the facility description of this permit to store incineration ash in lagoons or ash ponds. This permit does not authorize the disposal of incineration ash. Incineration ash shall be disposed in accordance with 10 CSR 80; or if the ash is determined to be hazardous with 10 CSR 25.
3. In addition to normal sludge monitoring, incineration facilities shall report the following as part of the annual report, quantity of sludge incinerated, quantity of ash generated, quantity of ash stored, and ash used or disposal method, quantity, and location. Permittee shall also provide the name of the disposal facility and the applicable permit number.

## SECTION F – SURFACE DISPOSAL SITES AND SLUDGE LAGOONS

1. Surface disposal sites of domestic facilities shall comply with the requirements in 40 CFR 503 Subpart C; air pollution control regulations under 10 CSR 10; and solid waste management regulations under 10 CSR 80.
2. Sludge storage lagoons are temporary facilities and are not required to obtain a permit as a solid waste management facility under 10 CSR 80. In order to maintain sludge storage lagoons as storage facilities, accumulated sludge must be removed routinely, but not less than once every two years unless an alternate schedule is approved in the permit. The amount of sludge removed will be dependent on sludge generation and accumulation in the facility. Enough sludge must be removed to maintain adequate storage capacity in the facility.
    a. In order to avoid damage to the lagoon seal during cleaning, the permittee may leave a layer of sludge on the bottom of the lagoon, upon prior approval of the Department; or
    b. Permittee shall close the lagoon in accordance with Section H.

## SECTION G – LAND APPLICATION

1. The permittee shall not land apply sludge or biosolids unless land application is authorized in the facility description or the special conditions of the issued NPDES permit.
2. Land application sites within a 20 miles radius of the wastewater treatment facility are authorized under this permit when biosolids are applied for beneficial use in accordance with these standard conditions unless otherwise specified in a site specific permit. If the permittee's land application site is greater than a 20 mile radius of the wastewater treatment facility, approval must be granted from the Department.
3. Land application shall not adversely affect a threatened or endangered species or its designated critical habitat.
4. Biosolids shall not be applied unless authorized in this permit or exempted under 10 CSR 20, Chapter 6.
    a. This permit does not authorize the land application of domestic sludge except for when sludge meets the definition of biosolids.
    b. This permit authorizes "Class A or B" biosolids derived from domestic wastewater and/or process water sludge to be land applied onto grass land, crop land, timber or other similar agricultural or silviculture lands at rates suitable for beneficial use as organic fertilizer and soil conditioner.
5. Public Contact Sites:

    Permittees who wish to apply Class A biosolids to public contact sites must obtain approval from the Department after two years of proper operation with acceptable testing documentation that shows the biosolids meet Class A criteria. A shorter length of testing will be allowed with prior approval from the Department. Authorization for land applications must be provided in the special conditions section of this permit or in a separate site specific permit.
    a. After Class B biosolids have been land applied, public access must be restricted for 12 months.
    b. Class B biosolids are only land applied to root crops, home gardens or vegetable crops whose edible parts will not be for human consumption.
6. Agricultural and Silvicultural Sites:

    Septage – Based on Water Quality guide 422 (WQ422) published by the University of Missouri
    a. Haulers that land apply septage must obtain a state permit
    b. Do not apply more than 30,000 gallons of septage per acre per year.
    c. Septage tanks are designed to retain sludge for one to three years which will allow for a larger reduction in pathogens and vectors, as compared to other mechanical type treatment facilities.
    d. To meet Class B sludge requirements, maintain septage at 12 pH for at least thirty (30) minutes before land application. 50 pounds of hydrated lime shall be added to each 1,000 gallons of septage in order to meet pathogen and vector stabilization for septage biosolids applied to crops, pastures or timberland.
    e. Lime is to be added to the pump truck and not directly to the septic tanks, as lime would harm the beneficial bacteria of the septic tank.

Biosolids - Based on Water Quality guide 423, 424, and 425 (WQ423, WQ424, WQ425) published by the University of Missouri;

a. Biosolids shall be monitored to determine the quality for regulated pollutants

b. The number of samples taken is directly related to the amount of sludge produced by the facility (See Section I of these Standard Conditions). Report as dry weight unless otherwise specified in the site specific permit. Samples should be taken only during land application periods. When necessary, it is permissible to mix biosolids with lower concentrations of biosolids as well as other suitable Department approved material to reach the maximum concentration of pollutants allowed.

c. Table 1 gives the maximum concentration allowable to protect water quality standards

**TABLE 1**

| Biosolids ceiling concentration [1] | |
|---|---|
| Pollutant | Milligrams per kilogram dry weight |
| Arsenic | 75 |
| Cadmium | 85 |
| Copper | 4,300 |
| Lead | 840 |
| Mercury | 57 |
| Molybdenum | 75 |
| Nickel | 420 |
| Selenium | 100 |
| Zinc | 7,500 |

[1] Land application is not allowed if the sludge concentration exceeds the maximum limits for any of these pollutants

d. The low metal concentration biosolids has reduced requirements because of its higher quality and can safely be applied for 100 years or longer at typical agronomic loading rates. (See Table 2)

**TABLE 2**

| Biosolids Low Metal Concentration [1] | |
|---|---|
| Pollutant | Milligrams per kilogram dry weight |
| Arsenic | 41 |
| Cadmium | 39 |
| Copper | 1,500 |
| Lead | 300 |
| Mercury | 17 |
| Nickel | 420 |
| Selenium | 36 |
| Zinc | 2,800 |

[1] You may apply low metal biosolids without tracking cumulative metal limits, provided the cumulative application of biosolids does not exceed 500 dry tons per acre.

e. Each pollutant in Table 3 has an annual and a total cumulative loading limit, based on the allowable pounds per acre for various soil categories.

