Permit Fact Sheet

General Information

Permit Number	WI-0067334-01-0
Permittee Name and Address	Eden AD1, LLC N4616 Pine Rd, Eden, WI 53019
Permitted Facility Name and Address	Eden AD1, LLC N4616 Pine Rd, Eden, WI 53019
Permit Term	October 01, 2025 to September 30, 2030
Discharge Location	Groundwaters of the State via land application on approved sites
Receiving Water	N/A
Stream Flow ($Q_{7,10}$)	N/A
Stream Classification	N/A
Discharge Type	New

Facility Description

Vanguard Eden AD 1 produces renewable natural gas (RNG) from the anaerobic co-digestion of dairy manure and unwanted food products. Dairy manure is supplied from the Dinnerbell Dairy Farm and is delivered directly through a camlock system. Unwanted food (organics) is hauled via trucks. Liquid organics are delivered through a camlock system directly into a hydrolysis tank or unloaded within the Organics Receiving Area building (ORA). Food materials are macerated into a slurry and fed to the anaerobic digester. The nutrient rich liquid digestate is land applied for agronomic benefit while the solid digestate is land applied or sent to a landfill. Solids from dewatered manure only are sent back to Dinnerbell Dairy Farm to be used as bedding. All removed packaging materials is disposed of according to the facility's Solid Waste Permit.

Substantial Compliance Determination

This is a new permit; compliance has not yet been determined.

Sample Point Descriptions

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
701		Actus Nutrition: 30% Whey Permeate (Appleton, WI)
702		Agropur Little Chute: Dairy by-products and cake sludge (Little Chute, WI)
703		Agropur Luxemburg: Dairy by-products and cake sludge from dairy and whey manufacturing (Luxemburg, WI)
704		Agropur Weyauwega: High strength cheese waste and salt whey drippings and discharges from whey separators, delactose finisher,

Sample Point Designation		
Sample Point Number	**Discharge Flow, Units, and Averaging Period**	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**
		and lactose/sugar tank (Weyauwega, WI)
705		Agropur Little Chute: Dairy by-products and cake sludge (Little Chute, WI)
707		Ventura Foods: DAF sludge from food production process (Waukesha, WI)
708		Johnsonville Sausage: Blood from the harvest process; small amounts of sodium citrate solution (Watertown, WI)
709		Johnsonville Sausage: Solids from DAF for pork processing wastewater (Watertown, WI)
710		Salm Partners: Sausage production grease trap waste; some package labels and plastic packaging material (Denmark, WI)
711		NDSM Holdings (Morning Glory Dairy): Butterfats from intake that are taken out of water through a grease separator; some water and cleaning chemicals are presenet (De Pere, WI)
712		Saputo Cheese USA Black Creek: Salt whey process water from cheese production (Black Creek, WI)
713		Sokol Custom Foods: Grease trap FOG from packaging, co-packaging, and food processing (Countryside, IL)
801		Liquid manure from Dinnerbell Dairy farm, discharged to the digester directly or via the dewatering system.
101		Condensate from the biogas system that is stored in the condensate pit prior to transfer to the storage lagoon.
001		Anaerobically digested industrial liquid sludge from the digester receiving manure and industrial waste following dewatering (screw press) that is transferred to the onsite storage lagoon and applied to approved land application sites. Storage lagoon shall be adequately mixed prior to sample collection.
002		Dewatered, anaerobically digested industrial sludge and manure following screw press. Solids are stored on the concrete floor inside the Solids Separation Building, separate from manure solids, prior to land application. Direct land application of dewatered sludge shall be approved by the department prior to spreading.
003		Manure generated from cattle from Dinnerbell Dairy that is dewatered with a screw press. Sample collection and monitoring are only required if directly land applied to approved landspreading sites. If manure is distributed to any agricultural producer for land application under their NMP then the total volume shall be reported on the 3400-52 form for that reporting period.

Permit Requirements

1 Influent – Monitoring Requirements

1.1 Sample Point Number: 701- ACTUS NUTRITION; 702- AGROPUR LITTLE CHUTE; 703- AGROPUR LUXEMBURG; 704- AGROPUR WEYAUWEGA; 705- AGROPUR LITTLE CHUTE SLUDGE; 706- AGROPUR LITTLE CHUTE DAF; 707- VENTURA FOODS; 708- JOHNSONVILLE WATERTOWN; 709- JOHNSONVILLE ; 710- SALM PARTNERS; 711- NDSM HOLDINGS, LLC; 712- SAPUTO CHEESE USA, INC, and 713- SOKOL CUSTOM FOODS

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Volume		gpd	Daily	Measure	The volume for each sample point shall be monitored and reported separately on the Discharge Monitoring Report.
Solids, Total		Percent	Annual	Grab	
COD		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.
pH Field		su	Annual	Grab	
Nitrogen, Total Kjeldahl		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.
Nitrogen, Ammonia (NH3-N) Total		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.
Chloride		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.
Phosphorus, Total		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.
Potassium, Total Recoverable		mg/kg	Annual	Grab	Shall be reported on a dry weight basis.

