

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

**DRAFT INDIRECT
DISCHARGE PERMIT**

Permit No.: ID-9-0258
PIN: RU95-0245

SECTION A - "ADMINISTRATION"

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

Crowley Cheese LLC
14 Crowley Lane
Mt. Holly, Vermont 05758

is authorized to land apply whey and wash water from the Crowley Cheese manufacturing facility to groundwater and indirectly into a tributary of Branch Brook. **This is a permit renewal.**

A1. Permit Summary:

Expiration Date	December 31, 2021
Type of Waste	Whey and Wash Water
Disposal System	Land Application
Original Design Flow	
- Whey	Annual average 185,294 gallons (equivalent of 508 gallons per day)
- Wash Water	Annual average 70,500 gallons (equivalent of 193 gallons per day)
Town	Mount Holly
Drainage Basin	Black River
Receiving Stream	Tributary to Branch Brook
Drainage Area at Point of Compliance	0.37 mi ² (est.)
Low Median Monthly Flow (LMMF)	122,900 gallons per day
Dilution Ratio at LMMF	175 : 1 (at original design flow)

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	By September 30, 2021
D5(A). Annual Inspection	Annually, in April
D5(B). Submit Annual Inspection Report	Annually, by May 15th
D5(C). Submit Schedule for implementing engineer's recommendations	Annually, by May 15th
D8. Submit Whey and Wash Water Management Plan	By March 31, 2017
E1. Submit Revised QA/QC Plan	By March 31, 2017
E2. Collect and analyze whey and wash water samples	Biannually
E3. Collect and analyze groundwater monitoring well samples	June and October
E2,E3. Submit results of monitoring	By the 15th of the second month following the date of sampling
E4. Measure and record the depths groundwater in observation well	Daily, prior to spraying
E5. Submit monthly lagoon discharge report	By the 15th of each month
E6. Submit monthly land application report	By the 15th of each month
E7. Submit evaluation by a water quality specialist of all effluent and groundwater quality data	By September 30, 2021

A3. Expiration Date:

This permit, unless revoked, or amended shall be valid until December 31, 2021, despite any intervening change in Water Quality Standards, the Vermont Guidelines for Land Application of Dairy Processing Wastes or the classification of receiving waters. Renewal of this Indirect Discharge Permit will be subject to all rules applicable at the time of application for renewal.

The permittee shall apply for renewal of this Indirect Discharge Permit by September 30, 2021 for continued authorization to discharge whey and wash water. 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 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 this 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 Permits:

The Secretary may modify this permit without requiring a permit application, a public notice, or a public hearing to correct typographical errors, or to increase the monitoring frequency in accordance with Condition E(11) of this permit.

A8. Demonstration of Compliance:

This indirect discharge was reviewed and qualified for an Indirect Discharge Permit in accordance with Section 14-607(b) of the Indirect Discharge Rules, Non-Sewage Wastewater, the Vermont Guidelines for Land Application of Dairy Processing Wastes, dated August 14, 1990, and the Ground Water Protection Rule & Strategy, effective February 14, 2005, Section 12-503 (3).

The indirect discharge of whey and wash water from dairy manufacturing at Crowley Cheese via land application, satisfies the criteria of 10:1 dilution between the receiving stream flow and effluent at low median monthly flow, according to 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, may enter upon any field or inspect any lagoon being used for storage and/or disposal.

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 permittee's premises in which any effluent source, treatment or disposal system 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 Approved Disposal Field:

The permittee may add agricultural fields and/or manure pits for the disposal of whey and wash water under the following procedures:

- a. Fields and manure pits to be added to the program must be evaluated in accordance with the Vermont Guidelines for Land Application of Dairy Processing Wastes.
- b. For any field that is not owned by the permittee, a written and signed disposal agreement is required between the landowner and the permittee, stating that the owner allows land application of the waste on the field.
- c. Manure pits to be added to the program must have a written agreement executed between the permittee and the farmer. The agreement must state the location and volume of the farmer's manure pit, state that the farmer agrees to manage the wastewater/manure mixture in accordance with Accepted Agricultural Practices, and be signed and dated by both parties. A maximum of ten percent of the volume of the manure pit may be used for non-manure wastes annually, as outlined in the Vermont Guidelines for Land Application of Dairy Processing Wastes.
- d. The permittee must submit an application for an administrative amendment to add agricultural fields and/or manure pits to the disposal program.

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. Location of Indirect Discharges:

The indirect discharge is located in the Black River drainage basin in the town of Mount Holly, Vermont. The indirect discharge is located on the USGS Mount Holly, VT 7.5' quadrangle map at Latitude N 43° 25' 31.7" and Longitude W 72° 47' 17.1".

