

**AGENCY OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
ONE NATIONAL LIFE DRIVE - MAIN 2
MONTPELIER, VERMONT 05620-3521**

**DRAFT INDIRECT DISCHARGE PERMIT
AMENDMENT**

Permit No.: ID-9-0255-2
PIN: RU98-0179

SECTION A - "ADMINISTRATION"

In compliance with provisions of 10 V.S.A. §1263, and in accordance with the following conditions, the permittee:

Agri-Mark Inc.
"Middlebury Facility"
869 Exchange Street
Middlebury, VT 05753

is authorized to discharge non-sewage whey and spoiled milk, hereinafter referred to as dairy processing wastewater, from the Agri-Mark dairy processing facility located in Middlebury, Vermont to manure pits located in the towns of Addison, Bridport, Bristol, Charlotte, Cornwall, Ferrisburg, Leicester, Middlebury, New Haven, Orwell, Panton, Salisbury, Shoreham, Starksboro, Weybridge, and Whiting, Vermont. The dairy processing wastewater/manure mixture is to be managed in accordance with Required Agricultural Practices. **This permit amendment updates the list of approved disposal locations to include changes in farm ownership/operators, the addition of 14 new manure pits, and the removal of 7 manure pits. No other significant changes have been made to the permit.**

A1. Permit Summary:

Expiration Date	December 31, 2019
Type of Waste	Acid Whey and Spoiled Milk; BAF Sludge
Disposal System	Discharge of dairy processing wastewater and BAF sludge into manure pits and digesters followed by management of the wastewater/manure mixture in accordance with Required Agricultural Practices
Disposal Volume	10,000 gallons per day, average (= 3,650,000 gallons/year, maximum)
Manure Pit Locations Towns/City	Addison, Bridport, Bristol, Charlotte, Cornwall, Ferrisburg, Leicester, Middlebury, New Haven, Orwell, Panton, Salisbury, Shoreham, Starksboro, Weybridge, Whiting
Total Manure Pit Capacity Available for Disposal	13,349,013 gallons

A2. Compliance Schedule:

The following schedule summarizes the actions and requirements necessary for compliance with the conditions of this permit. The permittee shall complete the requirements in accordance with the dates indicated. See the designated section for specific details.

	<u>Condition # & Description</u>	<u>Schedule Date</u>
A3.	Apply for renewal of Indirect Discharge Permit	September 30, 2019
D1.	Dairy processing wastewater/BAF sludge monitoring and reporting	Quarterly
D2.	Increased monitoring requirement	As Specified
D3.	Submit reports to the Secretary	Monthly

A3. Expiration Date:

This permit, unless revoked or amended shall be valid until December 31, 2019, despite any intervening change in Water Quality Standards or the Vermont Guidelines for Land Application of Dairy Processing Wastes. Renewal of this Indirect Discharge permit will be subject to all rules applicable at the time of application for renewal, including biological standards to determine significant alteration of aquatic biota.

The permittee should apply for an Indirect Discharge Permit renewal by September 30, 2019 for continued authorization to discharge dairy processing wastewater. For the purposes of Title 3, an application for renewal of this indirect discharge permit will be considered timely if a complete application is received by the expiration date.

A4. Effective Date:

This permit amendment becomes effective on the date of signing.

A5. Revocation:

The Secretary may revoke this permit in accordance with 10 V.S.A. §1267.

A6. Transfer of Permit:

This permit is not transferable without prior written approval of the Secretary. The permittee shall notify the Secretary immediately, in writing, before any sale, lease or other transfer of ownership of the property from which the permitted discharge originates. The proposed transferee shall make application for a permit to be reissued in their name. Failure to apply shall be considered a violation of this permit. Responsibility for compliance with the conditions of this permit shall be the burden of the permittee until such time as transfer of the permit to the transferee is complete. All application and operating fees must be paid in full prior to transfer of the permit. This permit shall be transferred only upon showing by the permittee or proposed transferee of compliance with the following conditions:

- a. The transferee shall be a legal entity, financially and technically competent to operate, inspect, maintain and replace the system.
- b. The transferee shall demonstrate that they have the legal authority to raise revenues for the proper operation, inspection, and maintenance of the system.
- c. The transferee shall provide a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees to the Secretary.