**TABLE 3**

| Pollutant | CEC 15+ | | CEC 5 to 15 | | CEC 0 to 5 | |
|---|---|---|---|---|---|---|
| | Annual | Total [1] | Annual | Total [1] | Annual | Total [1] |
| Arsenic | 1.8 | 36.0 | 1.8 | 36.0 | 1.8 | 36.0 |
| Cadmium | 1.7 | 35.0 | 0.9 | 9.0 | 0.4 | 4.5 |
| Copper | 66.0 | 1,335.0 | 25.0 | 250.0 | 12.0 | 125.0 |
| Lead | 13.0 | 267.0 | 13.0 | 267.0 | 13.0 | 133.0 |
| Mercury | 0.7 | 15.0 | 0.7 | 15.0 | 0.7 | 15.0 |
| Nickel | 19.0 | 347.0 | 19.0 | 250.0 | 12.0 | 125.0 |
| Selenium | 4.5 | 89.0 | 4.5 | 44.0 | 1.6 | 16.0 |
| Zinc | 124.0 | 2,492.0 | 50.0 | 500.0 | 25.0 | 250.0 |

[1] Total cumulative loading limits for soils with equal or greater than 6.0 pH (salt based test) or 6.5 pH (water based test)

TABLE 4 - Guidelines for land application of other trace substances [1]

| Cumulative Loading | |
|---|---|
| Pollutant | Pounds per acre |
| Aluminum | 4,000[2] |
| Beryllium | 100 |
| Cobalt | 50 |
| Fluoride | 800 |
| Manganese | 500 |
| Silver | 200 |
| Tin | 1,000 |
| Dioxin | (10 ppt in soil)[3] |
| Other | [4] |

[1] Design of land treatment systems for Industrial Waste, 1979. Michael Ray Overcash, North Carolina State University and Land Treatment of Municipal Wastewater, EPA 1981.)

[2] This applies for a soil with a pH between 6.0 and 7.0 (salt based test) or a pH between 6.5 to 7.5 (water based test). Case-by-case review is required for higher pH soils.

[3] Total Dioxin Toxicity Equivalents (TEQ) in soils, based on a risk assessment under 40 CFR 744, May 1998.

[4] Case by case review. Concentrations in sludge should not exceed the 95th percentile of the National Sewage Sludge Survey, EPA, January 2009.

Best Management Practices – Based on Water Quality guide 426 (WQ426) published by the University of Missouri

a. Use best management practices when applying biosolids.
b. Biosolids cannot discharge from the land application site
c. Biosolid application is subject to the Missouri Department of Agriculture State Milk Board concerning grazing restrictions of lactating dairy cattle.
d. Biosolid application must be in accordance with section 4 of the Endangered Species Act.
e. Do not apply more than the agronomic rate of nitrogen needed.
f. The applicator must document the Plant Available Nitrogen (PAN) loadings, available nitrogen in the soil, and crop removal when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) When biosolids are land applied at an application rate greater than two dry tons per acre per year.
    i. PAN can be determined as follows and is in accordance with WQ426
    (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).
    [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
g. Buffer zones are as follows:
    i. 300 feet of a water supply well, sinkhole, lake, pond, water supply reservoir or water supply intake in a stream;
    ii. 300 feet of a losing stream, no discharge stream, stream stretches designated for whole body contact recreation, wild and scenic rivers, Ozark National Scenic Riverways or outstanding state resource waters as listed in the Water Quality Standards, 10 CSR 20-7.031;
    iii. 150 feet if dwellings;
    iv. 100 feet of wetlands or permanent flowing streams;
    v. 50 feet of a property line or other waters of the state, including intermittent flowing streams.
h. Slope limitation for application sites are as follows;
    i. A slope 0 to 6 percent has no rate limitation
    ii. Applied to a slope 7 to 12 percent, the applicator may apply biosolids when soil conservation practices are used to meet the minimum erosion levels
    iii. Slopes > 12 percent, apply biosolids only when grass is vegetated and maintained with at least 80 percent ground cover at a rate of two dry tons per acre per year or less.
i. No biosolids may be land applied in an area that it is reasonably certain that pollutants will be transported into waters of the state.
j. Do not apply biosolids to sites with soil that is snow covered, frozen or saturated with liquid without prior approval by the Department.
k. Biosolids / sludge applicators must keep detailed records up to five years.

## SECTION H – CLOSURE REQUIREMENTS

1. This section applies to all wastewater facilities (mechanical, industrial, and lagoons) and sludge or biosolids storage and treatment facilities and incineration ash ponds. It does not apply to land application sites.
2. Permittees of a domestic wastewater facility who plan to cease operation must obtain Department approval of a closure plan which addresses proper removal and disposal of all residues, including sludge, biosolids. Mechanical plants, sludge lagoons, ash ponds and other storage structures must obtain approval of a closure plan from the Department. Permittee must maintain this permit until the facility is closed in accordance with the approved closure plan per 10 CSR 20 – 6. 010 and 10 CSR 20 – 6.015.
3. Residuals that are left in place during closure of a lagoon or earthen structure or ash pond shall not exceed the agricultural loading rates as follows:
    a. Residuals shall meet the monitoring and land application limits for agricultural rates as referenced in Section H of these standard conditions.
    b. If a wastewater treatment lagoon has been in operation for 15 years or more without sludge removal, the sludge in the lagoon qualifies as a Class B biosolids with respect to pathogens due to anaerobic digestion, and testing for fecal coliform is not required. For other lagoons, testing for fecal coliform is required to show compliance with Class B biosolids limitations. In order to reach Class B biosolids requirements, fecal coliform must be less than 2,000,000 colony forming units or 2,000,000 most probable number. All fecal samples must be presented as geometric mean per gram.
    c. The allowable nitrogen loading that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. For a grass cover crop, the allowable PAN is 300 pounds/acre.
        i. PAN can be determined as follows:

        (Nitrate + nitrite nitrogen) + (organic nitrogen x 0.2) + (ammonia nitrogen x volatilization factor[1]).

