Permit Fact Sheet

Amended December 2, 2014

1 General Information

Permit Number:	WI-0061824-03-0
Permittee Name:	Burr Oak Heifers, LLC
Address:	P.O. Box 122 1812 First Drive
City/State/Zip:	Coloma WI 54930
Discharge Location:	NW¼, Section 36, T18N, R7E, Town of Richfield, Adams County
Receiving Water:	Fordham Creek, Little Roche-A-Cri Watershed
Number and Type of Animals Housed:	1470 Heifers (400-800 lbs.), 1630 Heifers (800-1200 lbs.)
Number of Animal Units:	2,675 Animal Units (AU)

Animal Units					
	Current AU		**Proposed AU** **(Note: If all zeroes, expansions are not expected during permit term)**		
Animal Type	**Mixed**	**Individual**	**Mixed**	**Individual**	**Date of Proposed Expansion**
Heifers (400 lbs. to 800 lbs.)	882	1470	0	0	
Heifers (800 lbs. to 1200 lbs.)	1793	1630	0	0	
Total	2675	3100	0	0	

2 Facility Description

Burr Oak Heifers, previously permitted as Opitz Custom Heifers, is an existing WPDES permitted heifer rearing operation. Under the previous WPDES permit, the Opitz Custom Heifers facility consisted of four separate operations with livestock confined on numerous outdoor lots. All livestock were removed from remaining outdoor lots in July 2014 and consolidated under newly constructed roofed housing barns at the Burr Oak Facility. The Burr Oak Heifers facility is located at the intersection of Highway CC and 1st Drive in the town of Richfield, Adams County. Livestock will not have outdoor access.

Upon completion of 2013-2014 Phase I construction, the Burr Oak Heifers facility will include four 450' X 104' livestock housing barns; a 180' X 600' X 14.5' waste storage facility (WSF #1) with a designed capacity of approximately 7.06 million gallons; a feed storage pad with a runoff control system designed to transfer 0.05" of first flush runoff to WSF #1 for long-term storage, and a runoff collection basin to collect all remaining runoff up to a 24-hour, 25-year rain event (4.7").

Under Phase I construction, Burr Oak Heifers will house approximately 3,100 heifers ranging in size between 400 – 1,200 pounds and equivalent to 2,675 animal units. Burr Oak Heifers has not indicated intent to begin a Phase II expansion during the current permit term (five-years).

As documented within Section 4 (Groundwater – Proposed Monitoring and Limitations), the Alternative Concentration Limit (ACL) has been removed from the WPDES permit. Due to questions related to background groundwater quality levels and the possibility of a groundwater flow divide being located within the Burr Oak Heifer production area, the Department has deemed it appropriate to defer a decision of the proposed nitrate groundwater quality standard exemption and ACL. Issuing the permit while deferring a decision on a nitrate exemption and ACL will allow the permittee to continue to take necessary response actions under ch. NR 140, Wis. Adm. Code, to address nitrate enforcement standard exceedances caused by past practices. Current response actions being implemented at Burr Oak Heifers under s. NR 140.26(2), Table 6, Items 1 and 2, are a revision of operational procedures at the facility and a change in facility design and construction.

Issuance of the WPDES permit ensures that these response actions will be continued, including an upgrade of the facility groundwater monitoring system, collection of additional groundwater elevation measurements and groundwater quality samples for analysis. With the additional groundwater monitoring results, the Department will be better able to evaluate and verify groundwater flow and background groundwater quality at the site, and determine whether to grant an exemption and establish an ACL at the next permit issuance.

