

SPECIAL CONDITIONS
GENERAL PERMIT NUMBER WMGR084

1. The approval herein granted is limited to the beneficial use of dewatered industrial wastewater treatment residual from the production of formaldehyde, trimethyloethane (TME), dimethylolpropionic acid (DMPA), and calcium formate, hereinafter referred to as "wastewater treatment sludge" or "sludge", as a soil additive for agricultural utilization and mine reclamation, and as an ingredient to produce other soil additives.
2. The approval granted in this permit shall include only sludge currently generated by the industrial wastewater treatment process. The approval does not include sludge removed from a storage or disposal impoundment or a landfill.
3. 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 the facility as described in the approved application.
4. If the industrial wastewater treatment facility producing the sludge processes any sewage along with the industrial wastewater, the sludge may not be beneficially used under this permit unless the wastewater treatment sludge is nonliquid and continuously meets the following:
 - a. The pollutant concentrations requirements as specified in §271.914(b)(3).
 - b. One of the Class A pathogen reduction requirements as specified in §271.932(a).
 - c. One of the vector attraction reduction requirements as specified in §271.933(b)(1-8).
5. The wastewater treatment sludge may be beneficially used if, prior to its use, the quality criteria requirements 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), or a comparable method subsequently approved by the EPA or the Department.

<u>Constituent</u>	<u>Total (mg/kg)</u>	<u>Leachable (mg/L)*</u>
COD	---	100
Cyanide	---	0.2
Formaldehyde	---	7
Free liquids	none	---
Oil and Grease	500	---
Phenols	---	0.175

*The ASTM water leaching procedure (ASTM D3987) or the synthetic precipitation leaching procedure (EPA Method 1312), extraction fluid #3, or other leaching procedure approved by the Department shall be used for all leaching analyses.

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Should the sludge contain other constituents which do not meet the requirements of §288.623(a) (relating to minimum requirements for acceptable waste) or which pose a threat of harm to human health or the environment, the sludge shall not be beneficially used.

6. Prior to the beneficial use of the sludge, the permittee shall perform chemical analysis on a representative sample of sludge for the appropriate parameters listed in Conditions 4 and 5. The chemical analyses required in this Condition shall be performed by a laboratory that is in compliance with the Pennsylvania Environmental Laboratory Accreditation Act, Act of 2002, No. 90, 27 Pa C.S. §4101 et. seq. The permittee shall perform chemical analysis on additional representative samples of sludge as follows:
 - a. quarterly, for sludge obtained directly from the generator. In addition, each time there is a significant change in the process generating the sludge.
 - b. each time a new source of sludge is received.
7. The wastewater treatment sludge shall not be mixed with other types of solid wastes, including hazardous waste or special handling waste.
8. 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.
9. The permittee shall comply with the fugitive emissions standards adopted under 25 Pa. Code, §§123.1 and 123.2.
10. 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 Pennsylvania 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.
11. 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 Sections 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.
12. 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,

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shall be ground for the revocation or suspensions of the permittee's approval to operate under this permit.

13. 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 Pennsylvania Solid Waste Management Act of 1980.
14. 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.
15. 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:
 - a. Name and street address of applicant;
 - b. A chemical and physical analysis, and description of wastewater treatment sludge that fully characterizes its composition and properties; the wastewater treatment sludge generation process; a hazardous waste determination; and a plan for screening, managing, and rejecting incoming wastewater treatment sludge;
 - c. Name and location of the generator of the wastewater treatment sludge;
 - d. Description of method of beneficial use;
 - e. Number and title of general permit;
 - f. Proof the wastewater treatment sludge and solid waste management activities are consistent with the general permit;
 - g. 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;
 - h. An application fee in the amount as specified in the residual waste regulations, payable to the "Commonwealth of Pennsylvania";
 - i. 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;
 - j. Proof that the applicant has legal right to enter the land and perform the activities approved under this permit;
 - k. 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;
 - l. 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;

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- m. 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;
 - n. 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 13;
 - o. Additional information the Department believes is necessary to make a decision.
16. 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 15), in writing, of any changes in: the company name, address, owners, operators and responsible officials; 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.

