
North Coast Regional Water Quality Control Board

Inspection Report Ramini Mozzarella Dairy

Dairy Name: Ramini Mozzarella Dairy
State Identification #'s: WDID 1B14112DMAR, Place ID 810550
Dairy Facility Address: 175 Gericke Road, Petaluma, CA, Marin County
Dairy Operator Mailing Address: 2479 Mar East Street, Tiburon, CA 94920
APN: Assessor's Parcel Number 100-060-012
Inspection Date: January 27, 2021, 9:20 AM
Report Date: February 22, 2021
Purpose of Inspection: Follow-up to July 2020 Potential Discharge Complaint
Regional Water Board Inspection Team:

- Cherie Blatt, North Coast Regional Water Quality Control Board (Regional Water Board), Cherie.Blatt@waterboards.ca.gov;
- Jordan Filak, Regional Water Board, Jordan.Filak@waterboards.ca.gov.

I. Introduction

On January 25, 2021, Cherie Blatt and Jim Burke, Regional Water Board staff, telephoned Ramini dairy operator Audrey Hitchcock to request permission to inspect Ramini Mozzarella on January 27, 2021, due to discharge concerns and the upcoming rainstorm. Ms. Hitchcock granted permission for the inspection, stated that she would not be present onsite that day, but that her staff would be there caring for the animals. She said that Joe's Septic Service would be removing some of the wastewater from the wastewater tank prior to the inspection date.

On January 27, 2021, Regional Water Board staff inspected the dairy and collected water samples in Estero de San Antonio Creek upstream and downstream of the dairy. The local area received approximately 0.45 inches of precipitation during the 24 hours before the inspection. About one inch of rain in 24 hours was predicted just prior to the inspection time. Staff observed no precipitation during the inspection. The weather was partly cloudy.

II. Sampling

Surface Water: The purpose of the inspection was a continued response to the July 2020 complaint regarding potential discharges to surface waters and to evaluate whether dairy operations were protective of surface water and groundwater quality and in compliance with the GWDR. Regional Water Board staff met at the dairy at approximately 9:20 AM to collect stream water samples up- and downstream of the dairy and then to inspect potential discharge sites on the dairy.

Staff noted that the precipitation event ended a few hours before the inspection. Staff observed no surface water runoff entering the creek from the dairy or driveway. Staff observed puddles in the corrals and pastures, as documented in the photo log at the end of this report. Staff collected samples from two sites on Estero de San Antonio Creek for comparison of water quality up- and downstream of the dairy:

Sampling Site 1: Estero de San Antonio Creek below the dairy and just below the outlet of two 4-foot diameter culverts that are located under the driveway to 175 Gericke Road.

Sampling Site 2: Estero de San Antonio Creek above the dairy and at the inlet to the 6-foot diameter county culvert under Gericke Road.

Parameter (units)	Data Source	Site 2 upstream	Site 1 downstream
Time (PST)		10:13 AM	9:45 AM, 9:47 AM
DO (mg/L)	Data Sonde	10.1	10.2, 10.0
Barometric pressure (mm Hg)	Data Sonde	756.8	750, 756.6
Temp (°C)	Data Sonde	8.59	ND, 7.29
Time		10:20 AM	9:53 AM
pH	pH meter	7.15	7.52
Time		10:38 AM	9:30 AM
Total coliform MPN /100 mL	Brelje & Race Lab	>2419.6	>2419.6
E.coli MPN /100 mL	Brelje & Race Lab	>2419.6	>2419.6
Time		10:38 AM	9:30 AM
Ammonia as N (mg/L)	Delta Lab	0.349	0.334

ND means “no data.” > means “greater than” and exceeded lab capability.

The results above do not show a significant water quality difference between creek water samples collected from upstream and downstream of the dairy. Staff noted that in the future, the Total coliform and E. coli bacteria samples will require dilution with calculations performed at the laboratory to determine the actual value of the

bacteria populations. Regional Water Board staff may sample again when the area experiences a higher volume of rainfall and runoff is confirmed to be leaving the dairy production area.

Groundwater Note:

The GWDR requires that regulated dairies collect groundwater samples. The present quality of groundwater beneath the Ramini Dairy is unknown, and remains to be determined and demonstrated through groundwater sampling pursuant to the GWDR (reference GWDR Attachment D, section I.B.2 on pages 7-12).

III. Inspection Observations

At about 10:45 AM, the inspection team walked to the outside of an open window of the milk barn, introduced themselves to the two dairy employees working in the milk barn, then proceeded to perform the inspection. The inspection team (staff) took photographs at locations to the west, south, east of the milk barn. Staff did not enter corrals with animals.

Staff observed an accumulation of manure, soil, and hay several inches deep in the corrals north and east of the milk barn including just upgradient of the wastewater tank. There were many puddles of water throughout this area.