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**	
001	**Waste Storage Facility #1 (WSF #1)**. This sample point addresses all manure and process wastewater stored within the concrete lined manure storage facility located on the East side of the Phase 1 Burr Oak livestock housing facilities. WSF #1 was constructed in 2013 with a top dimension of 176' X 600' X 14.5' deep (to the MOL). The design capacity is estimated at 7.05 million gallons and provides approximately 192 days of storage capacity, based upon manure and process wastewater generated by 2,675 animal units (Phase 1 construction). Manure will be scraped from the freestall barn with a skid steer and pushed across a transfer apron into WSF #1. The storage facility was constructed with a loading area (30' wide X 16' deep vertical wall section), which is utilized for lowering a skid steer to the floor when it is necessary to remove sand laden manure to maintain adequate storage capacity.	
002	**Settled Solids (WSF #1)**. This sample point addresses all settled sand laden manure solids to be scraped and removed from the floor and sump of WSF #1 and then land applied. A representative sample to analyze nutrient content of the scraped sand laden manure solids is required prior to land application.	
003	**Feed Leachate Tank.** This sample point addresses all leachate and first flush feed pad runoff collected within a 6,000 gallon collection tank located along the South edge of the feed pad. A 6" pipeline with automated pump is designed to transfer the leachate and 0.05" of first flush runoff to WSF #1 for long-term storage. The feed pad is located on the East side of 1st Drive, approximately 950' Northwest of WSF #1. Feed pad overflow beyond first flush capture will gravity flow into a runoff collection basin (Sample Point 005). Sampling for nutrient content is required if the tank is manually pumped and the liquid is directly land applied.	
004	**Waste Feed**. This sample point addresses any waste feed generated on the feed pad or feed residue removed from the leachate collection tank or collection basin. Waste or Spoiled feed can be stacked on the feed pad or headland stacked within a crop field that is identified within the facilities NMP and approved by the Department. A representative sample to analyze the nutrient content of solid waste feed sources is required prior to land application.	

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/sample Contents and Treatment Description (as applicable)**	
005	**Feed Pad Runoff Collection Basin**. This sample point addresses all feed pad runoff that is captured within the 417,000 gallon feed pad runoff collection basin. The basin was constructed in 2013 and sized to collect approximately six-months of runoff during the non-growing season, and always have capacity available to capture the 25-year rain event (4.7"). The basin captures feed pad runoff after leachate and first flush runoff (0.05") is collected and transferred to WSF #1 from the collection tank. The level of liquid held within the basin is to be maintained below the Maximum Operating Level. A representative sample to analyze for nutrient content is required prior to land application.	
006	**Bed Pack Manure**. This sample point address all bed pack manure generated at Burr Oak Heifers. A representative sample to analyze for nutrient content of the bed pack manure is required prior to headland stacking or land application. All headland stacking sites must be included within an approved nutrient management plan.	

3 Livestock Operations - Proposed Operation and Management

Production Area Discharge Limitations

Beginning on the effective date of the permit, the permittee may not discharge pollutants from the operation's production area (e.g., manure storage areas, outdoor animal lots, composting and leachate containment systems, milking center wastewater treatment/containment systems, raw material storage areas) to navigable waters, except in the event a 25-year, 24-hour rainfall event (or greater) causes the discharge from a structure which is properly designed and maintained to contain a 25-year, 24-hour rainfall event for this location (**Adams-4.7"**). If an allowable discharge occurs from the production area, state water quality standards may not be exceeded.

Runoff Control

The permit requires control of contaminated runoff from all elements of the production area to prevent a discharge of pollutants to navigable waters in accordance with the Production Area Discharge Limitations and to comply with surface water quality standards and groundwater standards. Beginning on the effective date of this permit, (if needed) interim measures shall be implemented to prevent discharges of pollutants to navigable waters. In addition, permanent runoff control system(s) shall be designed, operated and maintained in accordance with the requirements found in USDA Natural Resources Conservation Service standards and ch. NR 243, Wis. Adm. Code. If any upgrading or modifications to runoff controls are necessary, formal engineering plans and specifications must submitted to the Department for approval.

