

Baxter Wastewater Treatment Plant
NPDES Number: TN0021121
Site Tracking Number: TNB021121
Annual Biosolids Report
for
Wastewater Solids Land Applied in 2017
January 24, 2018

ANNUAL REPORT

Biosolids Generated- General Information

- a. Total Biosolids Land Applied in 2017: 11.73 Dry Metric Tons
- b. Concentration of Metals: See attached lab report.
- c. PCB Report Date: April 14, 2014
- d. TCLP Report Date: April 14, 2014
- e. Pathogen Reduction Process Description and Results: Pathogen reduction has been demonstrated by fecal coliform testing. The geometric mean of the density of fecal coliform in seven samples collected was 757. These results meet the requirements in Appendix C of the Biosolids Permit, Class B-Alternative 1.
- f. Vector Attraction Reduction Description and Results: Vector attraction reduction has been demonstrated by specific oxygen uptake rate (SOUR) testing. The average of six SOUR test results demonstrates an oxygen uptake rate of .273 mg O₂/hr/g @ 20 degrees Celcius. These results meet the requirements in section 3.1.3.(d) of the Biosolids Permit.
 - g. Generator Certification Statement: I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in Appendix C and the vector attraction reduction requirements in Section 3.1.3(d) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

Application Sites (complete this section for each site or field)

- a. Site Name: Thomas Lee Young Site
- b. Site Owner: City of Baxter, TN
- c. Site Operator: City of Baxter, TN
- d. Applier: City of Baxter, TN
- e. Latitude and Longitude of Site: 36.145556 and 85.644167
- f. Street Address: 810 Elmore Town Road Baxter, TN 38544
- g. County: Putnam
- h. Size (acres).
 1. Approved Acres: 20 acres
 2. Applied Acres: 20 acres

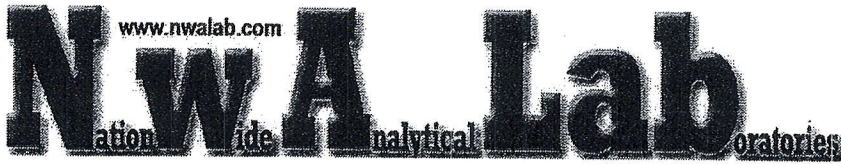
- i. Acres excluding setbacks: 20 acres
- j. Crop Information.
 - 1. Crop Grown: perennial grass for hay
 - 2. Yield: about one ton per acre per cutting
- k. Application Method: liquid spreader truck
- l. Agronomic Rate (tons/acre) and if applicable, the cumulative loadings for each contaminant.
 - 1. Agronomic Loading Rate: 3.0 T/Acre
 - 2. Maximum Plant Available Nitrogen (PAN) loading: 120 lbs. N/Acre
 - 3. Loading Rate to achieve PAN: 3.0 Dry T/Acre
 - 4. Actual application volume wet: 184,500 gallons
 - 5. Actual application tonnage, dry: .586 Dry T/Acre
 - 6. Total wet volume per field: 184,500 gallons
 - 7. Total dry tons per field: 11.73 Tons
- m. Nitrogen Concentrations. Report average and maximum test concentrations
 - 1. Average Ammonia: 14 mg/Kg Maximum: 14 mg/Kg
 - 2. Average TKN: 53,625 mg/Kg Maximum: 53,625 mg/Kg
 - 3. Average Organic Nitrogen: 55,835 mg/Kg Maximum: 55,835 mg/Kg
 - 4. Average Nitrate: 2,027 mg/Kg Maximum: 2,027 mg/Kg
 - 5. Total Solids Percent: 1.40%
- n. Tonnage Applied
 - 1. Biosolids Applied to Site
 - i. Total Tonnage or Volume: 184,500 gallons
 - ii. Dry tons: 11.73 Tons
 - 2. Biosolids Applied to Each Site
 - i. First Application Date: June 14, 2017
 - ii. Last Application Date: November 14, 2017
- o. Metals See attached Lab Report
- p. Management Practices. (Describe how each item below is met)
 - 1. Set Backs: The land application of biosolids will be conducted in a manner that will not cause a violation of any receiving water quality standard from discharges of surface runoff from the land application site. There are no wetlands, seasonal surface water bodies, sink holes, wells, or biosolids storage areas on this site. The only perennial surface water body near the application site is Mine Lick Creek; this creek is located about 100 yards from the nearest land application location.
 - 2. Agronomic Loading: Application of biosolids will be conducted in a manner that does not exceed the agronomic loading rate for available nitrogen of the crops grown on the site. The facility will provide written notification to the biosolids applier of the concentration of total nitrogen (as N on a dry weight basis) in the biosolids.
 - 3. Weather Restrictions: Biosolids will not be applied to frozen, ice covered, or snow covered sites. When weather and/or soil conditions prevent adherence to the biosolids application procedures, biosolids will not be applied on the site.
 - 4. Soil Restrictions: There is no standing surface water on the application site and

the groundwater level does not reach the surface of the and application site. The land application site is not subject to flooding. Liquid biosolids will not be applied on slopes exceeding 8 %.