A7. Minor Modifications of Permit:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors or increase the monitoring frequency in accordance with Condition D(2) and Section E of this permit.

A8. Indirect Discharge Rules:

This permit authorizes an existing indirect discharge.

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with the Vermont Water Quality Standards; Section 14-607 of the Indirect Discharge Rules, Non-Sewage Wastewater; and the Vermont Guidelines for Land Application of Dairy Processing Wastes. The discharge of dairy processing wastewater and BAF sludge from the Agri-Mark, Inc., Middlebury Facility into manure pits and digesters followed by management of the dairy processing wastewater/BAF sludge manure mixture in accordance with Required Agricultural Practices satisfies the requirements of the Vermont Guidelines For Land Application of Dairy Processing Wastes.

A9. Right of the Agency to Inspect:

The permittee shall make arrangements to insure that the Secretary or the Secretary's authorized representative, upon the presentation of their credentials and at reasonable times, may enter upon any fields or inspect any manure pits being utilized as disposal sites:

The permittee shall allow the Secretary or the Secretary's authorized representative upon the presentation of their credentials and at reasonable times:

- a. To enter upon the premises in which any dairy processing wastewater/BAF sludge/manure source or treatment is located or in which any records are required to be kept under the conditions of the permit;
- b. To have access to and copy any records required to be kept under conditions of this permit;
- c. To inspect any monitoring equipment or method required in this permit;
- d. To sample any discharge of waste, groundwater or surface water; and
- e. To inspect any collection, treatment, pollution management, and disposal facilities required by this permit.

A10. Permit Availability:

A copy of this permit shall remain at the office of the permittee and, upon request, shall be made available for inspection by the Secretary.

A11. Modifications and Additions to System:

The permittee may add manure pits to be utilized in the program by using the following procedures:

- a. The permittee shall submit an application for an amendment of the permit to update the listing of manure pits in Attachment A.
- b. Manure slurry pits may be added to the program upon submittal of a written agreement executed between the permittee and the farmer. The agreement should state the location and volume of the farmer's manure pit, state that the farmer agrees to manage the dairy processing wastewater/BAF sludge/manure mixture in accordance with the Required Agricultural Practices, and be signed and dated by both parties.

A12. Operating Fees:

This indirect discharge is subject to operating fees. The permittee shall submit the operating fees in accordance with procedures provided by the Secretary.

SECTION B - "INDIRECT DISCHARGE"

B1. Nature of Indirect Discharge:

The dairy processing wastewater authorized for disposal by this permit is whey, spoiled milk and BAF sludge. The whey results from cheddar cheese production at a dairy processing facility in Middlebury, Vermont which is operated by Agri-Mark, Inc. The whey will primarily be fed to farm animals; the permittee has submitted a listing of farmers participating in the whey feeding program. However, bad batches of whey (or other situations) may arise which do not allow for the whey to be fed to farm animals. In addition, spoiled milk is occasionally received at the facility and will need to be disposed of. The permittee has signed agreements with farmers which would allow the whey and/or spoiled milk to be disposed of in manure pits and digesters, and in volumes of up to 10% of the volume of the manure pits. No chemicals are added to the whey.

Analytical data submitted by the permittee for 19 samples of the dairy processing waste stream taken between 2010 and 2014 resulted in the following concentrations:

<u>Parameter</u>	<u>Mean (mg/L)</u>	<u>Range (mg/L)</u>
Biochemical Oxygen Demand (5-day)	37,210	17,000 – 54,000
Total Suspended Solids	7,403	200 – 18,800
Nitrate-Nitrite Nitrogen	6	2 - 31
Total Kjeldahl Nitrogen	1,164	540 – 2,500
Ammonia	187	36 - 1300
Total Phosphorus	769	410 - 1300
Total Dissolved Phosphorus	694	15 - 1100
Sodium	25,989	1,600 - 46000
Chloride	50,168	3,200 – 110,000
Total Dissolved Solids	77,759	1,000 – 138,000
pH	4.9 S.U.	4.1 – 5.4 S.U.