Manure and Process Wastewater Storage

The permit requires the operation to have adequate storage for manure and process wastewater and that storage or containment facilities are designed, operated and maintained to prevent overflows and discharges to waters of the state. In order to prevent overflows, the permittee must maintain levels of materials in liquid storage or containment facilities at or below certain levels including a one foot margin of safety that can never be exceeded. If any upgrading or modifications to the storage facilities are necessary, formal engineering plans and specifications must submitted to the Department for approval.

The permittee currently has approximately 192 days of storage for liquid manure. The permittee must maintain 180 days of storage, unless temporary reductions in required storage are approved by the Department.

Solid Manure Stacking

The operation has proposed to stack solid manure. All stacking of solid manure shall be done in accordance ch. NR 243, Wis. Adm. Code, which includes restrictions from NRCS Standard 313. Stacking of manure is considered to be part of the production area and is subject to the Production Area Discharge Limitations.

Ancillary Service and Storage Areas

The permittee shall take preventative maintenance actions and conduct visual inspections to minimize pollutant discharges from areas of the operation that are not part of the production area or land application areas. These areas are called ancillary service and storage areas and include access roads, shipping and receiving areas, maintenance areas, refuse piles and CAFO outdoor vegetated areas.

Nutrient Management

With 1470 heifers (400-800 lbs.) and 1630 heifers (800-1200 lbs.), it is estimated that approximately 3.32 million gallons of liquid manure / process wastewater and 45,900 tons of solid manure will be produced annually. The permittee owns *approximately* 10 acres of cropland and has rental agreements or contracts on about 2,882 acres. Given the rotation commonly used by the permittee, 2,982 acres are available (or open) to receive manure and process wastewater on an annual basis. The permit requires all land spreading of manure and process wastewater be completed in accordance with an approved nutrient management plan. The permit will require sampling and analysis of manure and process wastewater that will be land spread. Land spreading rates must be adjusted based on sample analysis. The permit requires the permittee to maintain a daily log that documents land spreading activities. The permit also requires the submittal of an annual report that summarizes all land spreading activities. Plans must be updated annually to reflect cropping plans and other operational changes. Among the requirements, the plans must include detailed land spreading information including field by field nutrient budgets.

The permittee is required to implement a number or practices to address potential water quality impacts associated with the land application of manure and process wastewater. Among the permit conditions are restrictions on manure ponding, restrictions on runoff of manure and process wastewater from cropped fields, and setbacks from wells and direct conduits to groundwater (e.g., sinkholes, fractured bedrock at the surface). In addition, the permittee must implement a phosphorus based nutrient management plan that addresses phosphorus delivery to surface waters by basing manure and process wastewater applications on soil test phosphorus levels or the Wisconsin Phosphorus index. Additional phosphorus application restrictions apply to fields that are high in soil test phosphorus (>100 ppm).

The permittee must also implement conservation practices when applying manure near navigable waters and their conduits, referred to as the Surface Water Quality Management Area (SWQMA). These practices include a 100-foot setback from navigable waters and their conduits, a 35-foot vegetated buffer adjacent to the navigable water or conduit, or a practice that provides equivalent pollutant reductions equivalent to or better than the 100-foot setback.

In addition, the permittee must comply with restrictions on land application of manure and process wastewater on frozen or snow-covered ground. Included in these restrictions is a prohibition on surface applications of solid manure ($\geq$12% solids) on frozen or snow-covered ground during February and March. Non-emergency surface applications of liquid manure (<12%) on frozen or snow-covered ground are prohibited.

Monitoring and Sampling Requirements

The permittee must submit a monitoring and inspection program that outlines how the permittee will conduct self-inspections to determine compliance with permit conditions. These self-inspections include visual inspections of water lines, diversion devices, storage and containment structures and other parts of the production area. The permit requires periodic inspections and calibrations of land spreading equipment. The permittee must take corrective actions to problems identified inspections or otherwise notify the Department. Samples of manure, process wastewater and soils receiving land applied materials from the operation must also be collected and analyzed.

