



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(pursuant to NAC 445A.236)

Permittee: Rockview Farms, Inc.
7011 Stewart & Gray Road
Downey, CA 90241-4347

Permit: NV0023027 – Renewal

Location: Ponderosa Dairy
900 Mecca Road
11 miles south of the junction of US Highway 95 and State Highway 373
Amargosa Valley, Nye County, Nevada 89020

Township 17 S, Range 49 E, Portions of Sections 9, 10 & 15 MDB&M
Dairy 1 - Latitude: 36° 29' 41.3" N; Longitude: 116° 27' 20.2" W
Dairy 2 - Latitude: 36° 29' 42.0" N; Longitude: 116° 26' 01.0" W

Dairy 3 - Latitude: 36° 29' 39.0" N; Longitude: 116° 27' 41.0" W

Flow: 1.000 million gallons per day (MGD) – 7-day Average

General: The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit renewal, NV0023027, to continue to discharge dairy manure and process wastewater to groundwaters and surface waters of the State from the Ponderosa Dairy. The dairy began operation in 1993. This permit was originally issued June 16, 2000 and has been modified several times including a February 28, 2002 major modification that increased the total permitted flow from 0.350 million gallons per day (MGD) to 0.625 MGD. As part of this permit renewal, the Permittee has proposed to further increase the permitted discharge to 1.000 MGD.

The facility is defined as a concentrated animal feeding operation (CAFO) because the dairy has been designed to confine at least 700 mature dairy cows for 30 days or more in a 12-month period in an area devoid of vegetation during the normal growing season. As a CAFO, the facility is required to contain all manure and process wastewater from the production area, except overflow resulting from a storm greater than the 25-year, 24-hour storm event, 1.9 inches. To qualify for this exemption, the production area must be properly designed, constructed, operated, and maintained to contain manure, process wastewater, direct precipitation, and the runoff from the design storm event. CAFOs that land apply manure and/or process wastewater are required to comply with a nutrient management plan (NMP). CAFOs are regulated based primarily on nutrient application rates, NMP compliance, not the number of animals at the facility. Runoff from land application areas where manure and/or process wastewater have been applied in accordance with an NMP is not regulated.

The facility consists of three adjacent dairy facilities, Dairy 1, Dairy 2, and Dairy 3, owned and operated by the Permittee. Each dairy milks twice per day. Process wastewater, approximately 301.13 million gallons (MG) per year, generated at the facility includes liquid manure, cow wash water, barn wash water, and water from washing the lines and milk storage tanks. All three dairies have earthen corrals with concrete feed alleys; animal bedding is not utilized. Based on data from the Natural Resource Conservation Service (NRCS) NV - Dairy Planning Data Sheet, 8,200 milkers, 900 dry cows, 600 heifers, 1,400 pounds average cow weight, 600 pounds average heifer weight, 80 pounds of manure per day per 1,000 pounds for milkers, 82 pounds per day for dry cows, 85 pounds of manure per day per 1,000 pounds for

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heifers and 365 days per year, the facility generates approximately 190,000 tons of wet manure per year. Per page 4 of the December 2005 Comprehensive Nutrient Management Plan (CNMP), Summary of Plan, the facility includes 220.53 acre-feet, 71.87 MG, of process wastewater storage capacity, operational and non-operational. Microbes are added to all three pond systems to facilitate solids decomposition and to reduce odors. The ponds are also aerated for the same purpose.

Dairy 1 and Dairy 2 are approximately the same size in terms of cows housed, land, and corral areas, Dairy 1 – 64.5 acres, 2,300 milking cows, 200 dry cows, 250 heifers, Dairy 2 – 69.9 acres, 2,700 milking cows, 100 dry cows, 150 heifers, and are operated in a similar manner. The two dairies are proposed to generate a monthly average total flow of approximately 0.560 MGD gallons of process wastewater per day, currently permitted at 0.350 MGD. Each dairy has a 0.08-MG concrete sump that receives process wastewater from the milking barns. The process wastewater is pumped from the sumps to the north end of the corrals to flush the concrete feed lanes. The flush water and any runoff from the corrals due to precipitation is collected in 0.10 MG concrete sumps at south end of the corrals. The wastewater is pumped from these sumps through static screen separators and sand separators prior to discharge to a series of holding/settling ponds and lagoons for Dairy 1 and a single holding pond for Dairy 2.

