

NPDES Inspection Report – Industrial User

Name of industry and location:	Control authority / Permit No. / Facility ID:	
Royal Crest Dairy, Inc. 800 Weaver Park Road Longmont, Colorado 80501	City of Longmont Permit No. 22-07-115 NPDES ID: COPU00170 Inspection ID: 202301_COPU00170 NAICS Code: 31151 – Dairy Product Manufacturing Latitude: 40.162177 °N, Longitude: -105.075941°W	
Date of visit:	Time of visit:	
January 19, 2023	1:20 pm – 3:05 pm	
Name(s) / Affiliation of inspector(s):		
Stephanie Meyers / U.S. Environmental Protection Agency, Region 8 (lead) Emilio Llamozas / U.S. Environmental Protection Agency, Region 8 Mary Paterniti / City of Longmont		
Name / Title / Affiliation:		
Roy Ladrick / General Manager / Royal Crest Dairy, Inc. Terry Koenig / Maintenance Lead / Royal Crest Dairy, Inc.		
Report Review and Signature		
Drafter Name	Address/Phone Number	Date
	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	2/10/2023
Stephanie Meyers	303-312-6938	
Reviewer Name	Address/Phone Number	Date
Emilio Llamozas	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	2/13/2023
	303-312-6407	
Supervisor Signature/Name	Address/Phone Number	Date
	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202	2/16/2023
Michael Boeglin	303-312-6250	
Inspection Description:		
On January 19, 2023, U.S. Environmental Protection Agency (EPA) inspectors Stephanie Meyers and Emilio Llamozas (jointly referred to as inspectors) and the City of Longmont (City) inspector Mary Paterniti conducted an industrial user inspection of Royal Crest Dairy, Inc. (Royal Crest or facility) in Longmont,		

Colorado as part of a pretreatment compliance inspection (PCI) of the City. The City had identified Royal Crest as a Significant Industrial User (SIU) permitted to discharge to the City's sanitary sewer system under Permit Number 22-07-115 (permit). The inspection was announced to Royal Crest the afternoon of the inspection.

Upon arriving to the facility at approximately 1:20 pm, Mr. Koenig, Maintenance Lead for Royal Crest, introduced the inspectors to Royal Crest's General Manager, Roy Ladrack. The inspectors began the opening conference by presenting their credentials and explaining the general purpose and procedures of the inspection. During the opening conference, Mr. Ladrack provided an overview of the facility's operations, focusing on the processes that generate wastewater and the planned updates to the facility.

Following the opening conference, Mr. Ladrack and Mr. Koenig accompanied the group of inspectors on a facility walkthrough, with focus placed on the processing and bottling of dairy products, chemical and waste storage areas, and the sampling point. To document and record the conversation and inspection observations, the inspectors took notes using bound checklists with questions applicable to the permitted industrial user. Photographs taken during the inspection are included in the attached photo log.

EPA inspectors conducted a closing conference with Mr. Ladrack and Mr. Koenig and provided general observations and preliminary findings from the inspection. The EPA and City representatives left the facility at approximately 3:05 pm.

1. What does this industry produce?

The facility is a dairy processing and bottling facility that produces various milk products, sour cream, buttermilk, yogurt, and ice cream. The facility also stores packaged food products that are made at other facilities for home delivery.

2. How is the industry classified by the POTW?

The City classified Royal Crest as a Significant Industrial User (SIU) because the facility discharges an average of 25,000 gallons per day or more of process wastewater to the POTW, which is in accordance with 40 C.F.R. 403.3(v). The facility is also a categorical industry under 40 C.F.R Part 405: Dairy Products Processing Point Source Category, Subpart B – Fluids Products Subcategory, however there are no pretreatment standards established for this subcategory; therefore, the facility is subject to the requirements of 40 C.F.R. 403.

3. Have there been any significant changes in processes or flow?

No changes have occurred at the facility since Royal Crest started operations in 1995. The facility has future sustainability plans that will likely reduce wastewater flows to 45,000 gallons per day. They also have plans to install an equalization tank system for pretreatment, where a lift station will pump the facility's wastewater to two 14,000-gallon tanks that will hold process wastewater and will monitor pH and turbidity. The planned tank upgrades are further described in Section 9.

4. What raw materials are used?

The facility uses the following materials:

- Dairy products (milk, chocolate milk, sour cream, cream, buttermilk, yogurt, ice cream, etc.)
- Sugar
- Cocoa
- Soy-based products
- Various pre-packaged food products for home delivery only
- Caustics
- Sanitizers
- Acids (sulfuric acid used for pH neutralization)

5. What processes are used to make the product(s)? Indicate any wastes generated and destination of wastes.

Royal Crest receives tanker trucks of raw milk from Dairy Farmers of America and Mile High Dairy. The raw milk is placed into holding silos, and is then tested for bacteria, allergens, and butter fats. Raw milk that does not pass these tests is pumped to the 2,000-gallon slop tank in the tanker truck receiving bay (Photo 255). Facility representatives stated this milk is then pumped into a truck owned by McDonald Farms Enterprises, Inc. (Photo 256), who transports and treats the waste. According to facility representatives, McDonald Farms hauls off approximately six to eight 6,000-gallon loads each month.

The raw milk that does pass all tests goes through a centrifuge to have fat contents separated out. The separated cream fat is used for various products and stored in a separate tank. The raw milk that had been separated then goes through the pasteurization process, where milk is heated to a specific temperature for a set time period to kill harmful bacteria. Once the pasteurization process is complete, milk is packaged into various bags, bottles, or cartons and stored in refrigerated rooms prior to being loaded up into trucks to be shipped out.