        [1] Volatilization factor is 0.7 for surface application and 1 for subsurface application.
4. When closing a domestic wastewater treatment lagoon with a design treatment capacity equal or less than 150 persons, the residuals are considered "septage" under the similar treatment works definition. See Section B of these standard conditions. Under the septage category, residuals may be left in place as follows:
    a. Testing for metals or fecal coliform is not required
    b. If the wastewater treatment lagoon has been in use for less than 15 years, mix lime with the sludge at a rate of 50 pounds of hydrated lime per 1000 gallons (134 cubic feet) of sludge.
    c. The amount of sludge that may be left in the lagoon shall be based on the plant available nitrogen (PAN) loading. 100 dry tons/acre of sludge may be left in the basin without testing for nitrogen. If 100 dry tons/acre or more will be left in the lagoon, test for nitrogen and determine the PAN using the calculation above. Allowable PAN loading is 300 pounds/acre.
5. Residuals left within the domestic lagoon shall be mixed with soil on at least a 1 to 1 ratio, the lagoon berm shall be demolished, and the site shall be graded and contain ≥70% vegetative density over 100% of the site so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
6. Lagoons and/or earthen structure and/or ash pond closure activities shall obtain a storm water permit for land disturbance activities that equal or exceed one acre in accordance with 10 CSR 20-6.200
7. When closing a mechanical wastewater and/or industrial process wastewater plant; all sludge must be cleaned out and disposed of in accordance with the Department approved closure plan before the permit for the facility can be terminated.
    a. Land must be stabilized which includes any grading, alternate use or fate upon approval by the Department, remediation, or other work that exposes sediment to stormwater per 10 CSR 20-6.200. The site shall be graded and contain ≥70% vegetative density over 100% of the site, so as to avoid ponding of storm water and provide adequate surface water drainage without creating erosion.
    b. Per 10 CSR 20-6.015(4)(B)6, Hazardous Waste shall not be land applied or disposed during industrial and mechanical plant closures unless in accordance with Missouri Hazardous Waste Management Law and Regulations under 10 CSR 25.
    c. After demolition of the mechanical plant / industrial plant, the site must only contain clean fill defined in RSMo 260.200 (5) as uncontaminated soil, rock, sand, gravel, concrete, asphaltic concrete, cinderblocks, brick, minimal amounts of wood and metal, and inert solids as approved by rule or policy of the Department for fill or other beneficial use. Other solid wastes must be removed.
8. If sludge from the domestic lagoon or mechanical treatment plant exceeds agricultural rates under Section G and/or H, a landfill permit or solid waste disposal permit must be obtained if the permittee chooses to seek authorization for on-site sludge disposal under the Missouri Solid Waste Management Law and regulations per 10 CSR 80, and the permittee must comply with the surface disposal requirements under 40 CFR 503, Subpart C.

## SECTION I – MONITORING FREQUENCY

1. At a minimum, sludge or biosolids shall be tested for volume and percent total solids on a frequency that will accurately represent sludge quantities produced and disposed. Please see the table below.

**TABLE 5**

| Design Sludge Production (dry tons per year) | Monitoring Frequency (See Notes 1, 2, and 3) | | | |
|---|---|---|---|---|
| | Metals, Pathogens and Vectors | Nitrogen TKN [1] | Nitrogen PAN [2] | Priority Pollutants and TCLP [3] |
| 0 to 100 | 1 per year | 1 per year | 1 per month | 1 per year |
| 101 to 200 | biannual | biannual | 1 per month | 1 per year |
| 201 to 1,000 | quarterly | quarterly | 1 per month | 1 per year |
| 1,001 to 10,000 | 1 per month | 1 per month | 1 per week | --[4] |
| 10,001 + | 1 per week | 1 per week | 1 per day | --[4] |

[1] Test total Kjeldahl nitrogen, if biosolids application is 2 dry tons per acre per year or less.

[2] Calculate plant available nitrogen (PAN) when either of the following occurs: 1) when biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.

[3] Priority pollutants (40 CFR 122.21, Appendix D, Tables II and III) and toxicity characteristic leaching procedure (40 CFR 261.24) is required only for permit holders that must have a pre-treatment program.

[4] One sample for each 1,000 dry tons of sludge.

Note 1: Total solids: A grab sample of sludge shall be tested one per day during land application periods for percent total solids. This data shall be used to calculate the dry tons of sludge applied per acre.
Note 2: Total Phosphorus: Total phosphorus and total potassium shall be tested at the same monitoring frequency as metals.
Note 3: Table 5 is not applicable for incineration and permit holders that landfill their sludge.

2. If you own a wastewater treatment lagoon or sludge lagoon that is cleaned out once a year or less, you may choose to sample only when the sludge is removed or the lagoon is closed. Test one composite sample for each 100 dry tons of sludge or biosolids removed from the lagoon during the year within the lagoon at closing. Composite sample must represent various areas at one-foot depth.
3. Additional testing may be required in the special conditions or other sections of the permit. Permittees receiving industrial wastewater may be required to conduct additional testing upon request from the Department.
4. At this time, the Department recommends monitoring requirements shall be performed in accordance with, "POTW Sludge Sampling and Analysis Guidance Document," United States Environmental Protection Agency, August 1989, and the subsequent revisions.

## SECTION J – RECORD KEEPING AND REPORTING REQUIREMENTS

1. The permittee shall maintain records on file at the facility for at least five years for the items listed in these standard conditions and any additional items in the Special Conditions section of this permit. This shall include dates when the sludge facility is checked for proper operation, records of maintenance and repairs and other relevant information.
2. Reporting period
   a. By January 28th of each year, an annual report shall be submitted for the previous calendar year period for all mechanical wastewater treatment facilities, sludge lagoons, and sludge or biosolids disposal facilities.
   b. Permittees with wastewater treatment lagoons shall submit the above annual report only when sludge or biosolids are removed from the lagoon during the report period or when the lagoon is closed.
3. Report Forms. The annual report shall be submitted on report forms provided by the Department or equivalent forms approved by the Department.
4. Reports shall be submitted as follows:

Major facilities (those serving 10,000 persons or 1 million gallons per day) shall report to both the Department and EPA. Other facilities need to report only to the Department. Reports shall be submitted to the addresses listed as follows:

DNR regional office listed in your permit
(see cover letter of permit)
ATTN: Sludge Coordinator

EPA Region VII
Water Compliance Branch (WACM)
Sludge Coordinator
11201 Renner Blvd.
Lenexa, KS 66219