Operation of Dairy 3 is essentially the same as Dairies 1 and 2, except the feed lanes at Dairy 3 are not flushed. The Dairy 3 lot size is 69.1 acres with 3,200 milking cows, 600 dry cows, and no heifers. Dairy 3 has a 0.060 MG concrete sump that receives process wastewater from the barn. This water is pumped through static and sand separators prior to discharge to the pond system.

Dairy 1 has two lagoons, 3.49 MG total capacity, and eight evaporation/settling ponds, 11.30 MG total capacity per page 4 of the CNMP Summary of Plan. These compacted soil ponds are used on a rotating basis. Only three or four ponds are used at a time; each of the ponds is equipped with overflow pipes to stabilize fluid levels and to maintain a minimum of two feet of freeboard. Process wastewater from the final pond, the 5.08 MG Pond 7, is used for sprinkler and flood irrigation on the land application areas. Due to the lack of pond liner documentation, the groundwater at this pond system is monitored for process wastewater leakage. Monitoring well MW-1, completed in April 2002 to 95 feet below ground surface (bgs), is located south of the Dairy 1 pond system.

Due to increasing nitrate concentrations in the groundwater at monitoring well MW-2, the three Dairy 2 compacted soil lagoons, 14.5 MG total capacity, were replaced in 2005 by a 10.0 MG, with a 2.75-foot freeboard, 60-mil HDPE lined pond. MW-2, total depth 100 feet bgs, was located south of the original Dairy 2 pond system and reportedly has been abandoned as required by Part I.A.26. of the permit. Process wastewater can be routed from the Dairy 2 lagoon system to the Dairy 1 lagoon system. Process wastewater from Dairies 1 and 2 can be pumped to the 19.87 MG unlined catchment basin for emergency storage.

Construction of Dairy 3 was completed in February 2003. The Dairy 3 pond system consists of two settling lagoons and two large storage ponds with a total operating capacity of 48.79 MG and three feet of freeboard; the 60-mil HDPE lined North First-stage Lagoon, 2.36 MG; and East Holding Pond, 22.77 MG; and the unlined South First-stage Lagoon, 2.89 MG; and West Holding Pond, 20.77 MG. The unlined ponds provide storage capacity above the minimum 25-year, 24-hour storm event requirement. Monitoring wells are not required for pond systems constructed to current lined pond standards. The Dairy 3 process wastewater system is connected to the Dairies 1 and 2 process wastewater system by a pipeline.

Dairy 3 was constructed above the preconstruction grade to minimize the effects of stormwater run-on. Stormwater runoff from the Dairy 3 corrals is directed to one of four concrete sumps located south of the corrals. This process wastewater is pumped with 350-gallon per minute pumps to the North Lagoon. In the event that the pumps cannot keep up with stormwater runoff, the sumps are equipped with overflow pipelines that, when opened, direct stormwater to the West Holding Pond. Due to lack of a liner, the West Holding Pond must be evacuated within 72 hours of receiving process wastewater.

The separated solids, manure removed from the corrals, and solids removed during pond cleaning are composted at one of two composting facilities in accordance with the comprehensive nutrient management plan. The compost facilities must be constructed to NRCS, Conservation Practice Standard Code 317, Composting Facility, specifications and are included in the NV0023027 production area. The Permittee may compost manure

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transferred from other permitted CAFOs including, but not limited to, Beverly Hills Dairy, NEV2006504, at either compost facility.

The large compost facility, 30 acres, is permitted by the Bureau of Waste Management (BWM), SW289REV01, to accept 115,000 cubic yards (yd³) of compostable feedstock per year and to store a maximum of 27,500 yd³ of intermediate product and 13,750 yd³ of finished product. This facility produces approximately 14,000 tons of compost per year. The large compost facility is reportedly constructed of compacted type 2 gravel with a north to south grade of approximately 0.4 percent and a 4-foot tall berm at the south end but design drawings have not been submitted to the Division. The large compost facility is operated as a windrow operation with multiple windrows of approximately 500 feet long, fifteen feet wide by six feet high. This composting process takes three to four months with the distribution of the finished product regulated by BWM. This compost is transferred off-site for commercial distribution.