5. Threatened and Endangered Species: The biosolids or the application of the biosolids will not cause or contribute to the harm of a threatened or endangered species or result in the destruction or adverse modification of critical habitat of a threatened or endangered species after application.
6. Metals Loading: Biosolids subject to the cumulative contaminant loading rate in Table 2 (subsection 3.1.1.2) will not be land applied if any of the cumulative contaminant loading rates in Table 2 have been reached.
7. Notification of Owners: The permittee will provide notice and necessary information to the person who land applies the biosolids and the owner or lease holder of the land on which the biosolids are applied.

Site Restrictions: No food crops are grown on the land application site. Hay will not be harvested from the site for 30 days after application. The public has no access to the site. Animals do not graze on the application site.

- a. Certification Statement: I certify, under penalty of law, that the information that will be used to determine compliance with the management practices in Section 3.2 was prepared for each site on which bulk biosolids were applied under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.
- b. I certify, under penalty of law, that the information that will be used to determine compliance with the site restrictions in Section 3.1.2.3 for each site on which Class B biosolids were applied was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.



Nationwide Analytical Laboratories
 36 South Willow Avenue, Suite B
 Cookeville, TN 38501
 Pete's Cell: (931) 644-7034
 John's Cell: (931) 261-2180

Phone: (931) 520-0263 / Fax: (931) 520-0264

CERTIFICATE OF ANALYSIS

Tommy Buford
City of Baxter Wastewater Treatment Plant
 P.O. Box 283
 Baxter, TN 38544

COA ID: NWA 5190

Receipt Date: 1/16/2017
 Report Date: 2/6/2017

Phone: 931-858-3348 Fax:
 Email: mwwtp@frontiernet.net
 Account Number: 20110002

Mobile:

Project Description:
 Sludge Analysis - Dry Weight Basis

**P.O. Number:
736**

Analysis Description Method / Detection Limit (units)	Sample ID / Sampling Date / Sampling Time / Collected By / Analysis Date											
	Sludge	5190	1/16/2017	1/18/17 0:00	Tommy Buford	1:40 PM						
Total Phosphorus EPA 365.3 / 0.01 mg/L	16025											
Ammonia EPA 350.1 / 0.03 mg/L	13.58											
Nitrate + Nitrite EPA 353.2 / 0.02 mg/L	2210											
Nitrite (NO2-N) EPA 353.2 / 0.02 mg/L	2.56											
Nitrate (NO3-N) EPA 353.2 / 0.02 mg/L	2027											
Total Nitrogen (TPN) SM 4500N Organic C / 0.04 mg/L	55835											
Kjeldahl Nitrogen (TKN) Calculated / 0.04 mg/L	53625											
Total Solids (%) EPA 2540G	1.40											
Voatile solid (% of total solids) EPA 2540G	72.24											

EPA Laboratory Number: TN01235

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 Email: mwwtp@frontiernet.net
 Account Number: 20110002

Mobile:

Project Description:
 Sludge Analysis - Metals - Dry Weight Basis

**P.O. Number:
 736**

Analysis Description Method / Detection Limit (units)	Sample ID / Sampling Date / Sampling Time / Collected By / Analysis Date											
	Sludge	5190	1/16/2017	1:40 PM	Tommy Buford	1/30/17	0:00					
Mercury, Hg (outsourced) EPA 245.1 (mg/Kg - Dry)	1.76											
Arsenic, As (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	ND											
Cadmium, Cd (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	ND											
Copper, Cu (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	262.4											
Lead, Pb (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	20.7											
Molybdenum, Mo (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	ND											
Nickel, Ni (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	ND											
Selenium, Se (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	ND											
Zinc, Zn (outsourced) EPA 200.7 by ICP (mg/Kg - Dry)	671.3											
Total Solids (%) EPA 2540G	1.40											
Volatile solid (% of total solids) EPA 2540G	72.2											
	1.40											