

Permit No. 3778-WR-4  
AFIN No. 75-00051

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER THE  
ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act  
(A.C.A. Sec. 8-4-101 et seq)

**Pet Solutions, LLC  
10511 Gauge Rd.  
Danville, AR 72833**

is authorized to store and land apply unrecoverable grease and process waste water generated at a protein conversion facility that transforms inedible meat processing by-products from poultry processors into grease/oils and protein solids which can be used as ingredients in the animal feed processing industry. The facility located in Yell County, Arkansas. The facility is located at the following coordinates:

Latitude: 35° 9' 46" N Longitude: 93° 11' 51" W

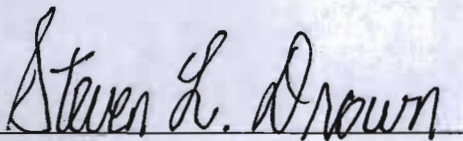
The facility is located 300 feet from an unnamed tributary to Petit Jean River in Stream Segment 3G of the Arkansas River basin.

Operation shall be in accordance with all conditions set forth in the permit.

Issue Date: May 31, 2010

Effective Date: June 1, 2010

Expiration Date: May 31, 2015



Steven L. Drown  
Chief, Water Division  
Arkansas Department of Environmental Quality



**Part I**  
**Limitations and Monitoring Requirements**

The following tables detail the constituent limits, monitoring frequencies, and the requirements for reporting results to ADEQ for each respective parameter listed in the table heading.

<b>TABLE I</b>				
<b>Waste Analysis, Reporting, and Record Keeping</b>				
Parameter	Ceiling Concentrations <sup>1</sup> (mg/kg)	Cumulative Pollutant Loading Rate <sup>2</sup> (lb/ac)	Monitoring Frequency	Reporting
Arsenic	75	37	Annual	Annually by May 1
Cadmium	85	35		
Copper	4300	1350		
Lead	840	270		
Mercury	57	15		
Molybdenum	75	Report		
Nickel	420	378		
Selenium	100	90		
Zinc	7500	2520		
Chromium	Report	Report		
Parameter	Maximum Limit	Reporting Units	Monitoring Frequency	Reporting
Total Solids	Report	Percentage (%)	Annual	Annually by May 1
Oil & Grease	Report	Percentage (%)		
Nitrate Nitrogen	Report	mg/kg		
Nitrite Nitrogen	Report	mg/kg		
Ammonia Nitrogen	Report	mg/kg		
Total Kjeldahl Nitrogen	Report	mg/kg		
Total Phosphorus	Report	mg/kg		
Total Potassium	Report	mg/kg		
Plant Available Nitrogen	150	lb/ac/year		
pH	Report	S.U.	Each land application event	
Total Volume Applied	Report	Gallons		

1. Ceiling Concentrations are the maximum concentration limits for 10 pollutants in the land applied wastes.
2. Cumulative Pollutant Loading Rate (CPLR) is the maximum amount of regulated pollutants in the land applied wastes that can be applied to a site considering all past applications. When the CPLR for any pollutant is reached no additional regulated wastes may be land applied.



TABLE II			
Soils			
Parameter	Reporting Units	Monitoring Frequency	Reporting
Conductivity	µmhos/cm	Annually	Annually by May 1
Cation Exchange Capacity	meq/100g		
Nitrate-Nitrogen	mg/kg		
Phosphorus	mg/kg		
pH*	S.U.		
Potassium	mg/kg		
Magnesium	mg/kg		
Arsenic	mg/kg	Once every five (5) years	By May 1 of the reporting year
Cadmium	mg/kg		
Chromium	mg/kg		
Copper	mg/kg		
Lead	mg/kg		
Mercury	mg/kg		
Molybdenum	mg/kg		
Nickel	mg/kg		
Selenium	mg/kg		
Zinc	mg/kg		

\* See Permit Condition No. 12 of Part II.