At least 30 days prior to land application of wastewater treatment sludge at a new location, the permittee shall supply the Waste Management Program at the Regional Office with jurisdiction over the site and the Department's Bureau of Land Recycling and Waste Management (See address in Condition 15) with the following information:

- a. Name, street address and telephone number of the property owner;
 - b. Proof that the applicant has legal right to enter the land and perform the activities approved under this permit;
 - c. 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;
 - d. A map clearly showing the land application site and all setback distances as required under Appendix 4.
17. For each new source of wastewater treatment sludge, the permittee shall submit an analysis of a representative sample of the waste to this office for all the parameters listed in Conditions 4 and 5, no less than fifteen days, prior to sludge application. The permittee may apply the wastewater treatment sludge in accordance with the conditions of this permit after the aforementioned fifteen-day period unless otherwise instructed by the Department.
18. Unless authorized by the Department in writing, storage of the wastewater treatment sludge generated at the facility is not allowed except in the holding lagoons as part of the operation.
19. 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.
20. 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

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spill of wastewater treatment sludge, and shall take appropriate immediate action to protect the health and safety of the public and the environment.

21. Any records pertaining to or any analytical evaluations conducted on the wastewater treatment sludge pursuant to the residual waste regulations shall be kept by the permittee at the permittee's place of business and shall be available to the Department for inspection. At a minimum, these records are to include information on the dates of testing, each parameter tested, the results, the laboratory, sampling procedures, analytical methodologies and person collecting the sample. This waste analysis information shall be retained by the permittee at the permittee's place of business for a minimum of 5 years after the analyses were performed.
22. The permittee shall comply with the terms and conditions of this general permit and with the environmental protection acts to the same extent as if activities were covered by an individual permit. The Department may require an individual permit if the permittee is not in compliance with the conditions of this general permit or is conducting an activity that harms or presents a threat of harm to the health, safety, or welfare of the people or the environment.
23. The permittee shall submit to the Department's Bureau of Land Recycling and Waste Management (See address in Condition 15) and to the Department's appropriate Regional Office, an annual report that summarizes the information outlined in Conditions 17 and 21, 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, and (5) the date beneficial use activities were completed or are estimated to be completed. The annual report, due on the anniversary date that the permit became applicable to a permittee, must also include for each source of wastewater treatment sludge, the analyses performed in the last year that has been conducted on representative samples, as appropriate, of the wastewater treatment sludge for the parameters listed in Conditions 4 and 5.
24. The permittee shall notify the county planning commission, county conservation district, and municipality in which wastewater treatment sludge application to agricultural lands as a soil additive is proposed, by delivering or causing to be delivered a copy of this permit, and identifying the location(s) onto which sludge application is intended.

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25. The permittee shall provide a copy of the Appendix 4 to each user of wastewater treatment sludge for agricultural utilization and of the Appendix 5 to each user of wastewater treatment sludge for mine reclamation approved under this permit. It is incumbent upon the permittee to see all users of treated sludge approved under this permit comply with all conditions of this permit.

26. At a minimum, at least one person 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.

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APPENDIX 1

WORKSHEET 1
SLUDGE ANNUAL AGRONOMIC RATE

Field _____

Crop _____

Growing Season Year _____

Yield Goal _____

Site _____

1. Total available Nitrogen from sludge

a. $\frac{\text{NH}_4\text{-N}}{\text{lb/ton NH}_4\text{-N}} \times \frac{\% \text{NH}_4^1}{100} \times 2000 \text{ lb/ton} \div 100 = \underline{\hspace{2cm}}$
 $\frac{\text{NH}_4 \text{ lb/ton}}{\text{lb/ton NH}_4} \times \text{K}_{\text{vol}} \text{ (Vol. Rate Table)} = \underline{\hspace{2cm}}$

b. $\frac{\text{Org-N}}{\text{lb/ton Org-N}} \times \frac{\% \text{NH}_4^1}{100} \times 2000 \text{ lb/ton} \div 100 = \underline{\hspace{2cm}}$
 $\frac{\text{Org lb/ton}}{\text{Org-N}} \times \text{K}_{\text{min}} \text{ (Min. Rate Table)} = \underline{\hspace{2cm}} \text{ lb/ton}$