B2. Nature of Indirect Discharge:

The indirect discharge authorized by this permit is classified as a non-sewage, non-pathogenic wastewater. The wastewater consists of whey and wash water resulting from the production of cheese at the Crowley Cheese manufacturing facility in Mt. Holly, Vermont.

B2. Nature of Indirect Discharge (continued):

The land application of whey and wash water by the Crowley Cheese Company, Inc. was originally authorized by Land Use Permit #600017 (L.U.P.), issued on June 3, 1971. The L.U.P. authorized an application rate of 0.1 inches per day during the Spring, Summer and Fall months on approximately 2 acres of land. At this application rate, a total disposal of 5,430 gallons per day is potentially possible. This maximum allowable land disposal discharge rate will provide a low median monthly stream flow to whey and wash water volume ratio of at least 10:1 in the receiving stream.

The Vermont Guidelines for the Land Application of Dairy Processing Wastes dated August 14, 1990 apply to this discharge. However, the previously approved location for spray disposal of the whey and wash water may not have the prerequisite three-foot separation to groundwater at the time of application. In addition, the L.U.P. did not restrict land application on the 2-acre field to an annual limit (such as the 1.0 inch/acre/year limitation included in the Vermont Guidelines for the Land Application of Dairy Processing Wastes). Therefore, the required separation shall be reduced to one foot and monitoring of the groundwater downgradient of the sprayfield required to ascertain any impact on groundwater quality resulting from the higher annual application rate.

B3. Chemicals Utilized:

The previous permittee submitted a listing of chemicals utilized at the facility for the purpose of cleaning equipment and general sanitation. These are the only chemicals which are authorized for disposal in the wastewater which is land applied. Prior to making any changes in the chemicals used, the permittee shall submit a request for evaluation of the new chemicals to the Secretary. If the Secretary determines that the change in chemicals is a significant change, the permittee shall be required to apply for a permit amendment. Minor changes in chemicals used, as determined by the Secretary, will not require permit amendment. For those chemicals which are obtained from a different supplier or source and are identical to the chemicals listed in the application, the permittee shall notify the Secretary of the change; no evaluation will be necessary.

SECTION C - "SYSTEM SPECIFICATIONS"

C1. System Specifications:

The whey and wash water is pumped into an unlined storage lagoon with a capacity of approximately 175,000 gallons. Whey and wash water produced during the winter is stored in the storage lagoon and sprayed on land owned by the permittee during the spring, summer and fall months. The mixture of whey and wash water is sprayed onto a two (2) acre field which is divided into four sections. Six spray heads are manually moved from section to section of the spray disposal field. This is an existing facility and no construction or modifications are necessary for the operation of the disposal methods authorized by this permit.

SECTION D - "SYSTEM OPERATION"

D1. General:

The whey and wash water disposal system shall be operated at all times in a manner that will (1) not permit the surface runoff of whey or wash water to waters of the State; (2) not permit the disposal of whey or wash water when groundwater is within 12 inches of the surface; (3) not permit the disposal of whey or wash water at a site where runoff is occurring; (4) not result in a violation of the Groundwater Protection Rule & Strategy; and (5) not result in a violation of the Vermont Water Quality Standards.

D2. Limits on Disposal:

This permit authorizes the indirect discharge of whey and wash water at an average combined daily rate of 701 gallons per day (production rate), for a total yearly combined discharge volume of 255,794 gallons. The whey and wash water mixture can be disposed of by spraying at a maximum rate of 5,430 gallons per day during the period May 1 - October 31.

D3. Disposal Area:

At an average daily spray disposal rate of 5,430 gpd, and based on a spray disposal area of two acres, approximately 47 days of spraying are required for disposal of the whey and wash water historically produced in any given year.

D4. Operator Certification:

The permittee is required at all times to employ a chief operator that shall be responsible for all aspects of the whey and wash water collection and disposal operation under this permit. The permittee shall notify the Secretary in writing immediately of any change of chief operator. The chief operator shall possess an Industrial Class I certification from the Secretary.

The permittee shall have a contract to retain a certified Industrial Class I operator if the chief operator is unavailable for thirty (30) or more consecutive calendar days, and submit to the Secretary in writing the name of this operator. If the chief operator will be unavailable for 90 or more consecutive calendar days, the permittee shall employ another certified Industrial Class I operator or have a contract to retain a certified Industrial Class I operator.