**Part II**  
**Specific Conditions**

1. This permit is for the storage and land application of unrecoverable grease solids and process waste water of a rendering and meat byproduct processing facility.
2. Waste shall not be discharged from this operation to the waters of the State or onto the land in any manner that may result in runoff to the waters of the State.
3. The waste disposal system shall be operated and maintained in accordance with the June 12, 2008 Waste Management Plan (WMP) as approved by the Department of Environmental Quality.
4. Land application rates shall not exceed 150 lbs Plant Available Nitrogen/acre/year.
5. No land-application of waste can take place if any of the element concentrations listed in Table I of Part I are exceeded.
6. Land application sites are as follows:

<u>Owner</u>	<u>New or Old</u>	<u>Section(s)</u>	<u>Township</u>	<u>Range</u>	<u>Available Acres</u>
Pet Solutions, LLC	Old	11	5 North	21 West	60

7. Waste shall be land applied by subsoil injection or disked in to a depth of 6 - 8 inches or surface applied. Surface applied waste must be evenly distributed over the entire application area. A traveling gun will be used to surface apply the process wastewater.
8. Waste shall not be applied to slopes with a gradient greater than 12%; or to soils that are saturated, frozen or covered with snow, and during rain or when precipitation is imminent, meaning a substantial natural occurrence of precipitation that could cause significant damage to property or threaten human life in the near future.
9. The permittee shall not cause or contribute to the taking of life or the destruction or adverse modification of the known critical habitat of any endangered or threatened species of plant, fish or wildlife.
10. Disposal of waste in a flood plain shall not restrict the flow of the base flood, reduce the temporary storage capacity of the flood plain, or result in a washout of solid waste, so as to pose a hazard to human life, wildlife or land and water uses.
11. Waste shall not be spread within; 50 feet of property lines and rock outcrops; 100 feet of lakes, ponds, springs, wetlands, streams, and sinkholes; 200 feet of drinking water wells; 300 feet of occupied buildings or bodies of water classified as an "extraordinary resource body of water."
12. Silt fencing shall be placed at the lower end of the application area in accordance with the waste management plan addendum submitted March 19, 2010, prior to application. The silt fence shall be maintained during the application season and 30 days after the last application.



13. The soil pH of the sludge application sites must be adjusted with lime in accordance with the University of Arkansas Cooperative Extension Service. Representative soil samples must be taken in accordance with Condition 7. If the resulting pH is 5.7 or lower, lime must be applied in accordance with the soil test recommendations. Soil pH is to be monitored on an annual basis and adjusted, if necessary, to the above requirements.
14. Annual reports shall be sent to the Department prior to May 1. The annual reports must include the following:

A permit summary report sheet indicating the list of fields used and not used and their corresponding acres. The report must also include waste and soil analyses as specified in Table I and II of Part I (including a statement that the analyses were performed in accordance with EPA Document SW-846, "Test Methods for Evaluation of Solid Waste," or other procedures approved by the Director). The waste report for each field must include Field Name or Number, Crop Type, Available Acres, Acres Used, Source and Type of Waste, Gallons Applied, Acres Applied, pH, and Loading Rates for following parameters in lbs/acre,

Plant Available Nitrogen (PAN)	
Total Potassium	Total Phosphorus
Arsenic	Mercury
Cadmium	Molybdenum
Chromium	Nickel
Copper	Selenium
Lead	Zinc

15. The permittee shall maintain complete copies of all the reports including the waste and soil analysis as listed under this permit for Department personnel review. In addition, you must keep the land application log that includes records of waste source, waste type, field name or number (locations), application date, volumes of waste applied (in dry tons/acre year or gallons/acre-year of waste), methods of disposal, identity of hauler, and type of crop grown for Department personnel review.
16. The permittee will also maintain copies of the above records for Department personnel review at the facility for a period of three (3) years.



**Part III**  
**Standard Conditions**

**1. Duty to Comply**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949 as amended) and is grounds for enforcement civil and administrative enforcement action, for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

**2. Penalties for Violations of Permit Conditions**

The Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended) provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or by both such fine and imprisonment for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

**3. Permit Actions**

- a. This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to the following:
- i. Violation of any terms or conditions of this permit;
  - ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
  - iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;
  - iv. Failure of the permittee to comply with the provisions of APCEC Regulation No. 9 (Permit fees)
- b. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

**4. Civil and Criminal Liability**

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).



**5. Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of CERCLA.

**6. State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties established pursuant to any applicable State law or regulation.

**7. Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

**8. Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

**9. Permit Fees**

The permittee shall comply with all applicable permit fee requirements for no discharge permits as described in APCEC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to revoke this permit.

**10. Proper Operation and Maintenance**

a. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

b. The permittee shall provide an adequate operating staff which is duly qualified to carryout operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

**11. Duty to Mitigate**

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment, or the water receiving the discharge.



**12. Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State.

**13. Reporting of Violations and Unauthorized Discharges**

Any violations to this permit must be reported to the Enforcement Branch of the Department immediately. Any leaks or seeps shall be reported to the Department and appropriately corrected. Any discharge from the waste storage system such as an overflow, a broken pipe, etc., shall be immediately reported to the Department.