Sometimes, the by-products of the milk, such as buttermilk and cream are used for other products. A culture tank is used for certain products such as buttermilk, sour cream, and yogurt. Royal Crest also produces chocolate milk, which requires the use of added product and a blender.

Royal Crest conducts a clean-in-place (CIP) of all tanks using HydroxySan every 24 hours on production days. The CIP equipment has turbidity meters that measure the wastewater. High turbidity wastewater from the CIP process is pumped to the slop tank and hauled off by McDonald Farms Enterprises, Inc. The low turbidity wastewater is sent to the pH equalization tank.

6. Where is water used and what is the source of the water (city, well, river, etc.)?

The facility uses City water in its operations, and the approximate monthly usage of water is 1.6 million gallons. Water is used for cleaning of tanks and rinsing of equipment. Both the boiler that pasteurizes the dairy products and refrigeration system also utilize water.

7. Describe the processes which discharge wastewater.

Please refer to Sections 5 and 9 of the inspection report for a description of the processes that discharge wastewater.

8. Describe the sample location. Are the CA and industry using the same location?

Royal Crest has two outfalls that discharge to the City's collection system; Outfall 01, which is the final discharge location and Outfall 02, which is the manhole downstream of Outfall 01 for the City's compliance

sampling. For the purpose of the permit, Outfall 02 is for City monitoring only and there are no additional sampling requirements for this outfall. Outfall 01 is a flume inside the private manhole in the parking lot in front of the processing building and downstream of the sand/oil interceptor. A pump pulls this water into a refrigerated ISCO sampler (Photo 259) for sample collection on Monday, Tuesday, Thursday, and Friday at 2:00 pm. A courier then picks up the samples each day, loads them into a cooler with ice, and takes them to the laboratory for analysis. The City takes their compliance sample at Outfall 01 and conducts independent monitoring at Outfall 02 which is a manhole downstream of Outfall 01.

9. Describe the treatment system in place.

A drainage system in the production area captures all cleaning water and process wastewater and sends it to a 5,000 gallon pH equalization tank near the loading dock (Photo 257). CIP low turbidity wastewater and wastewater from cleaning the pasteurizer tanks is also sent through the pH equalization tank. The pH equalization tank is treated with sulfuric acid, if the pH needs to be lowered to meet the permit limits. The process wastewater then flows through a sand and oil separator, which is located underground via manholes near the loading dock (Photo 258). After this, wastewater then flows to the City's wastewater treatment system. The milk receiving bay also has a sand and oil separator that discharges downstream of the other sand and oil separator near the loading dock, but prior to Outfall 02.

Section 3 describes the plans for a new treatment system. Facility representatives explained that when the new treatment system is in place, the pH equalization tank will no longer be used and will be removed from the facility. The facility plans to install a lift station that will pump the wastewater from the facility to two 14,000-gallon tanks. The two 14,000-gallon tanks that will be installed will be top-agitated tanks with CIP capabilities. They will also have containment structures around them should a spill event occur. Testing of tank water will be conducted prior to any discharge to the City for pH and turbidity. If the test results are above the BOD, TSS or pH permit limits, the wastewater will be hauled off by McDonald Farms Enterprises, Inc. in order to avoid permit exceedances.

10. What chemicals are maintained at the facility? How are they stored? Is adequate spill prevention in place?

A 200-gallon tote of sulfuric acid is stored next to the pH equalization tank. 55-gallon drums of caustics and sanitizers (HydroxySan and Pro-Oxine) are stored in an area off of the processing room over secondary containment (Photo 260). Acids are stored in 55-gallon drums over secondary containment entirely separate from all other chemical storage areas (photo 261).

11. Are any hazardous wastes stored or discharged?

No hazardous wastes are stored or discharged from the facility.

FINDINGS AND CORRECTIVE ACTIONS

The following findings were identified during the inspection. The EPA has requested the City work directly with Royal Crest to oversee correction of these deficiencies. No response from Royal Crest to the EPA is requested at this time.

Finding 1 – The facility did not include all of the required components in its Waste Management Plan (WMP).

The facility's WMP is missing several of the elements required by the City pertaining to chemical storage and spills and a facility diagram. These required elements are found in the City Ordinance Section 14.08.350. The three elements that were missing in the WMP were:

1. An ongoing and complete inventory and description of the types and quantities of pollutants and chemicals used or stored by the industrial user; and
2. A diagram of the facility including the process and storage location(s), and the locations of floor drains to sanitary or storm sewers; and
3. A description of spill containment, treatment and disposal methods of pollutants and chemicals used or stored by the industrial user.

Pretreatment Requirements

According to the City Ordinance Section 14.08.350, the following elements are required to be in the facility's WMP and are currently missing:

1. An ongoing and complete inventory and description of the types and quantities of pollutants and chemicals used or stored by the industrial user; and
2. A diagram of the facility including the process and storage location(s), and the locations of floor drains to sanitary or storm sewers; and
3. A description of spill containment, treatment and disposal methods of pollutants and chemicals used or stored by the industrial user.

Corrective Action

Update the WMP for the facility that includes all the elements described above. Provide the City with a copy of the WMP.

Finding 2 – The ISCO sampler did not contain a backup thermometer.

The ISCO sampler that pulls process wastewater from underground piping that flows to Outfall 01 did not contain a backup thermometer to ensure accuracy of temperature to meet samples preservation requirements of 6° C. Facility representatives stated the ISCO sampler temperature is calibrated once per year, but it is best practice to maintain another thermometer to ensure accuracy.

Recommendation

It is recommended that an independently calibrated thermometer be placed inside the ISCO sampler to ensure accurate temperature readings of the sampler to show that BOD and TSS samples are stored at below 6° C. Provide the City with a description of how this recommendation was addressed.