According to the Animal Mortality Management Plan (AMMP), the area of the small compost facility is 10 acres. The small compost facility is also reportedly constructed of compacted type 2 gravel and is relatively flat but design drawings have not been submitted to the Division. The small compost facility produces approximately 800 tons of compost per year. The windrows of the small compost facility are limited to five feet high. Due to the lack of turning, the material at the small facility is composted for approximately one year. This compost is not permitted for distribution to the public and currently may only be used at the facility and Beverly Hills Dairy. All compost land applied at the facility or Beverly Hills Dairy will be accounted for in a CNMP or an NMP.

The CNMP was developed based on a population of 8,200 milking cows, 900 dry cows, and 400 heifers and 865 acres of land application area. The NRCS Environmental Assessment and Resource Inventory Checklist states that organic farming will be employed with no pesticide use. The stated goals of the CNMP are to eliminate the need for chemical fertilizers, preclude discharge of pollutants from the 25-year, 24-hour storm event, to minimize groundwater contamination, and to recycle the waste produced through soil and crops to the fullest extent possible. The approved CNMP, including 2007 amendments, exceeds the NMP requirements and is available for public review at the Division's Carson City office. As stated in the CNMP, nutrient management must be revised annually as a minimum. Changes to cropping practices, nutrient application rates, etc. will be authorized by Division approval of revisions to the CNMP.

As part of the CNMP, the Permittee determined that seven fields have a low phosphorus hazard class and the other four fields have a medium phosphorus hazard class, therefore, all nutrient application is based on nitrogen. This analysis was based on the Natural Resources Conservation Service (NRCS), New Mexico Phosphorus Index (NMPI); future

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phosphorus determinations shall be based on the Nevada Phosphorus Index that was adapted by NRCS from the NMPI in 2006. The annual nitrogen application rate from all sources is limited to the annual crop nitrogen uptake rate.

The following table summarizes the Permittee's proposed crops for the five-year term of the permit:

Field	Area (acres)	Year				
		2007	2008	2009	2010	2011
1	30	a.	a.	a.	a.	a.
2	20	a.	a.	a.	a.	a.
3	120	a.	a.	a.	a.	a.
4	40	a.	a.	a.	a.	a.
5	120	b. or d.	e.	e.	e.	e.
6	85	b.	b.	b.	b.	b.
12	120	a.	a.	a.	a.	a.
15	40	c.	d.	c.	c.	c.
17	125	a.	a.	a.	a.	a.
18	125	a. or b.				
21	40	b.	b.	b.	b.	b.

- a. Pasture Grass-Summer crop/Rye-Winter crop
- b. Winter Forage/Summer fallow
- c. Alfalfa
- d. Alfalfa-Sordan/ Winter Forage-Alfalfa
- e. Winter Forage or Alfalfa

The following table summarizes the Permittee's proposed nutrient application:

Field	Area (acres)	Crop	Design Yield (tons/acre)	P Hazard Class	Liquid Applied (MG)	Nitrogen Applied (lb/A)	Irrigation Method	Other N Sources	Application Timing
1	30	a.	Grazed	Low	15.07	507	Flood	Manure ³	S/W
2	20	a.	Grazed	Low	10.05	507	Flood	Manure ³	S/W
3	120 ¹	a.	Grazed	Medium	59.95	504	CP	Manure ³	S/W
4	40	a.	Grazed	Medium	15.53	507	Flood	Manure ³	S/W
5	120 ¹	b. d. e.	5 - 6 9 - 10 5 - 6 or 9	Low	22.64 63.63 22.64 or 63.63	198 536 198 or 536	CP	Compost ⁴	W S/W W or S
6	85	b.	5 - 6	Low	16.03	198	CP	Compost ⁴	W
12	120	a.	Grazed	Medium	59.62	504	CP	Manure	S/W
15	40	c. d.	9 9 - 10	Medium	21.18 21.18	535 535	Flood	None	S S/W
17	125 ²	a.	Grazed	Low	62.11	503	CP	Manure	S/W
18	125	a. b.	Grazed 5 - 6	Low	63.46 25.21	503 211	CP	Manure Compost ⁴	S/W W
21	40	b.	5 - 6	Low	4.34	150	Flood	Compost ⁴	W

Notes:

- ¹: Listed as 110 acres on Ponderosa Dairy Site Plan Runon/Runoff Control of CNMP.
- ²: Area may have to be reduced due to Barn 2 Lagoon construction as shown in 08/03/05 Construction Plan Map and 02/15/05 Telesto Nevada, LLC Technical Memorandum, Figure 1, Barn 2 Lagoon Location Map.
- ³: Manure from grazing animals.