Staff followed a flexible black pipe that conveys liquids from the milk barn and north corral to the concrete wastewater tank. The pipe discharges into the wastewater tank. However, staff also observed liquid flowing along the south side of the wastewater tank and into the grassy area below the wastewater tank. This liquid may have been coming from the upgradient corrals due to recent rains or from the milk barn discharge line.

There were many straw wattles throughout the pasture between the wastewater tank/barn area and the Estero de San Antonio Creek (see photographs at the end of this report). Staff had not observed these wattles during the previous inspection in July 2020. The wattles are an improvement for water quality protection and will serve to temporarily hold back wastes from entering the creek during small rain events. Staff observed no liquids flowing to the creek.

Staff determined that the outside of the wastewater tank is 56 inches tall above the ground level as measured on the east side of the tank. The absolute height of the tank is unknown since some of the tank may be below ground level. Staff lifted the rubber mat at the top of the tank to view and photograph the wastewater level in the tank. The wastewater level was about 38 inches from the top of the tank. However, the black flexible pipe enters the tank from the west through an opening that is about 20 inches (at its lowest height) from the top of the tank. Effectively, this means that there was only about 18 inches of freeboard in the tank, because if wastewater were to reach the level of the hole where the flexible pipe enters the tank, it would overflow from this opening.

IV. Recommendations

Regional Water Board staff offer the following recommendations for Ramini Mozzarella to meet the GWDR:

- A. The dairy should submit a complete Water Quality Plan (GWDR Appendix 1) immediately including the following information to explain how and when the dairy will resolve discharges and potential discharges to surface water:
 1. A description of proposed regular maintenance to be conducted on pollution control systems at the facility to protect surface water and groundwater quality, including a description of temporary and permanent erosion control measures to be used and deployed on the property.
 2. A plan and schedule to conduct regular maintenance of the wastewater tank, including pump out as needed to ensure adequate freeboard will be maintained during precipitation events. The wastewater tank must have adequate freeboard to fully contain daily milk barn wash water and any rainwater mixed with manure, feed, and soil, to prevent discharges to Estero De San Antonio Creek.
 3. A plan and schedule to scrape corrals and holding pens that drain toward Estero De San Antonio Creek regularly, and as needed prior to rain events. Include information about designated locations where scraped manure will be taken, and proposed methods/measures to stabilize and/or otherwise prevent scraped manure from causing adverse impacts to receiving waters. Note that manure must either be removed from the dairy, spread out evenly on pastures during the growing season, or placed in a location where the manure cannot discharge to the creek or percolate through the soil to the groundwater. Manure piles should be covered during rain events to prevent discharge to surface water and groundwater.
- B. Prepare and submit a complete Riparian Management Plan (GWDR Appendix 1), designed to ensure that riparian areas will be managed to protect water quality. Management measures should include, but are not necessarily limited to allowing natural growth, maintaining sufficient vegetation to prevent erosion, maintaining woody species, excluding animals from surface water or perennial streams, preventing animals from disturbing streambanks, and grazing only when it does not result in waste discharge (soil or manure) to the stream. The Riparian Management Plan must describe how the dairy operator will improve or maintain riparian vegetation to prevent discharges and potential discharges of waste and sediment to surface waters. The plan must include a schedule for implementing temporary and permanent erosion control measures.

Photo Log



Ramini Mozzarella milk barn



Sampling site 1 Estero de San Antonio Creek downstream of driveway culverts



Estero de San Antonio Creek outlets of two 4' diameter driveway culverts



Sampling Site 2 Estero de San Antonio 6' diameter culvert inlet at Gericke Road. Upstream of dairy.



General dairy production area (horizon). Gericke Roadside pasture (foreground).



Dairy (horizon-left). North pastures (foreground and horizon-right).



Dairy (horizon-left) and north pastures.



Water buffalo in corral northwest of milk barn.



Dirt road northwest of milk barn.



Holding pen east of milk barn



Holding pens east of milk barn



Holding pen east of milk barn



Hay barn north of milk barn. Corral in foreground.



Corral (center) north of Milk Barn (left). Hay barn (right). Concrete gully along milk barn conveys waste to tank.



Flexible pipe conveys milk barn wash water and some corral runoff to waste tank.



Flexible pipe outlet in west side of waste tank inlet. Note runoff on right.



View of south side of waste tank. Note waste runoff accumulation.



Liquid level inside waste tank showed about 18 inches of freeboard before reaching level of flexible pipe inlet opening



South side of waste tank with straw wattle below



Straw wattles in pasture below and southeast of waste tank and holding pens.



Looking further south from last picture.



Straw wattles in pasture below and northeast of waste tank.



Straw wattles in pasture north of waste tank and below hay barn (left)



Straw wattles in pasture below hay barn