The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure, equipment breakdown, human error, etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:

- i. A description of the permit violation and its cause;
- ii. The period of the violation, including exact times and dates;
- iii. If the violation has not been corrected, the anticipated time it is expected to correct the violation; and
- iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.

Reports shall be submitted to the Enforcement Branch at the following address:

Arkansas Department of Environmental Quality  
Water Division, Enforcement Branch  
5301 Northshore Dr.  
North Little Rock, Arkansas 72118  
Fax (501) 682-0910

**14. Penalties for Tampering**

The Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended) provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

**15. Reporting of Monitoring Results**

Monitoring results must be reported on a No Discharge Monitoring Report (NMR) form. Permittees are required to use preprinted NMR forms provided by ADEQ, unless specific written authorization to use other reporting forms is obtained from ADEQ. Monitoring results obtained during the previous calendar year shall be summarized and reported on a NMR form postmarked no later than May 1st. NMR's signed and certified are required. Reporting Requirements shall be submitted to the Department at the following address:



Permits Branch/No Discharge Permits Section  
Water Division  
Arkansas Department of Environmental Quality  
5301 Northshore Dr.  
North Little Rock, AR 72118

**16. Retention of Records**

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

**17. Record Contents**

Records and monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements, and preservatives used, if any;
- b. The individuals(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The measurements and results of such analyses.

**18. Inspection and Entry**

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit,
- d. Sample, inspect or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

**19. Planned Changes**

The permittee shall give notice and provide the necessary information to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility.

**20. Anticipated Noncompliance**

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

**21. Transfers**

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.



**22. Duty to Provide Information**

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner and time frame requested by the Director.

**23. Duty to reapply**

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated in APCEC Regulation No. 6.

**24. Signatory Requirements**

All applications, reports or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:

- a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
  - i. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation: or
  - ii. The manager of one or more manufacturing, production, or operation facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
- b. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
- c. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
  - i. The chief executive officer of the agency, or
  - ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person.

A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above.
- b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant



manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

- c. The written authorization is submitted to the Director.

Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

**25. Availability of Reports**

Except for data determined to be confidential under APCEC Regulation 6, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits and effluent data shall not be considered confidential.

**26. Penalties for Falsification of Reports**

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended).

**27. Applicable Federal, State, or Local Requirements**

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable federal, state or local statute, ordinance policy, or regulation.



**Part IV**  
**Definitions**

**“Act”** means the Arkansas Water and Air Pollution Control Act (A.C.A. Sec. 8-4-101 et seq.) as amended.

**“Applicable water quality standards”** means all water quality standards to which a discharge is subject under the federal Clean Water Act and which has been (a) approved or permitted to remain in effect by the Administrator following submission to the Administrator pursuant to Section 303 (a) of the Act, or (b) promulgated by the Director pursuant to Section 303(b) or 303(c) of the Act, and standards promulgated under regulation No. 2, as amended, (regulation establishing water quality standards for surface waters of the State of Arkansas.)

**“Department”** means the Arkansas Department of Environmental Quality (ADEQ).

**“Director”** means the Director of the Arkansas Department of Environmental Quality.

**“APCEC”** means the Arkansas Pollution Control and Ecology Commission.

**“Available Acreage”** means total acreage minus buffer zones

**“s.u.”** shall mean standard units.

**ANNUAL or YEARLY**

is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

**“Saturated soil”** means a condition in which all easily drained voids (pores) between soil particles are temporarily or permanently filled with water, significant saturation during the growing season is considered to be usually one week or more.

**“Imminent precipitation”** means a substantial natural occurrence of precipitation that could cause significant damage to property or threaten human life in the near future.



**STATEMENT OF BASIS**

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This permit decision is for renewal of a no discharge operation under permit number 3778-WR-4 and AFIN (file) number 75-00051.

**1. PERMITTING AUTHORITY**

Arkansas Department of Environmental Quality  
Water Division, Permits Branch  
5301 Northshore Dr.  
North Little Rock, Arkansas 72118-5317

**2. APPLICANT**

Pet Solutions, LLC  
10511 Gauge Rd.  
Danville, AR 72833  
479-576-2050

**3. FACILITY LOCATION**

The facility located as follows: to nearest community of Danville in Yell County, Arkansas. The facility is located at the following coordinates:

Latitude: 35° 9' 46" N Longitude: 93° 11' 51" W

**4. RECEIVING STREAM LOCATION**

The facility is located 300 feet from an unnamed tributary to Petit Jean River in Stream Segment 3G of the Arkansas River Basin. Petit Jean River is listed in the 2010 ADEQ 303(d) list. The Petit Jean River is listed for turbidity. Strict adherence to the permit and waste management plan should minimize any potential effects on the River.