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4: Compost from the dead animal compost facility at 2 tons per acre.
 CP: Center pivot. lb/A: Pounds per acre.
 MG: Million gallons. ac: Acre.
 S: Summer. W: Winter.

The nitrogen application rates are based on the agronomic rate using nutrient recommendations from NRCS Conservation Practice Standard Code 590, Nutrient Management. The CNMP is based on five years of cropping and may be extended beyond the initial five years, provided that the underlying conditions, phosphorus index, crop yields, etc., have remained constant.

There are three (3) dairy water supply wells and six (6) irrigation wells. The dairy wells are used to supply all of the water that becomes effluent. Backflow prevention devices have been installed on all wells with process wastewater connections. These mechanical devices are inspected and certified annually by an independent contractor.

The AMMP specifies that all dead animals, estimated to be 350 cows per year, will be composted on-site and the finished compost is used on-site on fields producing crops for animal consumption, not sold to third parties. The small composting facility is reportedly 2 to 2.5 miles from the nearest non-dairy residence.

The CNMP also includes a Safety and Emergency Action Plan.

Receiving Water Characteristics: The Permittee uses a combination of evaporation and land application to dispose the process wastewater generated at the facility. The Permittee is discharging to groundwaters, may discharge to surface waters of the State and is requesting authorization to increase the discharge volume. The Permittee is allowed to discharge to surface waters only during storms greater than the 25-year, 24-hour storm event or after a series of chronic events that exceed the total volume of the 25-year, 24-hour storm event. Any surface water discharge would be to an unnamed dry wash tributary to the ephemeral Amargosa River. As an ephemeral water body, only the NAC 445A.118, Water quality criteria for ammonia, and NAC 445A.121, Standards applicable to all surface waters, apply to any surface water discharge from the facility.

The Permittee reports that the depth to groundwater at the Dairy ranges from 81 feet below ground surface (bgs) to 95 feet bgs in the CNMP Inventory Data Sheet. Based on limited September 2001 data from three wells, the groundwater beneath the Dairy is of good quality with a total dissolved solids concentration ranging from 316 mg/L to 328 mg/L, a chloride concentration ranging from 11 mg/L to 14 mg/L, a nitrate as nitrogen

concentration ranging from 1.29 mg/L to 1.57 mg/L, and a total nitrogen as nitrogen concentration ranging from 1.79 mg/L to 2.07 mg/L.

The monitoring well data below is from the April 2002 through June 2004 time period:

Parameter	MW-1			MW-2		
	Average	Maximum	Minimum	Average	Maximum	Minimum
Nitrate -N (mg/L)	2.3	7.7	ND	7.0	11.0	2.0
Total Nitrogen-N (mg/L)	3.1	8.54	1.7	7.8	11.98	4.5
TDS (mg/L)	395	732	266	1244	2010	1030
Chloride (mg/L)	46	135	14	231	270	95
pH (SU)	7.95	8.32	7.17	7.46	8.11	7.13
Depth to GW (feet)	85.4	88.0	81.0	89.1	98.8	85.0

The Permittee has identified 21 wells within a 1-mile radius of the property boundary and 12 wells, not including the two monitoring wells, within the property boundary.

Compliance History: The facility has an extensive history of compliance issues due primarily to elevated nitrate concentrations at the Dairy 2 pond system, MW-2, and to exceeding the flow limitations at Dairies 1 & 2 and Dairy 3. Below is a compliance summary from the first quarter of 2004 through the second quarter of 2006, the most recent data available, from the Bureau's Compliance Database:

<u>Year</u>	<u>Quarter</u>	<u>Location</u>	<u>Parameter</u>	<u>Reported Value/Permit Limitation</u>
2004	Q1	Dairies 1 & 2	Flow	0.491/0.350 MGD
		Dairy 3	Flow	0.334/0.275 MGD
		Nitrate	MW-2	9.0 mg/L/7.0, 9.0, 10.0
		TKN	MW -1 & 2	Results not reported

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