5. Annual report contents. The annual report shall include the following:
    a. Sludge and biosolids testing performed. Include a copy or summary of all test results, even if not required by the permit.
    b. Sludge or biosolids quantity shall be reported as dry tons for quantity generated by the wastewater treatment facility, the quantity stored on site at the end of the year, and the quantity used or disposed.
    c. Gallons and % solids data used to calculate the dry ton amounts.
    d. Description of any unusual operating conditions.
    e. Final disposal method, dates, and location, and person responsible for hauling and disposal.
        i. This must include the name, address for the hauler and sludge facility. If hauled to a municipal wastewater treatment facility, sanitary landfill, or other approved treatment facility, give the name of that facility.
        ii. Include a description of the type of hauling equipment used and the capacity in tons, gallons, or cubic feet.
    f. Contract Hauler Activities:
    If contract hauler, provide a copy of a signed contract from the contractor. Permittee shall require the contractor to supply information required under this permit for which the contractor is responsible. The permittee shall submit a signed statement from the contractor that he has complied with the standards contained in this permit, unless the contract hauler has a separate sludge or biosolids use permit.
    g. Land Application Sites:
        i. Report the location of each application site, the annual and cumulative dry tons/acre for each site, and the landowners name and address. The location for each spreading site shall be given as a legal description for nearest ¼, ¼, Section, Township, Range, and county, or UTM coordinates. The facility shall report PAN when either of the following occurs: 1) When biosolids are greater than 50,000 mg/kg TN; or 2) when biosolids are land applied at an application rate greater than two dry tons per acre per year.
        ii. If the "Low Metals" criteria are exceeded, report the annual and cumulative pollutant loading rates in pounds per acre for each applicable pollutant, and report the percent of cumulative pollutant loading which has been reached at each site.
        iii. Report the method used for compliance with pathogen and vector attraction requirements.
        iv. Report soil test results for pH, CEC, and phosphorus. If none was tested during the year, report the last date when tested and results.

Missouri Department of NATURAL RESOURCES
dnr.mo.gov
Michael L. Parson, Governor
Carol S. Comer, Director

**Certified Mail # 7016 1970 0000 6898 9337**
**Return Receipt Requested**

August 9, 2019

Terre Du Lac Utilities Corporation
Attn: Mike Tilly
1128 South St. Francois
Bonne Terre, MO 63628

**LETTER OF WARNING**
**RESPONSE REQUIRED**

Dear Mr. Tilly:

Staff from the Department of Natural Resources conducted an inspection on July 10-11, 2019 of the Terre Du Lac South – One Cell Lagoon wastewater treatment facility (WWTF) located at the Rue Calais and Rue Valerie intersection in Terre Du Lac near Bonne Terre, Missouri and in St. Francois County. The Terre Du Lac South - One Cell Lagoon operates under the authority of Missouri State Operating Permit MO0057312.

Compliance with the Missouri Clean Water Law was evaluated. A Letter of Warning (LOW) is being issued for the violations identified in the enclosed report.

Please direct your attention to the **Compliance Determination, Violations, and Required Actions** section in the enclosed report. The report documents the findings and the actions that you must take to address the violations. **A written response documenting actions taken to correct the violations is required by the date specified in the report.**

Failure to address the required actions will result in the issuance of a Notice of Violation. If you have any questions or would like to schedule a time to meet with Department staff to discuss compliance requirements, please contact Wesley Hargraves at (573) 840-9789 or in writing at the Southeast Regional Office, 2155 North Westwood Blvd., Poplar Bluff, MO 63901.

Sincerely,

SOUTHEAST REGIONAL OFFICE

Bradley K. Ledbetter
Environmental Manager

BKL:wh:ks

Enclosure: Report of Inspection

c: Andrew Harris, Public Service Commission, andrew.harris@psc.mo.gov
Logan Cole, WPCP Enforcement Section, logan.cole@dnr.mo.gov

**Missouri Department of Natural Resources**
**Southeast Regional Office**
**Report of Inspection**
**Terre Du Lac South - One Cell Lagoon**
**Rue Calais and Rue Valerie Intersection / Bonne Terre, MO 63628 / St. Francois County**
**MO0057312**
**August 9, 2019**

## Introduction

I, Wesley Hargraves, conducted a routine compliance inspection of the Terre Du Lac South – One Cell Lagoon wastewater treatment facility (WWTF) on July 10-11, 2019. Participants during the inspection are listed below.

Terre Du Lac Utilities Corporation

| | | | |
|---|---|---|---|
| Mike Tilly | President/Owner | (573) 747-6803 | tdlu@charter.net |
| Natalie Frazier | Contract Operator | (618) 977-4969 | imincontrols@yahoo.com |
| Hayden Tilly | Maintenance | | |
| John Pratt | Operator/Maintenance | | |
| Robbie Gough | Operator/Maintenance | | |

Missouri Department of Natural Resources

| | | | |
|---|---|---|---|
| Wesley Hargraves | Env. Specialist | (573) 840-9789 | wesley.hargraves@dnr.mo.gov |
| Frank Shovlin | Env. Specialist | (573) 840-9023 | frank.shovlin@dnr.mo.gov |

This inspection was conducted, pursuant to Section 644.026.1 RSMo of the Missouri Clean Water Law, to determine the facility's compliance with Missouri State Operating Permit (MSOP) MO0057312, the Missouri Clean Water Commission Regulations, and the Missouri Clean Water Law. This report presents the findings and observations made during the compliance inspection.

## Entity Description and History

The latest issuance of MSOP MO0057312 was placed into effect on January 1, 2019 and expires on June 30, 2023. This permit sets forth effluent limitations, monitoring requirements, and permit conditions, both standard and specific, that the permittee is to follow.

The Terre Du Lac South - One Cell Lagoon (Rue Calais and Rue Valerie Intersection, Bonne Terre, MO 63628) operates under the ownership of the Terre Du Lac Utilities Corporation (1128 South St. Francois, Bonne Terre, MO 63628). No additional continuing authority is listed.

The operation of the facility must be by or under the supervision of a certified "D" level wastewater operator. Ms. Natalie Frazier (Certificate #5908, WW-A and DW-D) has been certified at the "A" level for wastewater operations. Mr. John Pratt (Certificate #15493 WW-D) and Mr. Robert Gough (Certificate #15487 WW-D) are also certified at a "D" level. The facility consists of a single lagoon cell. Sludge is retained in the lagoon.

The design population equivalent of the system is 40. The design flow is 4,000 gallons per day. Actual flow is listed as 15,000 gallons per day. The design sludge production is 0.84 dry tons per year.

