



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, Tennessee 38401

December 4, 2023

Portia Hernandez
Denali Water Solutions
5417 Pinnacle Point Dr.
Rogers, AR 72758

CERTIFIED MAIL
#9489 0090 0027 6350 7457 10
RETURN RECEIPT REQUESTED

RE: New Material Request Approval – Tyson, Bowling Green, KY
Denali Request Dated November 26, 2023

Dear Portia Hernandez:

This letter will serve as official notice that the Division of Solid Waste Management (Division) has approved your modified Permit-by-Rule notification request to add a new material (DAF skimmings) from the Tyson pork processing facility in Bowling Green, KY, for land application for agronomic benefit at the following Permitted facilities in Bedford County Tennessee:

LND02-0019, LND02-0021, LND02-0022, LND02-0023, LND02-0025, LND02-0026, LND02-0027, LND02-0028, LND02-0029, LND02-0030, LND02-0031, LND02-0032, LND02-0033, LND02-0034, LND02-0035, LND02-0037, LND02-0054, LND02-0055, LND02-0067, LND02-0068, LND02-0076, LND02-0077, LND02-0097, and LND02-0102.

This approval is contingent upon the following conditions and restrictions:

1. Waste loading will be consistent with the loading rate tabulation dated 11/10/2023 (attached). If more than one waste stream is applied to any one field, the lowest loading rate will be used for all waste streams.
2. The material must be immediately incorporated into the soil matrix either through direct injection or tilling.
3. Application of the material must not hydraulically overload the receiving soils (i.e.: be applied within twenty-four hours of a rainfall exceeding a quarter inch or when the probability of rainfall exceeds fifty percent within the next twenty-four hours).
4. Denali will provide the Division results of analytical testing and revised loading calculations for this source when they become available.

If you have any questions concerning this letter, please do not hesitate to contact me by phone at 931-449-9028 or e-mail at steven.wintheiser@tn.gov.

Sincerely,

Steven D. Wintheiser
Environmental Field Office Manager

CC: Rob Ashe, DSWM, Deputy Director of Field Office Operations
Records.SWM@tn.gov

Loading Rate Tabulation

Environmental



Facility: Tyson Foods - Vernon

Analysis Date: 11/10/2023

Analysis Note:

Product: Sludge3

State: TN

Application Type: Subsurface

AIC Control # 192-6799-1

Internal ID: 7587

PAN: $20\% \times (\text{TKN} - \text{Ammonia}) + 100\% \times \text{Ammonia} + \text{NO}_3 + \text{NO}_2$

Parameter	Concentration (mg/kg)		Limits
	dry	wet	
PAN	13910.00	389.4800	
Ammonia	11000.00	308.0000	
TKN	24000.00	672.0000	
Nitrates/Nitrites	310.00	8.6800	
Organic N	13000.00	364.0000	
Arsenic	5.00	0.1400	75 mg/kg
Cadmium	0.40	0.0112	85 mg/kg
Chromium			3000 mg/kg
Copper	68.00	1.9040	4300 mg/kg
Lead	4.00	0.1120	840 mg/kg
Mercury	0.10	0.0027	57 mg/kg
Molybdenum	7.10	0.1988	75 mg/kg
Nickel	19.00	0.5320	420 mg/kg
Phosphorus	7200.00	201.6000	
Potassium	22000.00	616.0000	
Selenium	6.90	0.1932	100 mg/kg
Zinc	150.00	4.2000	7500 mg/kg
Iron			
Sodium	77000.00	2156.0000	
Barium			
Silver			
Calcium	23000.00	644.0000	
Magnesium	12000.00	336.0000	
Manganese	110.00	3.0800	
Chloride			
Sulfur	5100.00	142.8000	
Oil & Grease			
BOD			
pH	7.00		
% Solids	2.80		
% Vol Solids	59.00		
% Moisture	97.00		
lbs/gallon	7.50		
dry tons/load	0.63		

Pounds per 6000 gallon(s) load:

Plant-available nitrogen: 17.53

Phospate (P2O5): 20.7700

Potash (K2O): 33.2600

SP:

Max. Allowable App Rate at:

Crop	PAN	App Rate
Corn	150	50,000
Bermuda Pasture	240	80,000
Soybeans	60	20,000
Wheat	75	25,000