NMP Technical Review
New Mexico General Permit No. NMG010000

Facility Name: Vaz Dairy
3835 East McGaffey Road
Roswell, New Mexico 88203

Permit No.: NMG010069 (Previously permitted as NMU001115, NPDES ID No. NMR15EM70)

Type (ex: dairy, non-dairy cattle, etc): Dairy Cattle (Large CAFO)

County: Chavez

If located in Bernalillo, Chavez, Eddy, Sandoval, San Juan, or Valencia county, is EAP and metals testing included in NMP in accordance with Part III.D.8.b.

All CAFOs in the counties of Bernalillo, Chavez, Eddy, Sandoval, San Juan and Valencia must develop and implement soil sampling of land application sites once every five (5) years for the metals selenium, copper and zinc. The sampling may be performed concurrently with required phosphorus sampling.

Previously permitted: Yes

Noteworthy enforcement action: No
If no, previous permit no.: NMU001115 - NPDES Minor Storm Water Construction General Permit ID No. NMR15EM70

Receiving stream: Berrendo Creek – Rio Hondo 12 Digit WBD HUV No. 130600080705
Pecos River

Impaired waterbody: N/A

If so, for what pollutant(s): N/A

EPA approved or established TMDL: No (NMED TMDL webpage: https://www.env.nm.gov/swqb/TMDL/List/)

Antidegradation: No
Stream listed as Tier 2/2.5: No
Stream listed as Tier 3: No

NMP developed by certified specialist: Yes
This Nutrient Management Plan (NMP) has been prepared by Mary Barron, who is a Certified Conservation Planner certified by the United States Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS). Attachment 1 contains an email from Daniel K. Bloedel, Resource Conservationist, USDA-NRCS, State of New Mexico, attesting to this certification.

NMP elements (other than land application and adequate storage) technically complete: No

Employee Training: Employees will be trained each year on the requirements of this Nutrient Management Plan. Attachment 11 contains the training outline and the log of employees attending the training.
Records of the training outline and log will be kept for a minimum of five years.

Additional comments: No

NOI/NMP Administrative Review Check List
New Mexico General Permit No. NMG010000

Facility Name: Vaz Dairy
Permit Number: NMG010069

NOI (Form 2B) administratively complete: Yes
NMP included: Yes
NMP administratively complete: Yes

FEDERAL REGULATIONS	LOCATION IN NMP / COMMENTS
40 CFR Part 122.42(e)(1)(i): Ensure adequate storage of manure, litter, and process wastewater	In its entirety, RR-2 can contain 60 days of barn wash water flow at100,000 GPD maximum permitted allowable flow after two (2) feet of freeboard. The SWB can contain runoff from a 24- hr/25-year storm from the entire 54-acre process area after two (2) feet of freeboard. In the Roswell, New Mexico area, a 24-hr/25-yr storm is four (4) inches of rain falling within a 24-hour period. At all times, the RR-2 is maintained at a maximum operating level of 7.5 feet to 8.5 feet to provide for a 24-hr/25-year storm. The maximum operating level of 7.5 feet allows room in the RR-2 for 60 days of waste water storage plus a 24-hr/25-year storm plus two (2) feet of freeboard. The maximum operating level of 8.5 feet allows room in the RR-2 for the storm plus 60 days of waste water storage plus one (1) foot of freeboard.
40 CFR Part 122.42(e)(1)(ii): Mortality management.	Properly dispose of dead cows and any other animals within three (3) days of death, and Locate dead cows such that pathogens do not reach Retention Facilities. Added guidance on how to "properly dispose of dead cows". And added language stating that: "Mortalities must not be disposed of in any liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities. Mortalities must be handled in such a way as to prevent the discharge of pollutants to surface water, unless alternative technologies pursuant to 40 CFR 412.31(a)(2) and approved by the Director are designed to handle Mortalities."
40 CFR Part 122.42(e)(1)(iii): clean water diversion.	The NMP does not allow Stormwater Run-on.
40 CFR Part 122.42(e)(1)(iv): Prevent direct contact of animals with water of US.	Animals do not have contact with Water of US.
40 CFR Part 122.42(e)(1)(v): Chemical handling.	The dairy prevents the discharge of pesticides, fuel, and other toxic pollutants into RR-2 and the SWB by (1) using only pesticide sprays and storing liquid pesticide, fuels, and other toxic materials in a secure area, and (2) inspecting the areas where these pollutants are stored every two weeks. Attachment 9**,** Vaz Dairy Potential Pollution Sources Inspection and Maintenance, contains the preventive maintenance plan for these areas.
40 CFR Part 122.42.(e)(1)(vi): conservation practices, including buffers to control runoff	Buffers are being utilized.
40 CFR Part 412.4(c)(5): Setback requirements for down-gradient	Buffers are being implemented at this facility.