The legal description of the facility is listed on the permit as Section 20, Township 37 North, Range 4 East, in St. Francois County. The UTM GPS coordinates for the facility are X=709278 and Y=4198844, as listed in the permit. The receiving stream for this site is listed as Cabanne Course (C). The first classified stream segment is identified as 8-20-13 MUDD V1.0 (C) (3960). The facility is part of USGS HUC8 Watershed 07140104.

During review of the facility's Discharge Monitoring Reports (DMRs) for the last 24 months, no effluent violations were noted. However, no analysis for dissolved oxygen, pH, or flow was reported on the 4th Quarter 2018 DMR. This was a result of the new operator, Ms. Natalie Frasier, not having access to records kept by the old operator when she began operating the facility in January 2019. This is documented in a January 15, 2019, email between Ms. Frasier and Ms. Marletta Cozad of the Southeast Regional Office.

The Terre Du Lac Utilities Corporation has paid the annual permitting fees associated with MSOP MO0057312.

No Sanitary Sewer Overflow (SSO) Reports associated with this facility have been submitted in the last couple of years.

The Terre Du Lac South - One Cell Lagoon was last inspected on December 12, 2017. At that time, the facility was found to not be in compliance. Lack of fencing, signage, poor maintenance, and failure to submit progress reports were noted during the inspection.

The Terre Du Lac South – One Cell Lagoon is currently under enforcement action following referral on September 4, 2009. Logan Cole is the assigned Case Manager. Logan can be reached at (573) 751-6725 with enforcement related questions.

**Discussion of Inspection and Observations**

Prior to the inspection, the Permit Conditions of MSOP MO0057312 and Discharge Monitoring Reports were reviewed.

The inspection was conducted during normal business hours. Prior notification of the inspection was provided to ensure timely access to the site. Upon arrival, on July 10, 2019, Frank Shovlin and I met with Mr. Mike Tilly, Ms. Natalie Frazier, and Mr. Hayden Tilly at the Terre Du Lac offices. We discussed the purpose and scope of the inspection. Mr. Mike Tilly granted permission to access the site and he and Mr. Hayden Tilly accompanied us throughout the inspection on July 10, 2019. Ms. Frazier accompanied myself and Mr. Shovlin throughout the inspection on July 10, 2019 and the sampling on July 11, 2019. On July 11, 2019, Mr. Pratt and Mr. Gough joined us. Mr. Hayden Tilly was posting warning signs on July 11, 2019.

Inspections of the Terre Du Lac – North Three-Cell Lagoon WWTF and the Terre Du Lac – Mechanical WWTP were also conducted. Due to composite sampling requirements associated with the permit for the mechanical plant and the logistics of sample delivery it was decided to conduct visual inspections on July 10, 2019 and take samples on July 11, 2019.

We traveled to the Terre Du Lac Mechanical WWTP and I set up an automated composite sampler. We then conducted a visual inspection of the mechanical plant. Details of this inspection are contained in a separate report for the Terre Du Lac Mechanical WWTP covered under MSOP MO0095311.

Following the mechanical plant inspection, we traveled to the Terre Du Lac South – One Cell Lagoon. The permit conditions of MSOP MO0057312 and DMRs were reviewed. The facility's Operation and Maintenance Manual, operational monitoring, and the Schedule of Compliance in MSOP MO0057312 were also discussed.

No Operation and Maintenance Manual was available at the time of the inspection. Mr. Tilly believed one had been developed but was unable to find it at the time of the inspection.

At the time of the inspection, operational monitoring was not being conducted at the Terre Du Lac South One Cell Lagoon. This was discussed with Ms. Frazier in detail and copies of the applicable section of 10 CSR 20-9 and a copy of the Department's Operational Monitoring Report for Lagoon systems were provided. The section of the Fact Sheet included with MSOP MO0057312, which requires operational monitoring as a result of past operation issues, was also pointed out to Ms. Frazier. Ms. Frazier stated that operational monitoring would be done as required in the future.

A visual inspection of the system was made. The facility is fenced and secure. A gravel road runs right up to the facility providing all-weather access. Access to the lagoon is provided via a gate locked with a chain. Warning signage was in place on the gate. The need for additional warning signs that could be seen from other directions of approach were discussed on July 10, 2019. On July 11, 2019, additional signs were attached while samples were being taken.

Influent arrives to the northwestern side of the lagoon. The lagoon is facultative and at the time of the inspection the lagoon was covered by a thick mat of duckweed. A slight musty odor was present and effluent appeared to have a slight dark green tint. On July 10, 2019, approximately half of the lagoon berm had been mowed. A visual inspection of the berms revealed a few eroded areas in need of repair. The need to maintain the lagoon due to the system's reliance on wind to provide oxygen needed for proper treatment was explained. Duckweed especially would limit the amount of oxygen mixed into the lagoon by the wind. Removal of as much of the duckweed as possible would benefit the oxygen levels in the lagoon. Tall grass, given the dimensions of the lagoon, could also block wind action as well as providing shelter to wildlife which could potentially damage the berms. Outfall #001 is marked with appropriate signage.

Mr. Shovlin and I returned to the site and took samples on July 11, 2019. Ms. Frazier also took samples for the facility. Dissolved Oxygen was 1.05 mg/L at this time. Additional information regarding sampling is documented in the Sampling and Monitoring section below. By July 11, 2019, the entire lagoon area had been mowed. We again discussed the need to remove or minimize factors that would restrict wind action and the mixing of oxygen into the lagoon with Mr. Pratt and Mr. Gough as they had not been present for the discussion on July 10, 2019.

The Schedule of Compliance in MSOP MO0057312 requires that Terre Du Lac Utilities attain compliance with the final effluent limitations for Ammonia no later than February 1, 2019. It also requires attainment of compliance with limitations for *E.coli* no later than January 1, 2021. Each year on January 1, a report is due summarizing progress and plans made toward achieving compliance with these new effluent limits. At the time of the inspection, no upgrades had been made. A progress report was submitted on May 28, 2019. This report states that limitations have been met during the first quarter of 2019, and indicates the facility will be operated in a way that will continue to meet limitations. Monitoring data indicates that while the system would have met 1$^{st}$ Quarter Ammonia limits the last two years, the system would have also failed to meet limits 2$^{nd}$, 3$^{rd}$, and 4$^{th}$ quarters of each year. This trend is likely to continue and changes made to ensure the facility meets permitted effluent limitations at all times must be made. Additionally, no mention is made of potential upgrades needed to ensure the facility will meet E. coli limits when they become effective January 1, 2021.