These are not permit limits and exceedences of the mean and range of values may occur.

The whey will be collected and stored in a 30,000 gallon holding tank and hauled to the manure pits by tank trucks.

B1. Nature of Indirect Discharge (continued):

In accordance with the requirements of their Pretreatment Discharge Permit (#3-0401), the permittee is required to meet phosphorus effluent limitations in the wastewater from the facility prior to discharge to the Town of Middlebury Wastewater Treatment System.

In order to meet this requirement, the permittee has installed a Bubble Accelerated Flotation™ Unit (BAF) for phosphorus removal. The effluent is injected with aluminum chloride hydroxide (Nalco Ultrion® 8187), forming a pin flocculant which, in turn, is treated with an anionic polymer, Nalco GR-105, which forms a larger flocculant, which is subsequently skimmed off forming the BAF sludge. One additional chemical, identified as Nalco 1853 (deodorizer), is used in small amounts as needed. The sludge formed will be stored in two 3,000 gallon tanks and, on a regular basis, pumped into a tank truck for disposal at a manure pit.

Self-monitoring data submitted by the permittee for 19 samples of the BAF sludge taken between 2010 and 2014 was used to generate the following summary of concentrations:

<u>Parameter</u>	<u>Mean (mg/L)</u>	<u>Range (mg/L)</u>
Biochemical Oxygen Demand (5-day)	15,243	120 – 27,000
Total Suspended Solids	15,852	110 – 52,000
Nitrate-Nitrite Nitrogen	3.1	0.2 – 15
Total Kjeldahl Nitrogen	1681	750 – 2,800
Ammonia	40	13 – 160
Total Phosphorus	567	220 – 1600
Total Dissolved Phosphorus	50	0.2 – 230
Sodium	878	45 – 1,600
Chloride	1272	120 – 2,400
pH	6.6 S.U.	5.8 – 8.4 S.U.

The farmer's manure pits utilized for disposal of the dairy processing wastewater and /or BAF sludge are listed in Attachment A. The dairy processing wastewater/BAF sludge/ manure mixture shall be managed in accordance with Required Agricultural Practices.

SECTION C - "SYSTEM OPERATION"

C1. General:

The dairy processing wastewater/BAF sludge/manure mixture shall be handled at all times in a manner that will (1) ensure the dairy processing wastewater/BAF sludge/manure mixture is managed in accordance with Required Agricultural Practices; (2) not permit the surface runoff of dairy processing wastewater or BAF sludge to waters of the State; and (3) not result in a violation of the Water Quality Standards.

C2. Limits on Disposal:

This permit authorizes the discharge of dairy processing wastewater (whey and spoiled milk) and BAF sludge to manure slurry pits and digesters. The amount of dairy processing wastewater and BAF sludge discharged to the manure pits shall not exceed 10% of each pit's total volume in any calendar year. This volume for each pit and digester is listed in Attachment A.

No chemicals other than aluminum chloride hydroxide (Nalco Ultrion® 8187), the anionic polymer (Nalco GR-105), and the deodorizer (Nalco 1853) are authorized for disposal in manure pits under this permit. If the permittee wishes to add or change chemicals used in wastewater treatment, the permittee must notify the Secretary in writing of the proposed change. The Secretary, following review of the proposed changes, will determine if the change warrants a permit amendment.