Sampling Points

The permit identifies the different sources of land applied materials (e.g., manure storage facilities, milking centers, egg-washing facilities) as "Sampling Points." For these Sampling Points, the permittee is required to sample and analyze the different sources for nutrients and other parameters which serve as the basis for determining rates of application for these materials. Other areas are also identified as Sampling Points as a means of identifying them as areas requiring action by the permittee, such as an upgrade or evaluation of a certain system or structure (e.g., runoff control systems), even though sampling is not actually required.

3.1 Sample Point Number: 001- WSF #1 and 005- Feed Pad Collection Basin

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lb/1000gal	2/Month	Grab	
Nitrogen, Available		lb/1000gal	2/Month	Calculated	
Phosphorus, Total		lb/1000gal	2/Month	Grab	
Phosphorus, Available		lb/1000gal	2/Month	Calculated	
Solids, Total		Percent	2/Month	Grab	

3.1.1 Changes from Previous Permit

Sample Points 001 and 005 are new sample points.

3.2 Sample Point Number: 002- Settled Solids (WSF #1); 004- Waste Feed and 006- Bed pack Manure.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lbs/ton	Quarterly	Grab	
Nitrogen, Available		lbs/ton	Quarterly	Calculated	
Phosphorus, Total		lbs/ton	Quarterly	Grab	
Phosphorus, Available		lbs/ton	Quarterly	Calculated	
Solids, Total		Percent	Quarterly	Grab	

3.2.1 Changes from Previous Permit

Sample Points 002, 004 and 006 are new sample points.

3.3 Sample Point Number: 003- Feed Leachate Tank

Sample Point 003 represents a feed leachate tank and is a non-sampling point. The collection tank is designed to transfer leachate and first flush directly to WSF #1 for long-term storage (Sample Point 001). Post first flush runoff is transferred to the Runoff Collection Basin for short-term storage (Sample Point 005). Sampling for nutrient content of leachate and first flush runoff within the 6,000 gallon collection tank is only required if the tank is manually pumped and the liquid is directly land applied.

3.3.1 Changes from Previous Permit

Sample Point 003 is a new sample point.

4 Groundwater – Proposed Monitoring and Limitations

This section applies to groundwater monitoring wells installed in accordance with the Schedules section of the current permit or installed as a requirement of a previous permit.

Installation of Additional Production Area Monitoring Wells: In accordance with the Schedules section of the permit, a minimum of two additional groundwater monitoring wells shall be installed for the purpose of providing a more comprehensive monitoring system within the expanded Burr Oak Heifers production area. The new monitoring wells are in addition to three existing monitoring wells currently in operation.

Wells to be Monitored: MW-1, MW-2, MW-3 (Existing); MW-13, MW-14 (New).

Groundwater Level Measurements: As a result of possible influences of local high capacity irrigation wells on groundwater flow within the Burr Oak Heifers production area, providing groundwater level measurements will be required to assist in evaluating data analysis variations in groundwater flow. Depth to groundwater and groundwater evaluation monitoring will be required for all wells on a monthly basis for a period of two years, beginning at the time in which all new wells (i.e., MW-13, MW-14) are installed and activated. After two years, groundwater level monitoring may return to a quarterly monitoring frequency.

Required Monitoring: Grab samples shall be collected from each well to be monitored at the frequency identified in the table below. For newly installed monitoring wells, monitoring shall commence within 30-days of installation. The groundwater grab samples shall be analyzed for the parameters specified in the table below:

Parameter	Units	Preventive Action Limits (PAL)	Enforcement Standard (ES)	Frequency
Depth to Groundwater	Feet	N/A	N/A	Monthly/Quarterly*
Groundwater Elevation	Feet MSL	N/A	N/A	Monthly/Quarterly*
Total Dissolved Solids (TDS)	mg/l	To Be Determined	N/A	Quarterly
Chemical Oxygen Demand (COD)	mg/l	To Be Determined	N/A	Quarterly
Chloride	mg/l	125 mg/l	250 mg/l	Quarterly
Nitrogen, Ammonia (NH_3-N) Total	mg/l	0.97 mg/l	9.1 mg/l	Quarterly
Organic Nitrogen	mg/l	To Be Determined	N/A	Quarterly

