

SPECIAL CONDITIONS
GENERAL PERMIT WMGR086

1. The approval herein granted is limited to the beneficial use of wastewater treatment sludge generated by a leather manufacturing facility, hereinafter referred to as "wastewater treatment sludge" or "sludge", as a soil conditioner for agricultural and/or mine reclamation purposes by land application.
2. The wastewater treatment sludge may be beneficially used by land application on agricultural lands or mine reclamation site if, prior to its land application, the quality criteria requirements listed in Table 1 below are met. The analytical methodologies used to meet the requirements in this section shall be those in the most recent edition of the EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW-846), "Methods for Chemical Analysis of Water and Wastes" (EPA 600/4-79-020), "Standard Methods for Examination of Water and Wastewater" (prepared and published jointly by the American Public Health Association, American Waterworks Association, and Water Pollution Control Federation), the Department's "Sampling Manual for Pollutant Limits, Pathogens and Vector Attraction Reductions in Sewage Sludge" or a comparable method subsequently approved by the EPA or the Department.
 - a. The concentration of any pollutant in the wastewater treatment sludge shall not exceed the following limits:

Table 1

<u>Constituent</u>	<u>Limit</u>
Arsenic	41 mg/kg dry weight basis
Cadmium	39 mg/kg dry weight basis
Copper	1,500 mg/kg dry weight basis
Lead	300 mg/kg dry weight basis
Mercury	17 mg/kg dry weight basis
Nickel	420 mg/kg dry weight basis
Selenium	100 mg/kg dry weight basis
Zinc	2,800 mg/kg dry weight basis
Molybdenum	75 mg/kg dry weight basis
Fecal Coliform	< 1,000 MPN ¹ per gram of total solid.

¹ Most Probable Number

3. The waste water treatment sludge that does not meet the quality requirements as specified in Condition 2 of this general permit shall be managed properly at a permitted disposal facility.
4. The permittee shall collect representative samples of the wastewater treatment sludge and analyze for each parameter specified in Table 1 of Condition 2 of this general permit. The chemical analysis required in this Condition shall be performed by a laboratory accredited or

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registered for accreditation under the Pennsylvania Environmental Laboratory Accreditation Act, Act of 2002, No. 25.

5. a. In compliance with the requirements specified in Condition 4 of this general permit, representative samples of the wastewater treatment sludge must be collected and analyzed. To obtain a representative sample of the wastewater treatment sludge, the sample must be taken from the correct locations and represent the entire amount of wastewater treatment sludge. More than one sample is usually necessary to accurately represent the wastewater treatment sludge produced and stored. Core samples at different locations and at various depths shall be collected and then composited to obtain a representative sample of the wastewater treatment sludge produced or stored. The key is to obtain a representative sample. In general, the more samples taken, the greater the chance that the sampling results will be representative of the quality of the wastewater treatment sludge that is produced.

Should knowledge of the production of wastewater treatment sludge, visual observations, or analytical results indicate variability in the quality of the wastewater treatment sludge, more frequent testing shall be conducted.

- b. The frequency of monitoring for the constituents required in Table 1 of Condition 2 of this general permit shall be once per quarter (4 times per year). The Department may reduce the frequency of monitoring required in this Condition, but may not be less than once per year, after the wastewater treatment sludge has been monitored for 2 years and the permittee has submitted a written request to the Department asking for a lesser frequency of monitoring.
6. The wastewater treatment sludge shall not be mixed with other types of solid wastes, including hazardous waste or special handling waste.
7. This permit does not authorize and shall not be construed as an approval to discharge any industrial wastes, wastewater, leachate or runoff from the land application sites to the waters of the Commonwealth.
8. The permittee shall comply with the fugitive emissions regulations under 25 Pa. Code, Chapter 123 (Standards for Contaminants) issued under the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, 35 P.S. §4005 and shall comply with all the applicable provisions of the Fugitive Emissions §§123.1 and 123.2.
9. Nothing in this permit shall be construed to supersede, amend, or authorize a violation of any of the provisions of any valid and applicable law, ordinance, or regulations, providing that said local law, ordinance, or regulation is not preempted by the Solid Waste Management Act, 35 P.S. §6018.101 et seq.; and the Municipal Waste Planning, Recycling and Waste Reduction Act of 1989, 53 P.S. §4000.101 et seq.

