

**NEW GROUND WATER DISCHARGE PERMIT
NEW DAIRY FACILITY with a LAND APPLICATION AREA
John Visser Dairy 2, DP-1587**

I. INTRODUCTION AND SUMMARY

The New Mexico Environment Department (NMED) issues this Discharge Permit (Discharge Permit), DP-1587, to John Visser (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978, §§ 74-6-1 through 74-6-17, and the New Mexico Water Quality Control Commission (WQCC) Regulations, 20.6.2 and 20.6.6 NMAC.

NMED's purpose in issuing this Discharge Permit is to control the discharge of water contaminants from John Visser Dairy 2 (dairy facility) for the protection of ground water and those segments of surface water gaining from ground water inflow, for present and potential future use as domestic and agricultural water supply and other uses, and to protect public health.

The activities which produce the discharge, the location of the discharge, and the quantity, quality and flow characteristics of the discharge are briefly described as follows:

A maximum discharge volume of 56,175 gallons per day (gpd) of wastewater may be discharged from the production area. Wastewater will be discharged from the production area through a manure solids settling separator to a two-celled synthetically lined combination wastewater/stormwater impoundment system for storage. Wastewater is mixed with irrigation water and land applied by center-pivot irrigation to 227 acres of irrigated cropland under cultivation. The discharge contains water contaminants or toxic pollutants which may be elevated above the standards of Section 20.6.2.3103 NMAC.

The dairy facility is located approximately 2 miles east of Clovis, in Sections 23 and 24, T02N, R36E, Curry County. Ground water most likely to be affected is at a depth of approximately 291 feet and had a pre-discharge total dissolved solids concentration of approximately 350 milligrams per liter.

The application consists of the materials submitted by the permittee dated March 30, 2006 and materials contained in the administrative record associated with issuance of this Discharge Permit. The discharge shall be managed in accordance with all applicable requirements of the Dairy Rule (20.6.6 NMAC) and this Discharge Permit.

Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, WQCC Regulations, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

The following acronyms and abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation	Abbreviation	Explanation
Cl	chloride	NO ₃ -N	nitrate-nitrogen
gpd	gallons per day	S	Sulfur
LADS	land application data sheet(s)	SO ₄	Sulfate

Abbreviation	Explanation	Abbreviation	Explanation
mg/L	milligrams per liter	TDS	total dissolved solids
NMAC	New Mexico Administrative Code	TKN	total Kjeldahl nitrogen
NMED	New Mexico Environment Department	WQA	New Mexico Water Quality Act
NMP	Nutrient management plan	WQCC	Water Quality Control Commission
NMSA	New Mexico Statutes Annotated		

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

1. The permittee submitted an application for discharge from a facility that meets the definition of “dairy facility” and is subject to the Dairy Rule (20.6.6 NMAC). As of the effective date of this Discharge Permit, this dairy facility meets the definition of “new dairy facility”; the production area and associated elements of this dairy facility have not been constructed.
2. Effluent or leachate discharged from the dairy facility may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.
3. Effluent or leachate discharged from the dairy facility may move into ground water of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter or less of total dissolved solids within the meaning of Subsection A of 20.6.2.3101 NMAC.
4. The discharge from the dairy facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.
5. This Discharge Permit contains requirements associated with the following potential contaminant sources as identified in the application and the administrative record as of the effective date of this Discharge Permit:
 - a) Two wastewater combination wastewater/stormwater impoundments.
 - b) A 227-acre land application area consisting of two fields.

III. APPLICABLE RULES

Sections 20.6.2.3000 through 20.6.2.3114 NMAC and Part 20.6.6 NMAC (Dairy Rule) apply to discharges specific to dairy facilities and their operations.

IV. DISCHARGE PERMIT REQUIREMENTS

The permittee is authorized to discharge water contaminants pursuant to this Discharge Permit which contains requirements authorized or specified by the Dairy Rule. The permittee shall comply with the Dairy Rule and this Discharge Permit, which are enforceable by NMED. The permittee is authorized to discharge water contaminants subject to the following requirements:

AUTHORIZATION TO DISCHARGE

1. The permittee is authorized to discharge up to 56,175 gpd of wastewater from the production area. Wastewater flows to a solids settling separator to a two-celled synthetically lined combination wastewater and stormwater impoundment system for storage. Wastewater will be land applied by center pivot irrigation to up to 227 acres of irrigated cropland under cultivation.
2. The permittee is authorized to use the following impoundments for the following purposes in accordance with Subsection B of 20.6.6.20 NMAC.
 - a) **PWRS/RCS 1** - authorized to receive wastewater and stormwater for storage prior to land application. This impoundment system is proposed for construction. Wastewater from the PWRS/RCS 1 flows into the PWRS/RCS 2 for storage prior to land application.
 - b) **PWRS/RCS 2** - authorized to receive wastewater and stormwater for storage prior to land application. This impoundment system is proposed for construction. Wastewater from the PWRS/RCS 1 flows into the PWRS/RCS 2 for storage prior to land application.
3. The permittee is authorized to apply wastewater and stormwater to all fields within the land application area in accordance with Subsections B, C and I of 20.6.6.21 NMAC. The land application area consists of the following fields for a total land application area of 227 acres.
 - a) **LMU #1** – consists of 107 acres; applied by center pivot. This field has not received wastewater or stormwater as of the effective date of this Discharge Permit.
 - b) **LMU #2** – consists of 120 acres; applied by center pivot. This field has not received wastewater or stormwater as of the effective date of this Discharge Permit.

DAIRY RULE TRANSITION REQUIREMENTS

4. The permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit all the necessary information to comply with Sections 20.6.6.10 through 20.6.6.13 NMAC, in accordance with Subsection D of 20.6.6.35 NMAC. The permittee shall submit the necessary information by completing the application form for New Discharge Permit located at the following address:
- <http://www.nmenv.state.nm.us/gwb/NMED-GWQB-dairies.htm>

The following sections of the application form for renewal and/or modification shall be completed, and the form shall be signed by the permittee and notarized prior to submission.

- a) Introduction – *Applicant’s Signature and Notary Certification only*
- b) Part I.A.3
- c) Part II. A through F
- d) Part IV.B

ENGINEERING AND SURVEYING REQUIREMENTS

5. The permittee shall comply with the requirements of Section 20.6.6.17 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.17 NMAC.

OPERATIONAL REQUIREMENTS

6. The permittee shall comply with the requirements of Sections 20.6.6.20 and 20.6.6.21 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.20 and 20.6.6.21 NMAC.
7. The permittee shall provide written notice to NMED regarding the *initial placement* of lactating cows and/or the status of wastewater discharges at the facility in accordance with Subsection A of 20.6.6.20 NMAC (summarized in the table below).

Activity	Notification of Estimated Date	Verification of Actual Date
Placement of Lactating Cows	Minimum 30 days prior to placement	Within 30 days of actual placement
Commencement of wastewater discharge	Minimum 30 days prior to commencement of initial discharge	Within 30 days of actual initial discharge commencement

8. Following initial discharge from the facility, the permittee shall provide written notice to NMED regarding *any change to the presence* of lactating cows and/or the status of

wastewater discharges at the facility in accordance with Subsection A of 20.6.6.20 NMAC (summarized in the table below).

Activity	Notification of Estimated Date	Verification of Actual Date
Removal of Lactating Cows	Not required	Within 30 days of removal
Reintroduction of Lactating Cows	Not required	Within 30 days of reintroduction
Cessation of wastewater discharge	Not required	Within 30 days of cessation of discharge
Recommencement of Discharge	Minimum 30 days prior to recommencement	Within 30 days of recommencement

9. The permittee shall install and use the following flow meters in accordance with Subsections J, K, L and N of 20.6.6.20 NMAC, and Subsections G and H of 20.6.6.21 NMAC.
 - a) **Parlor Meter** – to be located on the discharge line to measure the volume of wastewater discharged from the production area to the wastewater/stormwater impoundment system.
 - b) **LMU Meter** – to be located on the pipeline to measure the volume of wastewater and stormwater discharged from the wastewater/stormwater impoundment system to each field in the land application area.

Confirmation of flow meter installation shall be completed in accordance with Subsection J of 20.6.6.20 NMAC.

10. The permittee is authorized, pursuant to Subsection S of 20.6.6.20 NMAC, to land apply manure solids and composted material to the land application area. Manure solids and composted material shall be applied in accordance with the Nutrient Management Plan (NMP) required by Subsection I of 20.6.6.21 NMAC.
11. The permittee is authorized to blend wastewater with fresh irrigation water for land application using any of the methods provided in Subsection D of 20.6.6.21 NMAC. Fresh water may be added to a wastewater impoundment prior to land application in accordance with Subsection D of 20.6.6.21 NMAC.
12. The permittee shall remove crops from the following fields within the land application area using the following methods in accordance with Subsection I and J of 20.6.6.21 NMAC.
 - a) **LMU #1** – crops shall be harvested mechanically.
 - b) **LMU #2** – crops shall be harvested mechanically.