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. $\frac{\% \text{P}' \text{ in sludge}}{\% \text{P}_2\text{O}_5} \times \frac{2.29}{2000 \text{ lb/ton}} = \underline{\hspace{2cm}} \times \frac{\% \text{P}_2\text{O}_5 \text{ in sludge}}{100} = \underline{\hspace{2cm}}$
 $\frac{\text{lb/ton P}_2\text{O}_5}{\text{lb/ton P}_2\text{O}_5} \times 2000 \text{ lb/ton} \div 100 = \underline{\hspace{2cm}}$

b. $\frac{\% \text{K}' \text{ in sludge}}{\% \text{K}_2\text{O}} \times 1.2 = \underline{\hspace{2cm}} \%$
 $\frac{\text{K}_2\text{O in sludge}}{\text{lb/ton K}_2\text{O}} \times 2000 \text{ lb/ton} \div 100 = \underline{\hspace{2cm}}$

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)

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- b. Estimate of available N from **previous** sludge application _____
 lb/acre
 (Worksheet 3)
- c. Estimate of available N from **historical** manure application _____
 lb/acre
 (Worksheet 4)
- 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 4)
- 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**) _____ lb/acre
7. Calculate amount of sludge to be applied _____
 (wet tons/acre or gallons/acre)

$$\frac{\text{Wet tons/acre}}{\% \text{ Solids (In Decimal)}} = \text{Dry tons/acre} \div$$

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:

$$\% \text{ Organic N in sludge (from analysis)} \times (2000 \text{ lb/ton} = 100) = \text{lb/ton Org-N in sludge}$$

$$\text{_____ \% Org-N}^1 \times (2000 \text{ lb/ton} \div 100) = \text{_____ lb/ton Org-N}$$

$$\text{lb/ton Org-N} \times \text{actual application rate (in dry ton/acre)} = \text{Org-N applied (in lb/acre)}$$

¹ Value from wastewater treatment sludge analysis

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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 _____
 Growing Season Year _____
 Site _____

Crop _____
 Yield Goal _____

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

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APPENDIX 4

SITE REQUIREMENTS

- a. A farm conservation plan in accordance with 25 Pa. Code, Chapter 102 (relating to erosion control) shall be implemented at the farm at which the wastewater treatment sludge is land applied.
- b. Equipment used for the storage and application of the wastewater treatment sludge shall be maintained in good operating condition. Daily inspections of equipment during wastewater treatment sludge application activities are to be conducted to ensure that equipment will operate properly and examine for evidence of equipment failure.
- c. Except at designated storage areas, as covered in d, wastewater treatment sludge may be stored, for a maximum of 7 days, on the farm where land application is to take place. The total amount of wastewater treatment sludge that may be stored shall not exceed the amount required by the agronomic rate for the current crop rotation. If storing wastewater treatment sludge in a pile, under no circumstances may free liquids be present in the sludge, as determined by Method 9095 (Paint Filter Liquids Test) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA SW846).
- d. Wastewater treatment sludge may be stored in designated storage areas for up to 180 days unless the Department provides written objections to the long term storage. These objections may be based on inadequate design of the storage area, failure to follow the requirements for the storage area found below, problems with odor, groundwater contamination or runoff from the storage area, or other nuisances from the storage area. Requirements for a designated storage area are as follows:
 1. A map showing the location of the designated storage area, a diagram showing its design and a description of its operations shall be provided to the Waste Management Program at the Regional Office with jurisdiction over the site and the Department's Bureau of Land Recycling and Waste Management (See address in Condition 15). Written approval from the Department shall be obtained prior to installation of the designated storage area.
 2. The designated storage area shall not be located within 300 feet of an occupied dwelling unless a written waiver is provided by the current owner of the dwelling.
 3. The designated storage area shall be designed, constructed and operated in a manner to minimize run-on, run-off, odors and the harboring, breeding or attraction of vectors. Designated storage areas may not be located on slopes exceeding three (3) percent unless otherwise approved in writing by the Department.
 4. Weekly inspections of the designated storage area shall be conducted for any signs of failure of the integrity of the area, spills, run-on, run-off, odors or other problems. Corrections or repairs shall be made promptly. Inspections shall also be made after any severe weather event.