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10. As a condition of this permit and of the permittee's authority to conduct the activities authorized by this permit, the permittee hereby authorizes and consents to allow authorized employees or agents of the Department, without advance notice or search warrant, upon presentation of appropriate credential and without delay, to have access and to inspect all areas or permittee controlled adjacent areas where solid waste management activities are being or will be conducted. This authorization and consent shall include consent to collect samples of wastes, waters, or gases; to take photographs; to perform measurements, surveys, and other tests; to inspect any monitoring equipment; to inspect the methods of operation; and to inspect and/or copy documents, books, and papers required by the Department to be maintained or produced. (See §§608 and 610 (7) of the Solid Waste Management Act, 35 P.S. §§6018.608 and 6018.610 (7).) This condition in no way limits any other powers granted to the Department under the Solid Waste Management Act.
11. Failure of measures herein approved to perform as intended, or as designed, or in compliance with the applicable laws, rules, and regulations and terms and conditions of this permit, for any reason, shall be ground for the revocation or suspensions of the permittee's approval to operate under this permit.
12. Any independent contractors or agents retained by the permittee in the completion of activities authorized under this permit shall be subject to compliance history review by the Department prior to performance as specified by the Solid Waste Management Act of 1980.
13. The activities authorized by this permit shall not harm or present a threat of harm to the health, safety or welfare of the people or environment of this Commonwealth. The Department may modify, suspend, revoke or reissue the authorization granted in this permit if it deems necessary to prevent harm or the threat of harm to the public health, or the environment.
14. Persons or municipalities that propose to operate under the terms and conditions of this general permit after the date of permit issuance must obtain a "Determination of Applicability" from the Department's Bureau of Land Recycling and Waste Management, Division of Municipal and Residual Waste, P.O. Box 8472, Harrisburg, PA 17105-8472. No activities shall commence unless specially authorized by the Department in writing.

At a minimum, the following information must be provided on forms available from the Department's Bureau of Land Recycling and Waste Management (See address above):

- a. Name and address of applicant.
- b. A description of the generation process of wastewater treatment sludge.
- c. A chemical and physical analysis of wastewater treatment sludge that fully characterizes its composition and properties; a hazardous waste determination. The chemical analysis required in this Condition shall be performed by a laboratory accredited or registered for accreditation under the Pennsylvania Environmental Laboratory Accreditation Act, Act of 2002, No. 25.

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- d. Name and location of the generator of the wastewater treatment sludge.
- e. An evaluation plan for sampling, testing and monitoring the generation of wastewater treatment sludge at the facility.
- f. Description of method of beneficial use.
- g. Number and title of the general permit.
- h. Proof the wastewater treatment sludge and solid waste management activities are consistent with the general permit.
- i. Signed and notarized statement by the person who seeks authorization to operate under the terms and conditions of this permit that states that the person accepts all conditions of this general permit.
- j. An application fee in the amount as specified in the residual waste regulations, payable to the "Commonwealth of Pennsylvania".
- k. Proof that copies of the application have been submitted to each municipality, county, county planning agency and county health department, if one exists, in which beneficial use activities are or will be located.
- l. Proof that the applicant has legal right to enter the land and perform the activities approved under this permit.
- m. An irrevocable written consent from the landowner giving the Department permission to enter upon land where the applicant will be conducting solid waste management activities.
- n. Information that identifies the applicant (i.e., individual corporation, partnership, government agency, association, etc.), including the names and addresses of every officer that has a beneficial interest in or otherwise controls the operation of the company.
- o. A list of all previous permits or licenses issued by the Department or federal government under the environmental protection acts; the date issued, status and compliance history concerning environmental protection acts.
- p. Proof that any independent contractors retained by the permittee to perform any activities authorized under this permit are in compliance with the Department regulations as required in Condition 12.