D5. Annual Inspection, Report and Implementation Schedule:

A. Annual Inspection Report:

Annually during the month of April, the permittee shall engage a professional engineer registered in the State of Vermont to make a thorough inspection, evaluation, and report of the complete collection, treatment and sprayfield system. The permittee shall provide the Secretary with the date of the inspection at least one week in advance to allow the Secretary's representative the option of attending the inspection. The engineer's inspection shall include, but not be limited to the following:

1. verification of the proper operation of all pumps, alarms and controls;
2. walking the route of the gravity lines/force main used to transport the whey and wash water from the manufacturing facility to the storage lagoon and observing the condition of the piping;
3. walking around the storage lagoon checking for any breaks in the berm or needed repairs;
4. observing each spray nozzle in the sprayfield and checking for the proper operation as well as proper spacing of the spray nozzles to provide for even distribution of the whey and wash water; noting any repairs needed and any areas of erosion or concentrated surface runoff;
5. checking the calibration of the effluent flow meter; and
6. noting any necessary repairs, or other maintenance that needs to be performed.

B. Annual Inspection Report:

Annually, by May 15th, the permittee shall have a professional engineer submit an annual report including the following items:

1. a complete discussion of the items inspected and the results of the inspection; and
2. a discussion of the recommended repairs and maintenance required.

The report shall be subject to the review and approval of the Secretary.

C. Implementation Schedule:

By May 15th each year the permittee shall notify the Secretary in writing stating how the engineer's recommendations are to be implemented and including a schedule for the required repairs and maintenance.

D6. Other Methods of Disposal:

A. Animal Feed:

The whey and/or wash water may be collected in holding tanks and transported offsite for use as animal feed at local farm(s) without the need for a permit amendment or any reporting requirements.

B. Hayfields:

The permittee may dispose of whey and wash water once in the summer to hayfields that do not meet the soil/site criteria in Table 1 of the Vermont Guidelines for Land Application of Dairy Processing Waste, under the following conditions:

1. The application shall take place within two weeks following the cutting of the first hay crop;
2. The maximum application rate shall not exceed 0.25 inches/acre (6,788 gallons) and will be limited to 0.125 inches/day (3,394 gallons);
3. The slope shall not exceed 20%;
4. The field must meet all minimum isolation distances as outlined in Table 1;
5. Application may not take place in swales or on saturated ground.

The permittee shall record the volume, date and location of the field(s) and submit this information in the monthly disposal reports in accordance with Condition E6.

D7. Other Restrictions:

The permittee shall not allow any person to discharge or cause to be discharged from the cheese manufacturing facility anything other than the whey and wash water described herein to the storage lagoon or disposal field.

D8. Whey and Wash Water Management Plan:

By March 31, 2017, the permittee shall submit a whey and wash water management plan to the Secretary for review and approval. The Plan shall address the proper management of the whey and wash water, include measures the permittee will take to control off-site odors from the lagoon and sprayfield. The Plan shall include a contingency plan for alternative methods of storage and disposal of the whey and wash water if odors from the lagoon or sprayfield persist at off-site locations.

D9. Odor Control:

The permittee shall take appropriate measures at all times to control odors from the existing lagoon or sprayfield. The permittee may be required to take additional measures, including the implementation of an approved contingency plan as per Condition D8, as directed by the Secretary if off-site odors are not controlled.

SECTION E - "MONITORING"

E1. Updated Quality Assurance/Quality Control Plan:

By March 31, 2017, the permittee shall submit an updated Quality Assurance/Quality Control (QA/QC) Plan to the Secretary for review and approval. The updated QA/QC Plan shall address the methods and procedures used for effluent, groundwater and surface water sampling (if required). The updated QA/QC Plan shall include a topographic site map depicting the location of the lagoon, sprayfield, property lines, monitoring wells, and the tributary of Branch Brook. The updated QA/QC Plan shall also include provisions for the installation of at least one additional groundwater monitoring well around the existing lagoon to replace monitoring well MW-1.

E2. Whey and Wash Water Monitoring:

The whey and/or wash water discharged to the storage lagoon shall be sampled and analyzed on a biannual basis, as follows:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sample Frequency</u>
Biochemical Oxygen Demand (5-day)	mg/L	grab	Biannually
Total Suspended Solids	mg/L	grab	Biannually
Sodium (Na+)	mg/L	grab	Biannually
Chloride (Cl-)	mg/L	grab	Biannually
Total Dissolved Solids	mg/L	grab	Biannually
Total Phosphorus	mg/L	grab	Biannually
Total Dissolved Phosphorus	mg/L	grab	Biannually
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	Biannually
Ammonia Nitrogen (NH ₃)	mg/L	grab	Biannually
Nitrate Nitrogen	mg/L	grab	Biannually
pH	S.U.	grab	Biannually

Biannually means January – June and July – December. If any discharge occurs during a biannual period, sampling and analyses is required once during the biannual period. Samples shall be taken at the line which discharges into the storage lagoon.