Reported flows over the last couple of years indicate that the facility discharges between 0.0432 million gallons per day (Mgal/day) or 43,200 gallons per day (gal/day) and 0.00576 Mgal/day or 5,760 gal/day. The design flow of the lagoon is 4,000 gal/day. This data indicates that the system routinely receives flows greater than it was designed to properly treat. Ms. Frazier indicated that the bucket method is used to collect flow measurements. Care should be taken to ensure this data is accurate. A single decimal place during conversion to million gallons per day can be the difference between 4,000 gal/day and 40,000 gal/day being reported. If the recorded data is accurate, then flow through the lagoon reaches ten times what the system was designed for. Even if a conversion mistake has been made, flow routinely exceeds the 4,000 gal/day that the system was designed to treat. This would seem to indicate that the lagoon is receiving water from sources outside the collection system in addition to normal flows from residential housing that the system was meant to collect. These sources of stormwater flow are referred to as inflow and infiltration (I & I). A program which utilizes manhole inspections, smoke testing, or camera work to identify these sources of I &I and then repairs or modifications to eliminate the discovered sources of I&I would benefit the system.

A reduction in I & I will also reduce the occurrence of sanitary sewer overflows during precipitation events. No overflows or bypasses associated with the Terre Du Lac South – One Cell Lagoon have been reported. The requirements to report any sanitary sewer overflow was discussed.

## Sampling and Monitoring

The appropriate sampling materials were taken on the inspection, including a copy of the Missouri Department of Natural Resources' Standard Operating Procedures for Sampling.

Instruments for field monitoring were taken on the inspection that are capable of testing pH, temperature, conductivity, and dissolved oxygen. Water quality field monitoring was conducted at the following locations for the listed parameters. The effluent was clear and free of visible solids.

| Outfall #001 | | |
|---|---|---|
| **Parameter** | **Result** | **Units** |
| pH | 6.8 | S.U. |
| Temperature | 24.0 | °C |
| Dissolved Oxygen | 1.05 | mg/L |

Sampling was conducted at the following locations and submitted to the Environmental Services Program for laboratory analysis for the parameters listed below.

| Outfall #001 | | | | | |
|---|---|---|---|---|---|
| **Results of Sample Analyses** | | | **Permit Limits – Final Effluent Limitations** | | |
| **Parameters** | **Sample Result** | **Units** | **Daily Max** | **Weekly Average** | **Monthly Average** |
| Total Suspended Solids (TSS) | 19.0 | mg/L | | 120 | 80 |
| Biochemical Oxygen Demand$_5$ ($BOD_5$) | 12.3 | mg/L | | 65 | 45 |
| Ammonia as N | **4.33** | mg/L | **3.6** | | **1.4** |
| E. coli | >2419.6 | #/100 mL | Monitoring | | |

Ammonia as N limits were exceeded. Exceeding any permit limitation is a violation of the facility's Missouri State Operating Permit effluent limitations and the Missouri Clean Water Law, Sections 644.051.1(1) (3) and 644.076.1

## Compliance Determination, Violations, and Required Actions

The facility was found to be **not in compliance** with the Missouri Clean Water Law, the Clean Water Commission Regulations, and Missouri State Operating Permit MO0057312, based upon the violations noted below.

## Letter of Warning

1. During the inspection, the Terre Du Lac South One Cell Lagoon failed to comply with the effluent limits contained in Part "A" of MSOP MO0057312 [Sections 644.051.1(3) and 644.076.1], RSMo.

**Required Action:** Ammonia exceedances must be addressed. In addition to the result of the sample taken during the inspection, historical data indicates that the facility will continue to regularly exceed effluent limitations in the systems current state. Steps must be taken to upgrade the facility as needed to meet effluent limits for Ammonia as N. By September 12, 2019, Terre Du Lac Utilities must submit a response outlining the plan to bring the Terre Du Lac South One Cell Lagoon into compliance with effluent limits in MSOP MO0057312.

2. Failed to meet the Schedule of Compliance as outlined in MSOP MO0057312.

   **Required Action:** In addition to the response required by violation #1 above regarding Ammonia, by September 12, 2019, a response must be submitted which outlines a plan to bring the facility into compliance with effluent limits for E.coli by January 1, 2021. A sample result of >2419.6 #/100mL was obtained following analysis of the sample taken during the inspection. This result indicates that an upgrade will be needed to meet limits.

3. No operational monitoring has been recorded for the Terre Du Lac South One Cell Lagoon.

   Special Condition #9 of MSOP MO0057312 references the requirements of 10 CSR 20-9 and Part III – Operational Monitoring of the Fact Sheet included in MSOP MO0057312 explains that the facility is required to conduct operational monitoring as a result of previous operational issues.

   During the inspection, copies of 10 CSR 20-9 operational monitoring requirements, Part III-Operational Monitoring of Fact Sheet associated with MO0057312, and the Department's Operational Monitoring Report – Lagoon Form was provided to Ms. Frazier. Ms. Frazier stated her intent to conduct operational monitoring as required going forward.

   **Required Action:** Operational monitoring must be carried out as indicated in 10 CSR 20-9 in accordance with MSOP MO0057312. Monitoring records must be available upon request by the Missouri Department of Natural Resources. By September 12, 2019, submit a plan summarizing how operators will coordinate with one another to ensure operational monitoring is conducted twice a week as required. Also, include how this monitoring will be recorded, where it will be stored, and who to contact to request this data.

4. Failed to maintain an Operation and Maintenance manual as required by the special conditions of MSOP MO0057312 [Section 644.076.1, RSMo].

   Special Condition #14 of MSOP MO0057312 states:

   An Operation and Maintenance (O&M) manual shall be maintained by the permittee and made available to the operator. The O&M manual shall include key operating procedures and a brief summary of the operation of the facility.

   **Required Action:** By September 12, 2019, the permittee must submit a response documenting that an O&M manual that provides information regarding key operating procedures and a brief summary of the operation of the facility has been developed for the Terre Du Lac South One Cell Lagoon.