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- q. A list of all previous permits or licenses issued by the Department or Federal government under the environmental protection acts; the dates issued, status and compliance history concerning environmental protection acts.
 - r. Total amount of the wastewater treatment sludge to be produced and stored.
15. Any person that operates under the provisions of this permit shall immediately notify the Department's Bureau of Land Recycling and Waste Management (See address in Condition 14), in writing, of any changes in: the company name, address, owners, operators and responsible officials; the location of land application sites; land ownership and the right to enter and operate on any land where the wastewater treatment sludge application is to take place; the physical or chemical characteristics of the wastewater treatment sludge; the generator(s) of the wastewater treatment sludge; and the status of any permit issued by the Department or federal government under the environmental protection acts.
 16. Wastewater treatment sludge shall be managed in accordance with the Solid Waste Management Act, the act July 7, 1980, as amended, P.L. 380, 35 P.S. §§6018.101 et sep. and the regulations promulgated therein.
 17. Equipment used for the storage and transportation of the wastewater treatment sludge shall be maintained in good operating condition to prevent the wastewater treatment sludge from being unintentionally conveyed out of the storage area(s). Weekly inspections of each storage area and their surrounding environs are to be conducted to determine compliance of the terms and conditions of this general permit, and for evidence of failure.
 18. Upon cessation of operations or by the expiration date of this general permit or unless extended by the Department in writing, the permittee shall remove any remaining wastewater treatment sludge and any other residual wastes or other materials which contain or have been contaminated by the wastewater treatment sludge and shall provide for the processing and disposal of the waste or material in accordance with the Solid Waste Management Act, the environmental protection acts and the regulations promulgated thereunder.
 19. The permittee shall immediately notify the Department's Emergency Hotline by telephone at (717) 787- 4343 or the appropriate DEP regional field office in the event of a discharge or spill of wastewater treatment sludge, and shall take appropriate immediate action to protect the health and safety of the public and the environment.
 20.
 - a. The permittee shall maintain records to demonstrate that the wastewater treatment sludge meets the concentration limits listed in Tables 1 of Condition 2 in this general permit.
 - b. The permittee shall maintain records of rejected, unacceptable and unauthorized wastes that are disposed of by the permittee. The records shall include the name and address of the disposal location, date of disposal, volume or weight of the waste that is disposed.

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- c. The permittee shall maintain records of all analytical evaluations conducted on the wastewater treatment sludge. This analytical information shall include the following on

each sample: the dates of sampling and testing, sampling procedures, person collecting the sample, the volume or weight of the sample, each parameter tested, the analytical results, the laboratory used, and analytical methodologies.

The records required in this Condition shall be retained at the facility for a minimum of 5 years and made available to the Department upon request.

21. a. The beneficial use activities authorized by this general permit shall not harm or present a threat of harm to the health, safety or welfare of the people or environment of this Commonwealth.
- b. The beneficial use of wastewater treatment sludge by land application may not be applied at a rate that is greater than the agronomic rate, unless a greater application is approved by the Department for land reclamation activities. Calculating the agronomic rate is provided in Appendix 1 of this general permit.
- c. The Department may:
1. Modify, suspend, revoke or reissue the authorization granted in this general permit if the permittee cannot comply with the conditions of this general permit or if the authorized activities cannot be adequately regulated under the conditions of this general permit.
 2. Require an individual permit be obtained if it is deemed necessary to prevent harm or the threat of harm to the public health, and the environment.
22. The permittee shall submit to the Department's Bureau of Land Recycling and Waste Management (See address in Condition 14), an annual report, by the anniversary date of this general permit, that summarizes the information outlined in Conditions 15 and 20, and identifies the location of all sites where wastewater treatment sludge was applied during the past 12 months, and identifies all landowners who consented to having sludge placed upon their land. The annual report shall also identify for each site: (1) the weight or volume of the wastewater treatment sludge applied, (2) the number of acres to which sludge was applied, (3) the date sludge was applied to each site, (4) the sludge agronomic loading rate in dry tons per acre, (5) the date beneficial use activities were completed or are estimated to be completed and (6) chemical analyses for the wastewater treatment sludge for all parameters listed in Table 1 of Condition 2 of this general permit. Analysis data submitted in compliance with this

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requirement must be from samples of the wastewater treatment sludge collected within the past 12 months.