SECTION D - "MONITORING"

D1. Dairy Processing Wastewater and BAF Sludge Monitoring:

The permittee shall sample and analyze the dairy processing wastewater and the BAF sludge⁽¹⁾ as follows:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
BOD ₅	mg/L	grab	Quarterly
Sodium (Na ⁺)	mg/L	grab	Quarterly
Chloride (Cl ⁻)	mg/L	grab	Quarterly
Total Suspended Solids	mg/L	grab	Quarterly
Total Dissolved Solids	mg/L	grab	Quarterly

D1. Dairy Processing Wastewater and BAF Sludge Monitoring (continued):

Parameter	Units	Sample Type	Sample Frequency
Total Phosphorus	mg/L	grab	Quarterly
Total Dissolved Phosphorus	mg/L	grab	Quarterly
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Quarterly
Ammonia Nitrogen (NH ₃)	mg/L	grab	Quarterly
Nitrate-Nitrogen	mg/L	grab	Quarterly
Nitrite-Nitrogen	mg/L	grab	Quarterly
pH	S.U.	grab	Quarterly

 Quarterly means January – March, April – June, July – September and October – December. If whey is discharged to manure pits and/or digesters in any quarterly period, a sample is required to be taken and analyzed during that quarterly period. Samples shall be taken at the line which is used to fill the transport vehicles following agitation of the holding tank. The results of the analysis shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

⁽¹⁾The samples collected for the BAF sludge shall be collected and analyzed separately from the dairy processing wastewater (non-sewage whey and spoiled milk). If the BAF sludge is discharged to manure pits and/or digesters in any quarterly period, a sample is required to be taken and analyzed during that quarterly period. Samples shall be taken at the line which is used to fill the transport vehicles following agitation of the holding tank. The results of the analysis shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

D2. Increased Monitoring:

The Secretary reserves the right to require an increase in the monitoring frequency above that outlined in Condition D(1) and the Secretary may require soil testing for those farm fields receiving the manure/whey or manure/BAF sludge mixture. Any change in requirements would be in the form of a letter to the permittee.

D3. Monthly Disposal Report:

On a monthly basis, the permittee shall submit a written report to the Secretary listing the manure pits and digesters utilized for disposal, the daily volume in gallons of dairy processing wastewater discharged to each manure pit and digester and the date the disposal occurred. The manure pits and digesters utilized for disposal of the BAF sludge shall also be identified and the daily volume of BAF sludge discharged to each manure pit and digester shall be reported. The report shall be certified and signed by an official of Agri-Mark, Inc.

D4. Daily Journal:

The permittee shall maintain a bound, daily journal in each disposal vehicle utilized for transport of the dairy processing wastewater and/or BAF sludge to the manure pits and digesters. The journal shall have printed, pre-numbered pages. The driver of the vehicle shall enter in ink their name (signature), the date, the manure pit and/or digester utilized for disposal, the time at which the disposal occurred, the type of waste dumped (either waste whey, spoiled milk or BAF sludge) and the volume disposed of. The driver shall also record any accidental spillage or other incidents that may adversely affect the landowner, adjacent landowners, or other members of the public. The journals shall be made available for inspection by the Secretary. Upon request of the Secretary, the permittee shall photocopy daily entries for submission to the Secretary.

SECTION E - "COMPLIANCE REVIEW"

If the results of any monitoring or reporting indicate that there is a possibility that the Vermont Water Quality Standards may be violated, the Secretary may require monitoring of the ground and surface water. If continued monitoring and analysis indicates that a violation of the dairy processing wastewater and BAF sludge discharge rate, or a violation of the Vermont Water Quality Standards has occurred, is occurring, or is likely to occur, the Secretary may require the permittee to take appropriate corrective actions to eliminate or reduce the possibility of a violation.

The issuance of this Indirect Discharge Permit Amendment, ID-9-0255-2, to Agri-Mark, Inc. by the Secretary relies upon the data, designs, judgment and other information supplied by the applicant, the applicant's consultants and other experts who have participated in the preparation of the application. The Secretary makes no assurance that this system will meet the performance objectives of the applicant and no warranties or guarantees are given or implied.

SECTION F - "EFFECTIVE DATE"

This Indirect Discharge Permit Amendment ID-9-0255-2, issued to the Agri-Mark, Inc. for the discharge of dairy processing wastewater and BAF sludge to manure pits and digesters listed in Attachment A is effective on this _____ day of September, 2017.

Emily Boedecker, Commissioner
Department of Environmental Conservation

By _____ **DRAFT** _____
Bryan Redmond, Director
Drinking Water and Groundwater Protection Division