5. Failed to maintain lagoon cells and berms as required by the special conditions of MSOP MO0057312 [Section 644.076.1, RSMo].

   Special Condition #19 of MSOP MO0057312 states:

   The berms of the lagoons shall be mowed and kept free of any deep-rooted vegetation, animal dens, or other potential sources of damage to the berms.

   On July 10, 2019, approximately half of the lagoon had been mowed. By July 11, 2019, the entire lagoon was mowed. Some erosion/damage of the berms was observed. Photo #003, at the end of this report, shows one of these locations.

   **Required Action:** By September 12, 2019, a response documenting a process to repair these berms and ensure they are maintained at all times.

All statements/responses should be submitted by mail to the attention of Wesley Hargraves at the Southeast Regional Office of the Missouri Department of Natural Resources, 2155 North Westwood Blvd., Poplar Bluff, MO 63901 or by email to wesley.hargraves@dnr.mo.gov.

**Recommendations**

1. An inflow and infiltration program to discover and eliminate non wastewater sources of water from the collection system is recommended.
2. Removal of duckweed would aid in allowing greater aeration of the lagoon cell.

**Additional Comments / Conclusion**

An Agreed Partial Order of Preliminary Injunction was ordered on May 19, 2015 and contains additional required actions covering each of the wastewater treatment systems at Terre Du Lac.

I would like to thank Mr. Mike Tilly, Ms. Natalie Frazier, Mr. Hayden Tilly, Mr. John, Pratt, and Mr. Robbie Gough for their time and assistance during the inspection. If there are any questions concerning this report, please feel free to contact me by phone at (573) 840-9789, by email at wesley.hargraves@dnr.mo.gov, or at 2155 N. Westwood Blvd., Poplar Bluff, Missouri 63901. For questions regarding the status of the enforcement case, contact Logan Cole at (573) 751-6725.

**Signatures**

SUBMITTED BY:

Wesley Hargraves
Environmental Specialist III
Southeast Regional Office

REVIEWED BY:

Josh Wilkerson
Chief, Water Pollution Control Unit
Southeast Regional Office

**Attachments**
Attachment #1 – Photograph (#001) Through Photograph (#005)
Attachment #2 – Aerial View / Site Map

**Photograph #:** 001
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac South - One Cell Lagoon
**Permit:** MO0057312
**Location:** St. Francois County

**Description:** View of south side of lagoon from entrance. Taken facing southeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 002
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac South - One Cell Lagoon
**Permit:** MO0057312
**Location:** St. Francois County

**Description:** View of north side of lagoon from entrance. Taken facing northeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 003
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac South - One Cell Lagoon
**Permit:** MO0057312
**Location:** St. Francois County

**Description:** View of berm damage. Taken facing northeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit


**Photograph #:** 004
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac South - One Cell Lagoon
**Permit:** MO0057312
**Location:** St. Francois County

**Description:** View of Outfall #001. Taken facing southeast.

**Date Taken:** July 10, 2019
**Program:** WPC Unit

**Photograph #:** 005
**Taken by:** Wesley Hargraves
**Entity:** Terre Du Lac South - One Cell Lagoon
**Permit:** MO0057312
**Location:** St. Francois County

**Description:** View of north side of lagoon from entrance after additional mowing. Taken facing northeast.

**Date Taken:** July 11, 2019
**Program:** WPC Unit


**Aerial view of Terre Du Lac South - One Cell Lagoon via Google Earth**

**IN THE CIRCUIT COURT OF ST. FRANCOIS COUNTY, MISSOURI**

| | | |
|---|---|---|
| STATE OF MISSOURI *ex rel.* Chris Koster, Attorney General of Missouri and the Department of Natural Resources, | ) | |
| Plaintiff, | ) | |
| v. | ) | Case No.: 10SF-CC00186 |
| TERRE DU LAC UTILITIES CORPORATION, | ) | |
| and | ) | |
| MICHAEL F. TILLEY | ) | |
| Defendants. | ) | |

**Motion to Enforce Agreed Partial Order of Preliminary Injunction**

In support of this Motion, the State of Missouri asserts the following:

1. On September 18, 2012, the State filed its First Amended Petition for Preliminary and Permanent Injunction and Civil Penalties against Defendants Terre Du Lac Utilities Corporation and Michael F. Tilley, alleging violations of the Missouri Clean Water Law and the Missouri Safe Drinking Water Regulations.

2. On May 19, 2015, this Court entered an Agreed Partial Order of Preliminary Injunction ("the Order") in which Defendants agreed and were ordered to undertake a number of tasks aimed at resolving the violations

alleged in the State's Petition. A copy of the Order is attached to and incorporated into this Motion.

3. Defendants failed to comply with all of the requirements detailed in the Order regarding Wastewater; specifically, Defendants have not:

a. Submitted the annual sludge reports for the years 2007 through 2012;

b. Completed all hardware installations and necessary repairs to the Oxidation Ditch;

c. Completed all necessary repairs to the North Cell Lagoon;

d. Completed all necessary repairs to the South Cell Lagoon;

e. Installed audio and visual alarms on all of the lift stations.

4. Defendants failed to comply with the Drinking Water portion of the Order in that, until June 27, 2016, they failed to provide public notices of their failure to comply with the Missouri Safe Drinking Water regulations.

5. Defendants agreed and were ordered to pay stipulated penalties if they failed to comply with all of the requirements in the Agreed Partial Order of Preliminary Injunction.

6. Defendants agreed that payment would be due within ten days of demand from the Attorney General's Office.

7. A demand for stipulated penalties totaling $117,000 was sent to

Defendants on or about May 5, 2016, but no payment has been received to date. A copy of the demand letter is attached to this Motion and incorporated by reference.