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surface waters, open tile line intake structure, sinkhole, agricultural well head, or other conduit to surface water: 100 ft setback, 35 ft vegetative buffer, or compliance alternative.	
40 CFR Part 122.42(e)(1)(vii): protocols for testing of manure, soil, litter, or process wastewaters.	Every three months, the dairy collects and analyzes effluent from RR-2 and ground water from four monitor wells (MW), MW-3, MW-3A, MW-4, and MW-5, to determine whether contaminants from effluent in RR-2 or on the crop fields are affecting the ground water. Every year, the dairy collects and analyzes fresh water from the irrigation well used to irrigate the crops. Manure generated by the dairy (pen manure), and solids generated by the solids separator SEP and by periodic cleaning of RR-2 and the TANK (separator manure), are sold or given away to offsite third parties. The dairy analyzes pen and separator manure at least once a year. Dairy analyzes pen and separator manure at least annually. Soil is analyzed from each field once per year after a harvest to verify that appropriate nitrogen and phosphorus have been applied to the fields.
40 CFR Part 412.4(c)(2): NMP must incorporate determination of application rates	This NMP is based on the "Linear Approach." There are two crop fields: Field 1 with 125 acres and Field 2 with 35 acres. Both fields are nitrogen based. The maximum yearly amount of nitrogen which may be added to Field 1 is 241 pounds per acre (lb/Ac). The maximum yearly amount of nitrogen which may be added to Field 2 is 257 lb/Ac. After each crop's harvest, an NRCS 590 "actual" jobsheet will be developed with the actual amount of waste water (effluent) and fresh water applied, along with the average nitrogen concentration of both waters over the crop's growing period. This "actual" NRCS 590 jobsheet will show the actual lbs/Ac of nitrogen applied to the crop.
40 CFR Part 122.42(e)(1)(viii): protocols for land application.	Waste water (effluent) from RR-2 irrigates up to 160 acres of crop land comprising Field 1 with 125 acres and Field 2 with 35 acres. A pivot sprinkler irrigates Fields 1 and 2. The dairy mixes irrigation water with effluent in the pipeline, using double chemigation valves to prevent backflow of effluent into the irrigation wells. The dairy applies effluent and fresh water to each crop on each field in accordance with the New Mexico NRCS Conservation Practice Standard 590 (Nutrient Management). Attachment 2 contains the NRCS 590 jobsheet for each field and crop included in this plan. Attachment 3 contains the New Mexico Phosphorous Index (New Mexico NRCS Agronomy Technical Note 57) for each field, showing that both fields are nitrogen based. In addition, the sides of Fields1and 2 that face the Hagerman Canal are bermed. These berms are site-specific conservation practices per the Permit Part II.4.d. Attachment 4 contains the calculations of effluent and fresh water applied to the fields, along with analyses of effluent and fresh water on which the calculations are based. The values of effluent total Kjeldahl nitrogen (TKN) and orthophosphate (PO4) used in the NRCS 590 jobsheet have been averaged between July 2009 and October 2016 for both summer and winter months.

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	Attachment 5 contains the New Mexico State University (NMSU) Irrigation Water Analysis Results and Interpretation sheet (Water Interpretation Workbook). The values in this workbook are those of the effluent and fresh water mix as shown in the calculations in Attachment 4. Based on these values, the workbook the workbook determines the total amount of irrigation water required by a given crop. Attachment 6 contains the NRCS Ag61 Irrigated Leaching Index and Salt Management Tool which shows the times and application rates of effluent plus fresh water on the crop fields. The Ag61 sheet also gives the amount of water needed by the crop. The amount of total irrigation water used in the NRCS 590 jobsheet is the higher of the two. The water used for irrigation, both effluent and fresh, has a high electrical conductivity; therefore, the dairy grows salt-resistant varieties of crops. Attachment 7 contains the most recent soil analyses, upon which the NRCS 590 sheets in Attachment 1 were based. Attachment 8 contains the soil maps and soil properties of the crop fields and shows that neither field has highly erodible soil.
40 CFR Part 412.4(c)(4): NMP must incorporate inspection of land application for leaks	Facility has a form for inspection and maintenance which includes: The barn, 55-gal drums used for oil and for used oil filter storage; one skid mounted 1,000-gal diesel ST; one skid-mounted, 1,000 gal off-road diesel AST; one skid-mounted, 500-gal AST and one trailer mounted 50 gal off-road diesel AST. This facility will visually inspect all water lines once each day and repair if necessary. Once a week, record that daily inspections have been completed for the past week and record any repairs. And will visually inspect piping once per day. Once a week, record that daily inspections for the past week have been completed and record any repairs. Check piping for leaks once per quarter or between crop rotations, whichever comes first. If leaking, repair the leak(s). Record the date of inspection and any repairs. All inspection procedures are in accordance with the Permit Part IV.C, Table IV-A.
40 CFR Part 122.42(e)(1)(ix): record keeping.	Record keeping requirements are included. Attachment 12, Inspection, Maintenance, and Repair Logs, contains inspection, maintenance, and repair logs for all inspected facilities. These records are in accordance with the Permit Part VI, Paragraphs C.2 through C.5. These records will be kept on site for a minimum of five years.
Legible site map: of the production area (including, at a minimum, the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment area), and the land application area. The map must also include flow direction, an outline of drainage areas to the process wastewater retention or control structures, structural controls, and surface water bodies.	Soil Map included Figure 1, Site Map, is a topographic site map developed in accordance with the Permit Part III, Paragraph A.3.h. Figure 2, Potentiometric Ground Water Surface Map, is a potentiometric ground water surface map showing the direction of ground water flow.
Signature. The NMP shall be signed by the owner/operator or other signatory authority in	Owner/Operator signature is included

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accordance with Part VI.E (Signatory Requirements) of this permit.	