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5. Except during times when wastewater treatment sludge is being actively added to or removed from the designated storage area, the wastewater treatment sludge shall be covered with tarps or other cover materials, if approved in writing by the Department, capable of minimizing water from rain, snow or other weather-related events from reaching the wastewater treatment sludge. The tarps or cover materials shall be visually inspected weekly or every time the cover is moved, whichever is more frequent, for rips, tears or other signs of breaching. Rips, tears or other signs of breaching shall be promptly repaired or the cover is to be promptly replaced.
 6. Inspections shall be logged documenting the date, time, inspector, conditions of the site and any corrections or repairs required.
 7. Wastewater treatment sludge containing free liquids shall not be stored at a designated storage area.
 8. When necessary, structures shall be utilized to collect run-off or leachate from the designated storage area. Any water collected from the storage area that was in contact with the wastewater treatment sludge shall be removed to a treatment facility permitted to accept this collected water or applied on-site to areas suitable for application of wastewater treatment sludge under this general permit. If applied on-site, the quantity applied shall be such that ponding or run-off does not occur and that the total application of the run-off, leachate and treatment plant sludge does not exceed the agronomic rate for the proposed crop for a 180-day period.
 9. At no time may all the designated storage areas on a site contain more wastewater treatment sludge than can be applied and will be applied at an agronomic rate for the proposed crop for a 180-day period on that site. During application periods for the spring and fall cropping cycles, each designated storage area shall be completely emptied of wastewater treatment sludge.
- e. Wastewater treatment sludge shall not be stored in direct contact with, or applied directly into ground water or surface water.
 - f. The storage, transportation, or use of the wastewater treatment sludge shall be in a manner that will not create a nuisance or be harmful to public health, safety, or the environment, and shall be in a manner that prevents the dispersal of wastewater treatment sludge by wind or water erosion.
 - g. Runoff from the wastewater treatment sludge storage area shall not cause surface water pollution or groundwater degradation and shall be managed in accordance with The Clean Streams Law and regulations promulgated thereunder.
 - h. Under no circumstances shall the wastewater treatment sludge be applied at an agricultural site at a rate that is greater than the agronomic loading rate.

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APPENDIX 4 (Continued)

SITE REQUIREMENTS

- i. During the first land application of waste water treatment sludge, soil pH on sites where wastewater treatment sludge is being applied shall be maintained within the range of 6.0 or greater. The soil pH may be adjusted by the addition of lime or other suitable material and maintenance of the soil pH at 6.0 or greater is required during the operational life of the site and for two years following the end of the sludge application.
- j. Waste treatment sludge shall not be applied to slopes greater than 25%.
- k. Wastewater treatment sludge shall not be applied to the land during periods of rain or to ground that is saturated, covered with snow, or frozen.
- l. When land applying of wastewater treatment sludge, displaying the permit number of this general permit on the back and both sides of each application vehicle that is used in the land application of, in alphanumeric characters at least 3 inches high in a color contrasting to the background.
- m. Wastewater treatment sludge shall not be applied or stored within these isolation distances:
 - 1. 100 feet or less of a perennial stream or within 33 feet of an intermittent stream;
 - 2. Within 300 feet of a water source, unless the current owner has provided a written waiver consenting to the activities closer than 300 feet;
 - 3. Within 100 feet of an exceptional value wetland, as defined in 25 Pa Code §105.17 (relating to wetlands);
 - 4. Within 100 feet of the edge of a sinkhole or the perimeter of an unlined depression;
 - 5. In an area without an implemented erosion and sedimentation control plan or a farm conservation plan;
 - 6. Within 11 inches of the seasonal high water table, nor within 3.3 feet of the regional ground water table. For purposes of this condition, the depths to seasonal high water table and regional ground water table shall be based on the most recent soil mapping as published by the United States Department of Agriculture (USDA) Natural Resources Conservation Service, or more detailed mapping data as mapped by an expert in soil science using standard and acceptable mapping procedures as developed by the USDA Natural Resources Conservation Service.
- n. Wastewater treatment sludge is to be spread or sprayed in thin layers to prevent ponding or standing accumulations of liquids or sludges.