**5. CONSULTANT FOR THIS FACILITY**

Ken Brown  
Terracon Consultants, Inc.  
25809 Interstate 30 South  
Bryant, AR 72022

**6. PREPARED BY**

The permit was prepared by:

Stuart Bradford  
Engineer  
Permits Branch, Water Division  
501-682-0653  
E-mail: [bradford@adeq.state.ar.us](mailto:bradford@adeq.state.ar.us).



## 7. PREVIOUS PERMIT ACTIVITY

Previous Permit No.: 3778-WR-2  
Effective Date: September 22, 2004  
Expiration Date: September 21, 2009

The permittee submitted a permit application which was received on 11/12/2009. It is proposed that the current water no discharge permit be issued for a 5-year term. The application was not received prior to the expiration date of the previous permit.

## 8. APPLICANT ACTIVITY

Under the standard industrial classification (SIC) code 2077 or North American Industry Classification System (NAICS) code 311613, the applicant activities are for rendering and meat byproduct processing.

## 9. WASTE STORAGE/TREATMENT COMPONENT(S)

Pond No. 1 is the primary lagoon used as a receiving, settling and separation pond for unrecoverable grease solids. The dimensions of Pond No. 1 are approximately 125 feet, by 335 feet, by 10 feet deep, plus 1 foot freeboard. The sides of the pond were constructed with 2:1 slopes. Fat separates from the wastewater stream and floats to the surface, and settled water from mid depth of the pond drains through a pipe structure to Pond No. 2. The maximum holding capacity for Pond No. 1 is approximately 2,539,841 gallons.

Pond No. 2 will be the observation pond. This pond is approximately five feet lower than Pond No. 1. Pond No. 2 is the finishing lagoon where any remaining settling is to occur. The dimensions of Pond No. 2 are approximately 130 feet, by 150 feet, by 20 feet deep, plus 1 foot freeboard. The sides of the pond were constructed with 2:1 slopes. Settled water from this pond flows through a pipe structure to the next and final holding lagoon (Pond No. 3). The maximum holding capacity of Pond No. 2 is approximately 1,839,272 gallons.

Pond No. 3 is the final holding pond of the treatment system. This pond is the lowest pond in the treatment system. It is approximately nine feet lower than Pond No. 2. The dimensions of Pond No. 3 are approximately 140 feet, by 560 feet, by 12 feet deep. The total designed freeboard in Pond No. 3 is 50 inches. This is adequate to contain the 25 year, 24 hour storm volume from Ponds 1, 2, & 3 plus an additional 12 inches. The sides of the pond were constructed with 2:1 slopes. Retained water in this pond will be reused as equipment wash water in the plant and also land applied by an irrigation sprinkler system.

Freeboard Requirement Pond No. 3: 50 inches

## 10. WASTE APPLICATION METHOD

The solids from Ponds 1 & 2 will be applied to existing vegetated areas with a manure spreader as needed and incorporated immediately by disking.

Wastewater from Pond 3 will be spray irrigated via a traveling gun. The pump house for the sprinkler irrigation system is located on the south side of Pond 3, midway of the pond.



## 11. PERMIT HISTORY

Permit 3778-W was originally issued December 1989. Permit 3778-WR-1 was issued as a renewal in April of 1999. Permit 3778-WR-2 was issued as a change of owner & renewal September 2004. Permit 3778-WR-3 was a not issued based on lack of information submitted. Permit action is for a permit issuance under Permit 3778-WR-4 due to the previous permit being expired prior to an application being submitted.

## 12. LIST OF ALL LAND APPLICATION SITES

See Permit Condition No. 7.

## 13. BASIS FOR PERMIT CONDITIONS

The Arkansas Department of Environmental Quality has made a tentative determination to issue a permit for the no-discharge facility as described in the application and waste management plan. Permit requirements and conditions are based on regulations pursuant to the Arkansas Water and Air Pollution Control Act (Act 472 of 1949, as amended, Ark. Code Ann. 8-4-101 et. seq. and A.C.A. Sec. 8-4-201 et seq).