1.1.1 Explanation of Limits and Monitoring Requirements

Influent monitoring is required because hauled-in industrial organic food wastes and dairy manure are received from various sources.

1.2 Sampling Point 801 – LIQUID MANURE PERMITTED

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Volume		gpd	Daily	Total Daily	

1.2.1 Explanation of Limits and Monitoring Requirements

Monitoring of influent liquid manure flow from livestock operations to Vanguard Eden AD1's digester.

2 In-Plant – Monitoring Requirements

2.1 Sampling Point 101 – BIOGAS CONDENSATE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Annual	Estimated	
Oil & Grease (Hexane)		mg/L	Annual	Grab	
pH Field		su	Annual	Grab	

2.1.1 Explanation of Limits and Monitoring Requirements

Monitoring of biogas condensate annually to meet NCCW, Condensate, and Boiler Blowdown General Permit Requirements.

3 Land Application - Sludge/By-Product Solids (industrial only)

3.1 Sample Point Number: 001- LIQUID DIGESTATE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total Kjeldahl		Percent	Monthly	Grab	
COD		Percent	Monthly	Grab	
pH Field		su	Monthly	Grab	
Nitrogen, Nitrite + Nitrate Total		Percent	Monthly	Grab	
Nitrogen, Total		Percent	Monthly	Grab	
Chloride		Percent	Monthly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total		Percent	Monthly	Grab	
Potassium, Total Recoverable		Percent	Monthly	Grab	
Hydraulic Loading Rate		gal/acre	Per Occurrence	Measure	
Cadmium Dry Wt		mg/kg	Monthly	Grab	
Copper Dry Wt		mg/kg	Monthly	Grab	
Lead Dry Wt		mg/kg	Monthly	Grab	
Nickel Dry Wt		mg/kg	Monthly	Grab	
Zinc Dry Wt		mg/kg	Monthly	Grab	
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

3.1.1 Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214 Wis. Adm. Code.

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the "Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS" should be followed.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department's implementation of EPA's recommendations. To quantitate this risk, PFAS sampling has been included in this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

3.2 Sample Point Number: 002- SOLID DIGESTATE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Monthly	Grab	

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
COD		Percent	Monthly	Grab	
pH Field		su	Monthly	Grab	
Nitrogen, Total Kjeldahl		Percent	Monthly	Grab	
Nitrogen, Nitrite + Nitrate Total		Percent	Monthly	Grab	
Nitrogen, Total		Percent	Monthly	Grab	
Nitrogen, Ammonia (NH3-N) Total		Percent	Monthly	Grab	
Chloride		Percent	Monthly	Grab	
Phosphorus, Total		Percent	Monthly	Grab	
Potassium, Total Recoverable		Percent	Monthly	Grab	
PFOA + PFOS		ug/kg	Annual	Calculated	Report the sum of PFOA and PFOS. See PFAS Permit Sections for more information.
PFAS Dry Wt			Annual	Grab	Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Permit Sections for more information.

3.2.1 Explanation of Limits and Monitoring Requirements

Requirements for land application of industrial sludge are determined in accordance with ch. NR 214 Wis. Adm. Code.

PFAS- The presence and fate of PFAS in municipal and industrial sludges is an emerging public health concern. EPA has developed a draft risk assessment to determine future land application rates and released this risk assessment in January of 2025. The department is evaluating this new information. Until a decision is made, the "Interim Strategy for Land Application of Biosolids and Industrial Sludges Containing PFAS" should be followed.

Collecting sludge data on PFAS concentrations from a wide range of wastewater treatment facilities will help protect public health from exposure to elevated levels of PFAS and determine the department's implementation of EPA's recommendations. To quantitate this risk, PFAS sampling has been included in this WPDES permit pursuant to ss. NR 214.18(5)(b) and NR 204.06(2)(b)9., Wis. Adm. Code.