23. The permittee shall notify in writing the county conservation district and host municipality in which wastewater treatment sludge application to agricultural lands as a soil additive is proposed, and identify the location(s) onto which sludge application is intended.
24. The permittee and subsequent seller of the wastewater treatment sludge shall record the name and address of each person who is given or purchases the wastewater treatment sludge and shall record its intended use. This information shall be included in the annual report required in Condition 22. It is incumbent upon the permittee to ensure that all users of the wastewater treatment sludge approved under this general permit comply with all conditions of this permit.
25. All activities conducted under the authorization granted in this permit shall be conducted in accordance with the permittee's application. Except to the extent that the permit states otherwise, the permittee shall operate as described in the approved application.
26. At a minimum, at least one person working for the permittee with responsibility for the land application of wastewater treatment sludge is required to satisfactorily complete biosolids training, provided by the Department. This training requirement should be satisfied within six months of this permit issuance.
27. Runoff from the wastewater treatment sludge storage area(s) shall not cause surface water pollution or groundwater degradation and shall be managed in accordance with The Clean Streams Law and regulations promulgated thereunder.
28. The wastewater treatment sludge shall not be used as a valley fill material, to fill open pits from coal or non-coal mining or other fills, or to level an area or bring an area to grade.
29. Any person operating under the provisions of this general permit must notify the Department, in writing, if the processing facility is relocated or if new location(s) are to be included under this general permit. At least thirty (30) days prior to a permittee operating at a new location, two (2) copies of the information as required in: a, b, c, d, e, f, k, l, m, n, o, p, q and r of Condition 14 of this general permit must be provided to the Department (see address in Condition 14), for review and approval.
30. The transportation of wastewater treatment sludge shall be in a manner which does not create a nuisance or be harmful to the public health, safety or the environment and shall comply with the requirements of Title 25 Pa Code, Chapter 299 (relating to Storage and Transportation of Residual Waste).

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APPENDIX 1

**WORKSHEET 1
SLUDGE ANNUAL AGRONOMIC RATE**

Field _____
Growing Season Year _____
Site _____

Crop _____
Yield Goal _____

1. Total available Nitrogen from sludge

a. $\text{NH}_4\text{-N} \frac{\text{_____ \% NH}_4^1}{\text{_____ NH}_4 \text{ lb/ton}} \times 2000 \text{ lb/ton} \div 100 = \text{_____ lb/ton NH}_4\text{-N}$
 $\times \text{_____ } K_{\text{vol}} \text{ (Vol. Rate Table)} = \text{_____ lb/ton NH}_4$

b. $\text{Org-N} \frac{\text{_____ \% NH}_4^1}{\text{_____ Org lb/ton}} \times 2000 \text{ lb/ton} \div 100 = \text{_____ lb/ton Org-N}$
 $\times \text{_____ } K_{\text{min}} \text{ (Min. Rate Table)} = \text{_____ lb/ton Org-N}$

Total Plant Available Nitrogen (PAN) from sludge (a + b): _____ lb/ton

2. P₂O₅ and K₂O fertilizer equivalent in sludge (Nutrient management information for the farmer)

a. $\frac{\text{_____ \% P' in sludge}}{\text{_____ \% P}_2\text{O}_5} \times 2.29 = \text{_____ \% P}_2\text{O}_5 \text{ in sludge}$
 $\times 2000 \text{ lb/ton} \div 100 = \text{_____ lb/ton P}_2\text{O}_5$

b. $\frac{\text{_____ \% K' in sludge}}{\text{_____ \% K}_2\text{O}} \times 1.2 = \text{_____ \% K}_2\text{O in sludge}$
 $\times 2000 \text{ lb/ton} \div 100 = \text{_____ lb/ton K}_2\text{O}$

3. Total crop nitrogen requirement

(From soil analysis, historical data, or Penn State Agronomy Guide) _____ lb/acre

4. Nitrogen provided from other N sources either added to or mineralized in the soil

- a. N from previous legume crop (Penn State Agronomy Guide) _____ lb/acre
OR (Forage) / **AND** (Soybean)
- b. Estimate of available N from **previous** sludge application _____ lb/acre
(Worksheet 2)
- c. Estimate of available N from **historical** manure application _____ lb/acre
(Worksheet 3)
- d. Greater of either a or (b + c) (Forage) _____ lb/acre
Sum of (a + b + c) (Soybean)
- e. Estimate of available N from current manure application _____ lb/acre
(Worksheet 3)
- f. N from chemical fertilizers _____ lb/acre
- g. Other sources (ex. food processing waste) _____ lb/acre

Total Nitrogen available (**d + e + f + g**) _____ lb/acre

5. Adjusted nitrogen requirement (**Subtract 4 from 3**) _____ lb/acre

6. Calculate the agronomic rate for sludge (**Divide 5 by 1**) _____ ton/acre

7. Calculate amount of sludge to be applied

Dry tons/acre \div _____ % Solids (In Decimal) _____ = _____ (wet tons/acre or gallons/acre)
Wet tons/acre

¹ Value from wastewater treatment sludge analysis.