The results of the analysis shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

E3. Groundwater Monitoring:

The groundwater in each of the four monitoring wells around the lagoon and sprayfield shall be sampled and analyzed for the following parameters:

Parameter	Units	Sample Type	Sample Frequency
Total Dissolved Solids	mg/L	grab	June and October
Sodium (Na+)	mg/L	grab	June and October
Chlorides (Cl-)	mg/L	grab	June and October
Total Phosphorus	mg/L	grab	June and October
Total Dissolved Phosphorus	mg/L	grab	June and October
Total Kjeldahl Nitrogen (TKN)	mg/L	grab	June and October
Ammonia Nitrogen (NH ₃)	mg/L	grab	June and October
Nitrate-Nitrogen	mg/L	grab	June and October
pH	S.U.	grab	June and October
Depth to Groundwater (below ground surface)	inches	instant.	At time of sampling

The results of these analyses shall be submitted to the Secretary by the 15th day of the second month following the date of sampling.

Because of the changing water table conditions, the samples from the groundwater monitoring wells may not be able to be collected on the same day or in the same week if water is not available. If a monitoring well has water at any time during the month, a sample shall be collected and analyzed.

E4. Groundwater Levels:

The depth to groundwater (below ground surface) in the sprayfield shall be measured and recorded each day that spraying occurs, prior to spraying.

E5. Monthly Lagoon Discharge Report:

The volume of whey and/or wash water discharged to the existing lagoon shall be recorded each day that a discharge to the lagoon occurs.

The permittee shall submit a monthly written report to the Secretary listing the dates and volumes of all whey and/or wash water discharged to the lagoon. The number of gallons discharged to the lagoon shall be listed by day and totaled for the month. The report shall be submitted by the 15th of each month and shall include all discharges to the lagoon which occurred in the previous month. The reporting form shall be certified and signed by the permittee.

E6. Monthly Spray Disposal Report:

The permittee shall submit a monthly written report to the Secretary listing the dates of land application, the measurements of depth to groundwater in the observation well in the spray disposal field, and the volume of whey and wash water applied to the field. If other methods of disposal are utilized by the permittee, the volume and destination shall be submitted. The number of gallons applied on the field shall be listed by day and totaled for the month. The report shall be submitted by the 15th of each month and shall include all land application activity which occurred in the previous month. The reporting form shall be certified and signed by the permittee.

E7. Water Quality Evaluation:

The permittee shall have a water quality specialist experienced in the analysis of water quality data submit an evaluation to the Secretary by September 30, 2021 of the groundwater quality data collected during the life of this permit. The report shall summarize what, if any, short or long term impacts there have been on groundwater quality. This shall also include an evaluation of all chemical analyses of the whey and wash water and an evaluation of the effluent discharge records, land application records, and groundwater table levels to verify compliance with the permit requirements. Receiving stream quality and biological data, if requested by the Secretary, shall be included.

E8. Sampling and Testing Procedures:

All whey, wash water and groundwater sampling, preservation, handling and test procedures used to comply with the monitoring requirements herein shall conform to procedures specified in the most current edition of Standard Methods for the Examination of Water and Wastewater APHA - AWWA - WPCF, and the Vermont Water Quality Standards unless written approval of an alternate method is received from the Agency.

The laboratory utilized for analyzing the samples shall demonstrate successful participation in third party proficiency testing recognized by ISO or NELAP for all parameters and shall analyze any check sample provided by the Secretary. Failure to obtain an acceptable result for either the Secretary's check sample or successful third party proficiency testing may be a basis for requiring an alternate analytical laboratory.

E9. Miscellaneous Requirements:

If the permittee monitor any required parameter set forth in this permit for this treatment and disposal system more frequently or at additional locations outside the treatment facility than required by this permit, the results of such monitoring shall be submitted by the 15th day of the second month following the date of sampling.

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Secretary. Records shall include laboratory bench sheets showing exact location, time and composites of sample as well as analytical procedures used, interim results obtained and all calculations supporting the reported test results.

E10. Additional Monitoring Requirements:

No other water quality monitoring of the system is required under this permit. However, the Secretary reserves the right to require additional monitoring of the system in accordance with Condition A(7) should operation of the system fail to meet the requirements of Section D(1).

SECTION F - "COMPLIANCE REVIEW"

If the results of monitoring the effluent, groundwater, or the receiving stream show there is a possibility that the Vermont Water Quality Standards may be exceeded, the Secretary may increase the frequency of, or change the location of monitoring of the ground and surface water. If continued monitoring and analysis indicates that a violation of the effluent disposal 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 ID-9-0258, to Crowley Cheese LLC by the Secretary relies upon the data, designs, judgement 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 G - "EFFECTIVE DATE"

This Indirect Discharge Permit, ID-9-0258, issued to Crowley Cheese LLC for the discharge of whey and wash water from the Crowley Cheese manufacturing facility in Mt. Holly, Vermont is effective on this _____ day of _____, 2017.

Alyssa B. Schuren, Commissioner
Department of Environmental Conservation

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