3.3 Sample Point Number: 004- MANURE ONLY - DEWATERED

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Grab	
Nitrogen, Total Kjeldahl		Percent	Annual	Grab	
Nitrogen, Ammonium (NH_4-N) Total		Percent	Annual	Grab	
Chloride		Percent	Annual	Grab	
Phosphorus, Total		Percent	Annual	Grab	
Phosphorus, Water Extractable		% of Tot P	Annual	Grab	

3.3.1 Explanation of Limits and Monitoring Requirements

This land application sample point shall be utilized to track and report the bedding returned to Dinnerbell Dairy Farm from the dewatered manure.

Requirements for manure generated are determined in accordance with ch. NR 214, Wis. Adm. Code. The permittee should complete the Other Methods of Disposal or Distribution Report (Form 3400-52) for all manure from Dinnerbell Dairy Farm that is distributed off-site to agricultural producers for land application to fields in agricultural production; total volumes of manure distributed to each agricultural producer should be reported on the form. Sampling is only required if the manure is mixed with industrial waste generated by the permitted facility and directly land applied on sites approved for industrial waste under the permit, including approved manure storage structures.

Water Extractable Phosphorus (WEP) – WEP is the coefficient for determining plant available phosphorus from measured total phosphorus. In Wisconsin, the Penn State Method is utilized and is expressed in percent. While a total P may be significant, the WEP may show that only a small percentage of the P is available to plants because of factors such as treatment processes and chemical addition that "tie-up" phosphorus limiting the amount of phosphorus that is plant available. As part of the Wisconsin's nutrient management plan (NMP) requirements, the accounting of all fertilizers must be included over the NMP cycle. The fertilizer value of the waste needs to be communicated to the farmer and accounted for in the NMP.

4 Schedules

4.1 Operations / Management Plan

A management plan is required for the facility operations.

Required Action	Due Date
Management Plan: Submit a management plan to document expected system operations and demonstrate compliance with the conditions of this WPDES permit and Wisconsin Administrative Code NR 214. If operational changes are needed, the management plan shall be amended by submitting a written request to the Department for approval.	01/01/2026
Management Plan Annual Update #1: Submit an update to the management plan that includes changes in waste management and/or land application practices that occurred during the previous	09/30/2026

calendar year, including but not limited to: waste storage, land application sites, additional waste sources, vehicles/equipment, and nutrient management plan verification documentation for unpermitted farms/sources of manure.	
Management Plan Annual Update #2: Submit an update to the management plan that includes changes in waste management and/or land application practices that occurred during the previous calendar year, including but not limited to: waste storage, land application sites, additional waste sources, vehicles/equipment, and nutrient management plan verification documentation for unpermitted farms/sources of manure.	09/30/2027
Management Plan Annual Update #3: Submit an update to the management plan that includes changes in waste management and/or land application practices that occurred during the previous calendar year, including but not limited to: waste storage, land application sites, additional waste sources, vehicles/equipment, and nutrient management plan verification documentation for unpermitted farms/sources of manure.	09/30/2028
Management Plan Annual Update #4: Submit an update to the management plan that includes changes in waste management and/or land application practices that occurred during the previous calendar year, including but not limited to: waste storage, land application sites, additional waste sources, vehicles/equipment, and nutrient management plan verification documentation for unpermitted farms/sources of manure.	09/30/2029
Ongoing Management Plan Annual Update: Continue to submit annual updates to the Management Plan in accordance with this schedule item until permit reissuance has been completed.	

4.1.1 Explanation of Schedule

Complete management plan submittal is required per s. NR 214.17(6)(c) and NR 214.18(6)(c). Annual update reports to the management are required starting in 2025 that include all pertinent information related to waste management and/or land application practices that occurred during the previous calendar year. This includes, but is not limited to:
- Waste storage
- Land application sites
- Additional waste sources
- Changes in vehicles/equipment/treatment processes
- Nutrient management plan documentation for unpermitted sources of manure

4.2 Land Application Management Plan

A management plan is required for the land application system.

Required Action	Due Date
Land Application Management Plan: Submit a management plan to optimize the land application system performance and demonstrate compliance with Wisconsin Administrative Code NR 214 by due date OR prior to any land application.	01/01/2026

4.2.1 Explanation of Schedule

Land Application Management Plan (industrial)- An up-to-date Land Application Management plan is a standard requirement in reissued industrial permits per s. NR 214.17(6)(c), Wis. Adm. Code.

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit issuance

Prepared By: Ashley Clark, Wastewater Specialist

Date: July 29, 2025