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APPENDIX 2

WORKSHEET 2

**PLANT AVAILABLE NITROGEN MINERALIZED FROM RESIDUAL ORGANIC N
APPLIED AS SLUDGE IN CURRENT YEAR**

Field _____

Crop _____

Growing Season Year _____

Yield Goal _____ Site _____

Step 1. Column 1.A. - The year of sludge application and insert appropriate year in Columns 2.A. and 3.A.

Step 2. Block 1.B. - Obtain by the following equations:

$$\begin{aligned} & \% \text{ Organic N in sludge (from analysis)} \times (2000 \text{ lb/ton} \div 100) = \text{lb/ton Org-N in sludge} \\ & \text{_____ \% Org-N}^1 \times (2000 \text{ lb/ton} \div 100) = \text{_____ lb/ton Org-N} \\ & \text{lb/ton Org-N} \times \text{actual application rate (in dry ton/acre)} = \text{Org-N applied (in lb/acre)} \end{aligned}$$

¹ Value from wastewater treatment sludge analysis

Step 3. Column C - The mineralization rate for the specific sludge treatment for the respective year (i.e., 1, 2, or 3). See K_{min} Table.

Step 4. Column D = Column B x Column C

Step 5. Column E = Column B - Column D

Step 6. Block 2.B. = Value in Block 1.E. and follow Steps 4 and 5

Step 7. Block 3.B. = Value in Block 2.E. and follow Steps 4 and 5

	A Year of growing Season _____ (Year of application)	B Organic N (lb/acre)	C Mineralization Rate (Kmin) (Min. Rate Table)	D Mineralized Organic N in Lb/acre (PAN)	E Organic N Remaining (lb/acre)
1	Growing Season 0 - 1 Year _____				
2	Growing Season 1 - 2 Year _____	(from 1.E)			
3	Growing Season 2 - 3 Year _____	(from 2.E)			

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APPENDIX 2 (Continued)

Volatilization Factors (K_{vol})

If Sludge Is:	Factor K_{vol} Is:
Liquid and surface applied	0.50
Liquid and injected into the soil	1.0
Dewatered and applied in any matter	0.50

Mineralization Rates¹ (K_{min})

Time After Sludge Application (Year)	% ² of Org-N Mineralized from Unstabilized Primary & Waste Activated Sludge	% ² of Org-N Mineralized from Aerobic or Lime Stabilized Digested Sludge	% ² of Org-N Mineralized from Abaaerobically Digested Sludge	% ² of Org-N Mineralized from Composted Sludge
0 – 1	0.4	0.3	0.2	0.1
1 – 2	0.2	0.15	0.10	0.05
2 – 3	0.10	0.08	0.05	0.03

¹ Percentage of Org-N present mineralized during the time interval shown.

² Expressed as a decimal.

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APPENDIX 3

WORKSHEET 3

MANURE

Field _____

Crop _____

Growing Season Year _____

Yield Goal _____

Site _____

Manure Residual Nitrogen (Historical)

Manure Rate (ton/acre)	x	Manure N (lb/ton) (Penn State Agronomy Guide)	x	N Availability Factor (Penn State Agronomy Guide)	=	Available Residual Nitrogen (lb/acre)

Manure Nitrogen (Current Year)¹

Expected Manure Application Rate (ton/acre)	X	Manure N (lb/ton) (Penn State Agronomy Guide)	X	N Availability Factor (Penn State Agronomy Guide)	=	Available Residual Nitrogen (lb/acre)

¹ Includes previous fall application

For nitrogen available factors, see Agronomy Guide, Table 2-13.

For total manure nutrient content, see Agronomy Guide, Table 2-12 or manure analysis provided by farmer

Historical Available Residue Nitrogen from Manure = _____ lb/acre

Current Available Nitrogen from Manure = _____ lb/acre

Total Available Nitrogen from Manure = _____ lb/acre