The permittee shall submit an application for Discharge Permit Modification to NMED for any proposed changes to the method(s) of crop removal for any field within the land application area as required by Subsection K of 20.6.6.21 NMAC.

13. The permittee shall complete the following items and submit documentation to NMED as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	<p><u>Impoundment Construction - Combination Wastewater/Stormwater:</u></p> <p>i) Complete construction of new impoundment to achieve compliance with the Dairy Rule in accordance with the plans and specifications, and supporting design calculations submitted with the application.</p> <p>ii) Submit the Construction Certification Report verifying construction pursuant to Subsection C of 20.6.6.17 NMAC.</p>	Prior to placing any livestock at the facility.	20.6.6.20.E NMAC
B.	<p><u>Manure Solids Separator Installation:</u></p> <p>i) Complete construction of a manure solids separator associated with the new wastewater storage system.</p> <p>ii) Submit confirmation of solids separator construction.</p>	Prior to discharging to the new system.	20.6.6.20.F NMAC
C.	<p><u>Grading and Drainage Report and Plan – Submittal and Implementation:</u></p> <p>i) Complete the grading and drainage system in accordance with the grading and drainage report and plan submitted with the application.</p> <p>ii) Submit the post-development drainage report.</p>	Prior to placing any livestock at the facility.	20.6.6.20.G NMAC
D.	<p><u>Flow Meter Installation:</u></p> <p>i) Complete installation of flow meter(s).</p> <p>ii) Submit confirmation of installation.</p>	Prior to discharging wastewater at the facility.	20.6.6.20.J NMAC
E.	<p><u>Scaled Map of Dairy Facility – Updates:</u></p> <p>Following completion of any additions or changes to the dairy facility which affect the items listed in Subsection U of 20.6.6.20 NMAC, the permittee shall update and resubmit the facility map.</p>	Within 90 days of any addition or change.	20.6.6.20.V NMAC
F.	<p><u>Nutrient Management Plan:</u></p> <p>Develop and submit annual updates to the NMP.</p>	Annually: May 1	20.6.6.21.I NMAC
G.	<p><u>Backflow Prevention:</u></p> <p>i) Complete installation of backflow prevention methods</p>	Prior to	20.6.6.21.M

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
	or devices. ii) Submit confirmation of installation.	discharging wastewater at the facility.	NMAC
H.	<u>Backflow Prevention by Reduced Pressure Principle Backflow Prevention Assembly – Inspection and Maintenance:</u> Submit copies of inspection and maintenance records and test results for each RP device, should the device be used to satisfy the requirements of Subsection M of 20.6.6.21 NMAC.	Annually: May 1	20.6.6.21.N NMAC

GROUND WATER MONITORING REQUIREMENTS

14. The permittee shall comply with the requirements of Section 20.6.6.23 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.23 NMAC.
15. Monitoring wells shall be constructed and completed in accordance with Subsection D of 20.6.6.23 NMAC.
16. Monitoring wells shall be permanently identified in accordance with Subsection C of 20.6.6.23 NMAC.
17. The permittee shall complete the following items and submit documentation to NMED as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	<u>Ground Water Monitoring – Combination Wastewater/Stormwater Impoundments:</u> Install the following monitoring wells within 75 feet hydrologically downgradient of the top inside edge of each combination impoundment: i) MW-2 , hydrologically downgradient of PWRS/RCS-1. ii) MW-3 , hydrologically downgradient of PWRS/RCS-2.	Prior to placing any livestock at the facility.	20.6.6.23.A(2) NMAC
B.	<u>Ground Water Monitoring – Land Application Area:</u> Install the following monitoring wells within 50 feet hydrologically downgradient of the downgradient boundary of fields within the land application area: i) MW-4 , hydrologically downgradient of LMU #1. ii) MW-5 , hydrologically downgradient of LMU #2.	Prior to placing any livestock at the facility.	20.6.6.23.A(4) (b) NMAC
C.	<u>Ground Water Monitoring – Upgradient:</u>		