Specific permit conditions and limits and their sources are listed as follows:

### Limits and reporting requirements for arsenic, cadmium, copper, chromium, lead, mercury, molybdenum, nickel, selenium, zinc in the waste

The associated limits and CPLRs are adopted from EPA's risk assessment Federal Part 503 rule that governs the land application of biosolids. This assessment considered 14 different pathways of exposure to highly exposed individuals, including humans, animals (including small organisms) and plants. These limits minimize the potential for the accumulation of metals in soils to concentrations that could have adverse effects on the environment. Limits for chromium and molybdenum are currently under consideration by the EPA. If a limit is established by the EPA, the permit may be reopened to include the limit.

### Reporting requirements for percent total solids of the waste

This parameter is required to convert between a wet and dry basis.

### Reporting requirements for all nitrogen compounds in the waste

These concentrations are required to calculate the plant available nitrogen to comply with Part I, Condition No. 4.

### Reporting requirements for total phosphorus and total potassium in the waste

These constituents are required for plant growth and are monitored to ensure crop nutrients are provided. Also, phosphorus may be the limiting nutrient in the Nutrient Surplus Area as delineated by the Arkansas Natural Resource Commission.



Removal of reporting requirements for percent volatile solids and BOD5

The reporting requirements for percent volatile solids and BOD5 were removed because the data are not used to evaluate the waste for land application.

Reporting requirements for pH of the soil

Soil pH must be reported to ensure compliance with Part 1, Condition No. 22.

Reporting requirements for arsenic, cadmium, copper, chromium, lead, mercury, molybdenum, nickel, selenium, zinc in soils

List of metal cations were adopted from 40 CFR Part 503 for the land application of biosolids. Limits were not established due to the variability of analyzing the concentrations of these metals. Reporting requirements are required as verification that metals from over-application of waste or other sources are not being applied that might contribute to the metals being land applied. The reporting frequency has been reduced to once every five years after a review of lab analysis indicated that the metals in the soil are not increasing, or not increasing at a rate that requires annual monitoring. If results indicate that soil concentrations have increased, the Department may require cessation of land application activities, further testing, or remediation activities.

Reporting requirements for conductivity, cation exchange capacity, nitrate-nitrogen, phosphorus, potassium, and magnesium

These parameters are indicators of soil quality. The chemical condition of soil affects soil-plant relations, water quality, buffering capacities, availability of nutrients and water to plants and other organisms, mobility of contaminants, and some physical conditions. (USDA Natural Resources Conservation Service "Indicators for Soil Quality Evaluation" April 1996.) Reporting requirements are required as verification that problems from over-application of wastes or other sources are not occurring. If results indicate that soil concentrations have increased, the Department may require cessation of land application activities, further testing, or remediation activities.

Debris limit of 0.5 inches

Solid material is not allowed to be land applied under this permit.

Maximum slope of 12% for the land application area

Topography of the land application area affects the potential for runoff and erosion. The limit of 12% was adopted from "Wastewater Engineering: Treatment and Reuse, 4th Edition," Table 14-51 as an acceptable maximum slope for the surface application of dewatered biosolids.

Buffer distances

Minimum buffer distances are required between land application areas and areas that may be vulnerable to water pollution and to minimize the risk of nutrients or pollutants from leaving the field and reaching surface waters. Buffer distances were adopted from APC&EC Regulation 5.406.



Standard Conditions

The conditions applicable to all no-discharge permits have been included in this permit based on best engineering judgment.

**14. SOLID REMOVAL**

Solid material accumulated in all waste storage basins shall be removed as necessary and land applied with a manure spreader.

**15. PERMIT COMPLIANCE**

Compliance is required on the effective date of the permit.

**16. CHANGES FROM THE PREVIOUSLY ISSUED PERMIT**

1. Soil testing requirements for heavy metals was reduced to once every 5 years.
2. Reporting requirements for BOD5 and Volatile Solids in the waste analysis was removed.

**17. SOURCES**

The following Sources were used to draft the permit:

- a. Regulation No. 2, Water Quality Standards for Surface Waters of the State of Arkansas, as amended.
- b. Regulation No. 8, Administrative Procedures, as amended.
- c. Regulation No. 9, Fee System for Environmental Permits, as amended.
- d. 40 CFR 503 for land application of biosolids.
- e. ACT 472 of 1949, as amended, Arkansas Water and Air Pollution Control Act.
- f. Integrated Water Quality and Assessment Report (305(b) Report)
- g. Application No. 3778-WR-4 received 11/12/2009.