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APPENDIX 4 (Continued)

SITE REQUIREMENTS

- o. Wastewater treatment sludge is to be turned under or incorporated into the soil within 24 hours of application except when not required under the under the soil conservation and crop rotation plan approved by the applicable Conservation District.
- p. Slopes to be utilized for wastewater treatment sludge application may not exceed:
 - 1. 15 percent for agricultural utilization. Slopes up to 20 percent may be approved for the surface application of the sludge to well-established hayfields, pastures and cover crops, or no-till crops where the previous no-till crop was harvested in a manner that left adequate residue.
 - 2. 20 percent for mine reclamation. The Department's Bureau of Mining and Reclamation or Bureau of Abandoned Mine Reclamation may approve as part of the mine reclamation plan slopes of up to 35 percent if the permittee demonstrates to the Department's satisfaction that the slopes will not cause erosion or offsite runoff.
- q. Wastewater treatment sludge is not to be applied which will result in runoff, vector or odor problems.
- r. The annual whole sludge application rate or agronomic loading rate shall be estimated using "Worksheets 1 and 2" as provided in the Appendices 1 and 2 and submitted to the Department as part of the annual report required in Condition 23 of the permit.
- s. If the nitrogen available from the manure produced by animals at the farm satisfies the nutrient needs of the farm for realistic expected crop yields, the wastewater treatment sludge may not be applied at the farm, unless a management plan is implemented that allows for uses of the manure other than land application on that farm.
- t. Nitrogen from the manure that was applied to the fields which received sludge shall be calculated using "Worksheet 3" as provided in the Appendix 3 and submitted to the Department as part of the annual report required in Condition 23 of the permit.

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APPENDIX 5
Restrictions on Sludge Used for Mine Reclamation

The following restrictions apply to the beneficial use of sludge when used at permitted mine sites and at abandoned mine sites. Persons receiving, storing, and/or using the sludge for beneficial use purposes are required to comply with the following requirements:

- a. Sludge shall not be stored in direct contact with, or applied directly into ground water.
- b. All sludge transported to any site must be applied beneficially and incorporated within 24 hours.
- c. Surface water and control erosion and sedimentation shall be managed at mine sites to meet the applicable requirements of 25 Pa. Code Chapter 102 (relating to erosion control).
- d. Prior to use on sludge in mine reclamation projects, the user shall submit to and the appropriate county, county planning agency, and county health department, if one exists, notice of intention to revise the reclamation plan for each permitted and abandoned mine site at which sludge is intended to be applied. For permitted mine sites, the above notification must also be provided to the appropriate District Mining Office of the Department's Bureau of Mining and Reclamation. For abandoned mine sites, the above notification must also be provided to the appropriate District Office of the Department's Bureau of Abandoned Mine Reclamation or contracting governmental agency.

For permitted mine sites, the revision process shall comply with all requirements for revising reclamation plans at permitted mine sites as promulgated by the Department's Bureau of Mining and Reclamation at 25 Pa. Code, Sec. 77.618 and Sec. 87.155. For abandoned mine sites, the revision procedure shall be that specified in the permittee's contract with the Bureau of Abandoned Mine Reclamation or other contracting governmental agency.

Reclamation activities may not commence on permitted mine sites unless specifically authorized by the Department's Bureau of Mining and Reclamation. Reclamation activities may not commence on abandoned mine sites unless specifically authorized by the Department's Bureau of Abandoned Mine Reclamation or other contracting governmental agency.

- e. The application rate of sludge at a mine site shall not exceed 60 tons per acre, except when conducted under a remediation plan approved by the Department that requires a greater application rate.