Nitrogen, Nitrate + Nitrite**	mg/l	2.0 mg/l**	10.0 mg/l**	Quarterly
pH	su	N/A	N/A	Quarterly
Total Coliform Bacteria	#100 ml	0/100 ml	0/100 ml	Quarterly

*Monthly monitoring required for a period of two-years for all wells, beginning at the time the new monitoring wells are installed and activated. Monitoring can revert to quarterly monitoring after two years of monthly monitoring is attained.

**After monthly monitoring requirements identified under the "Frequency" column heading in the table above are met, the Department will re-evaluate all data collected. The data will be utilized to establish background levels and determine whether to grant an exemption and establish an ACL in accordance with procedures identified within Chapter NR 140, Wis. Adm. Code, and these values will be placed in the table above, at the next permit issuance.

5 Schedules

5.1 Emergency Response Plan

Update the Emergency Response Plan

Required Action	Date Due
Update the Emergency Response Plan: Develop a written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	02/01/2015

5.2 Monitoring & Inspection Program

Submit a plan detailing items necessary for permit reporting and compliance.

Required Action	Date Due
Proposed Monitoring and Inspection Program: Consistent with the Monitoring and Sampling Requirements subsection, the permittee shall submit a proposed monitoring and inspection program within 90 days of the effective date of this permit.	04/01/2015

5.3 Production Area Monitoring - Groundwater Monitoring Well Installation

The permittee shall install a minimum of two additional groundwater monitoring wells to monitor potential impacts to groundwater within the production area.

Required Action	Date Due
Monitoring Well Installation: After Department review and approval, complete the Installation of two new monitoring wells in accordance with ch. NR 141, Wis. Adm. Code, and commence monitoring in accordance with permit requirements. (Note: Documentation of well construction must be submitted to the Department within 60 days of well installation per s. NR 141.23, Wis. Adm. Code).	12/15/2014

5.4 Annual Reports

Submit Annual Reports by January 31st of each year in accordance with the Annual Reports subsection in Standard Requirements.

Required Action	Date Due
Submit Annual Report #1:	01/31/2015
Submit Annual Report #2:	01/31/2016
Submit Annual Report #3:	01/31/2017
Submit Annual Report #4:	01/31/2018
Submit Annual Report #5:	01/31/2019
Ongoing Annual Reports: Continue to submit Annual Reports until permit reissuance has been completed.	

5.5 Nutrient Management Plan

Submit annual updates of the Nutrient Management Plan by March 31st.

Required Action	Date Due
Management Plan Submittal: Submit any necessary updates to the Nutrient Management Plan to meet the conditions outlined in this permit (see conditions in the Livestock Operational and Sampling Requirements section).	03/31/2015
Management Plan Annual Update #1: Submit an Annual Update to the Nutrient Management Plan at least 30 days before the start of each cropping season. Note: In addition to Annual Updates, submit Management Plan Amendments to the Department for written approval prior to implementation of any changes to nutrient management practices, in accordance with the Nutrient Management requirements in the Livestock Operational and Sampling Requirements section.	03/31/2016
Management Plan Annual Update #2: Submit an Annual Update to the Nutrient Management Plan.	03/31/2017
Management Plan Annual Update #3: Submit an Annual Update to the Nutrient Management Plan.	03/31/2018
Management Plan Annual Update #4: Submit an Annual Update to the Nutrient Management Plan.	03/31/2019
Ongoing Management Plan Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed.	

5.6 Submit Permit Reissuance Application

Required Action	Date Due
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	07/01/2019

6 Proposed Expiration Date:

December 31, 2019

Prepared By: Terence Kafka, Agricultural Runoff Management Specialist

Date: December 2, 2014