WHEREFORE, the State requests that this Court:

A. Enter an order assessing the stipulated penalty of $117,000 for failure to comply with the Agreed Partial Order of Preliminary injunction up to April 19, 2016; and,

B. Enter an order assessing a stipulated penalty of $500 per day for each day since April 19, 2016, that Defendants remain out of compliance with conditions in the Agreed Partial Order of Preliminary Injunction; and

C. Enter such other orders as may be proper in the premise.

Respectfully submitted,

**CHRIS KOSTER**
Attorney General

/s/ Laura E. Elsbury

Laura E. Elsbury
Assistant Attorney General
Missouri Bar No. 60854
P.O. Box 899
Jefferson City, MO 65102
Phone: (573) 751-0052
Fax: (573) 751-8796
Email: Laura.Elsbury@ago.mo.gov

ATTORNEYS FOR PLAINTIFF

**Certificate of Service**

I hereby certify that a true and correct copy of the foregoing was filed and served electronically via Missouri CaseNet, on the 9th day of August, 2016, to:

Charles H. Billings
225 South Meramec Ave., Ste. 1200
Clayton, MO 63105

*/s/ Laura E. Elsbury*
Laura E. Elsbury
Assistant Attorney General

ATTORNEY GENERAL OF MISSOURI

CHRIS KOSTER
ATTORNEY GENERAL

JEFFERSON CITY
65102

P.O. Box 899
(573) 751-3321

May 5, 2016

Michael Tilley
Terre du Lac Utilities Corporation
1628 South St. Francois Road
Bonne Terre, MO 63628
**Via FedEx Ground**

RE: *State ex rel. Koster v. Terre du Lac Utilities Corp. et al.*
Case No.: 10SF-CC00186

Dear Mr. Tilley:

This letter is a demand for $117,000 in stipulated penalties pursuant to the provisions of the Agreed Partial Order of Preliminary Injunction entered on May 19, 2015.

Inspectors from the Missouri Department of Natural Resources (MDNR) recently visited your site to check on the status of your compliance. It is my understanding that you have already been provided with detailed site inspection reports. Therefore, you know that they found you had not completed all of the agreed upon tasks within the agreed upon timeframes. While there was evidence of some progress, you have not completed all of the tasks detailed in the following paragraphs:

- Paragraph 4 – 2007-2012 sludge reports:
- Paragraph 5 – repairs to the Oxidation Ditch;
- Paragraph 6 – repairs to the North Cell Lagoon;
- Paragraph 7 – repairs to the South Call Lagoon;
- Paragraph 8 – lift station alarms;
- Paragraph 11 – public notices regarding drinking water.

We would ask you to direct your attention to Paragraph 19, which reads as follows:

> In the event Defendants fail to comply with the requirements set forth in the preceding paragraphs, they shall be jointly and severally liable for stipulated penalties in accordance with the following schedule:
>
> a. $50 per day for the first thirty (30) days;
> b. 250 per day for the next sixty (60) days
> c. $500 per day for every day thereafter.

Paragraph 20 provides: "Stipulated penalties shall be due and payable within ten days of demand from the Attorney General's Office." This letter is such a demand for stipulated penalties of $117,000; that is:

a. $50 per day for each day from July 4, 2015, through August 2, 2015 ($1500);
b. $250 per day for each day from August 3, 2015, through October 1, 2015 ($15,000); and
c. $500 per day for each day from October 2, 2015, through April 19, 2016 ($100,500).

Please note: stipulated penalties of $500 per day continue to accrue every day after April 19, 2016, that you do not comply with all of the terms in the Agreed Partial Order of Preliminary Injunction. Directions for remitting payment are also within the Agreed Partial Order or Preliminary Injunction.

Thank you for your prompt attention to this matter.

Sincerely,

**CHRIS KOSTER**
Attorney General

Laura E. Elsbury
Assistant Attorney General

c: Charles Harry Billings, Bruntrager & Billings, P.C.
Lance Dorsey, DNR/PDWP
Joan Doerhoff, DNR/WPP

**IN THE CIRCUIT COURT OF ST. FRANCOIS COUNTY**
**STATE OF MISSOURI**

| | | |
|---|---|---|
| **STATE OF MISSOURI ex rel. Attorney General Chris Koster, Attorney General of Missouri, the Missouri Department of Natural Resources, and the Missouri Clean Water Commission,** | ) | |
| Plaintiff, | ) | |
| **v.** | ) | **Case No.**: 10SF-CC00186 |
| **TERRE DU LAC UTILITIES CORP.** | ) | |
| Defendant, | ) | |

**PARTIES' MOTION TO CONTINUE FOR SETTLEMENT**

COME NOW Plaintiff and Defendant, by and through Counsel, and moves the Court to continue the hearing for settlement, and in support thereof, the parties states as follows:

1. A hearing in this matter is currently scheduled for Tuesday, December 17, 2019.

2. Defendant has agreed to settlement terms with Counsel for the Plaintiff that will resolve this case. Part of the settlement terms is for the Defendant to sell Terre Du Lac Utilities to Central States Water Resources. In order for the sale to go through, Central States Water Resources will have to

get approval from the Public Service Commission.

3. Parties respectfully request that this matter be passed for 120 days for the parties to present a status update to the Court on approval from the Public Service Commission for Central States Water Resources to purchase Terre Du Lac Utilities.

WHEREFORE, Parties respectfully requests the Court to continue the hearing set for December 17, 2019 for 120 days to allow time for the Public Service Commission to approve the sale of Terre Du Lac Utilities Corp to Central States Water Resources, and for such other and further relief as the Commission deems just and proper.

Respectfully submitted,

**ERIC S. SCHMITT**
Attorney General

*/s/ Richard N. Groeneman*
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Assistant Attorney General
Missouri Bar No. 57157

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**ATTORNEYS FOR PLAINTIFF MISSOURI DEPARTMENT OF NATURAL RESOURCES**

## CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and accurate copy of the foregoing was filed electronically with the Clerk of the Court on December 13, 2019, to be served by operation of the Courts electronic filing system upon all attorneys of record.

*/s/ Richard N. Groeneman*
Richard N. Groeneman
Assistant Attorney General

# APPENDIX—14C IS CONFIDENTIAL IN ITS ENTIRETY

## 20 CSR 4240-2.135(2)(A)3. and 6.

# APPENDIX—15C
# IS CONFIDENTIAL
# IN ITS ENTIRETY

## 20 CSR 4240-2.135(2)(A)3. and 6.

# APPENDIX—16C
# IS CONFIDENTIAL
# IN ITS ENTIRETY

## 20 CSR 4240-2.135(2)(A)3. and 6.