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
	Install a monitoring well, MW-1 , hydrologically upgradient of all contamination sources at the dairy facility.	Prior to placing any livestock at the facility.	20.6.6.23.A(5) NMAC
D.	<u>Ground Water Sampling and Reporting – Routine:</u> Collect and analyze ground water samples quarterly from all monitoring wells identified in this Discharge Permit. Sampling shall be performed and results submitted in accordance with Subsection F of 20.6.6.23 NMAC.	Quarterly	20.6.6.23.G NMAC
E.	<u>Ground Water Sampling – New Monitoring Wells:</u> Collect ground water samples from monitoring wells required to be installed <i>prior to placement of livestock</i> . Sampling shall be performed in accordance with Subsection F of 20.6.6.23 NMAC using the following monitoring wells required to be installed in the following locations: i) MW-1 , hydrologically upgradient of all contamination sources at the dairy facility. ii) MW-2 , hydrologically downgradient of PWRS/RCS-1. iii) MW-3 , hydrologically downgradient of PWRS/RCS-2. iv) MW-4 , hydrologically downgradient of LMU #1 v) MW-5 , hydrologically downgradient of LMU #2	Prior to placing any livestock at the facility.	20.6.6.23.H NMAC
F.	<u>Monitoring Well Survey and Ground Water Flow Determination:</u> Survey monitoring wells to a U.S. Geological Benchmark.	Prior to placing any livestock at the facility.	20.6.6.23.I NMAC
G.	<u>Monitoring Well Completion Report:</u> Submit a monitoring well completion report which includes information from monitoring wells required to be installed <i>prior to placement of livestock</i> .	Prior to placing any livestock at the facility.	20.6.6.23.J NMAC
H.	<u>Ground Water Elevation Contour Maps:</u> Develop and submit ground water elevation contour maps on a quarterly basis using data collected from all monitoring wells used for ground water monitoring at the dairy facility.	Quarterly	20.6.6.23.L NMAC

MONITORING REQUIREMENTS

18. The permittee shall comply with the requirements of Sections 20.6.6.24 and 20.6.6.25 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.24 and 20.6.6.25 NMAC.

19. The permittee shall submit monitoring reports to NMED on a quarterly schedule that contain monitoring data and information collected pursuant to the Dairy Rule and submitted in accordance with Subsection A of 20.6.6.24 NMAC.

Quarterly monitoring reports shall be submitted according to the following schedule:

- January 1 through March 31 (first quarter) – report due by **May 1**
- April 1 through June 30 (second quarter) – report due by **August 1**
- July 1 through September 30 (third quarter) – report due by **November 1**
- October 1 through December 31 (fourth quarter) – report due by **February 1**

20. The permittee shall perform the following monitoring and submit to NMED the required documentation in monitoring reports as summarized in the following table:

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	<u>Wastewater Volume Measurement and Reporting:</u> Using a flow meter(s) installed on the discharge line(s), measure the volume of all wastewater discharged to the impoundment(s) authorized to contain wastewater and submit the information.	Quarterly	20.6.6.24.C NMAC
B.	<u>Flow Meter Field Calibration:</u> Perform flow meter field calibrations annually and submit a flow meter field calibration report.	Annually: May 1	20.6.6.24.E NMAC
C.	<u>Volume of Wastewater and Wastewater/Stormwater Land Applied – Measurement and Reporting:</u> Measure the volume of all wastewater discharges to each field within the land application area using a flow meter(s) and submit the information.	Quarterly	20.6.6.25.A NMAC
D.	<u>Wastewater to be Land Applied – Sampling and Reporting:</u> The permittee shall collect a representative wastewater sample (consisting of eight subsamples) from each wastewater or combination wastewater/stormwater impoundment. Analyze each representative wastewater sample on a quarterly basis and submit results.	Quarterly	20.6.6.25.C NMAC
E.	<u>Manure Solids – Nitrogen Content:</u> Should a permittee choose to use actual nitrogen content values of on-site manure solids for the purpose of applying to the land application area, the permittee shall collect and analyze samples annually, and submit results.	Quarterly	20.6.6.25.D NMAC
F.	<u>Irrigation Water – Sampling, Volume Applied and Reporting:</u> Collect and analyze fresh irrigation water samples on an annual basis from each irrigation well associated with the land application area. Estimate the annual volume of	Annually: May 1	20.6.6.25.E NMAC

Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
	irrigation water applied to each field from each well. Submit estimated volumes and analytical results.		
G.	<u>Fertilizer Application Reporting:</u> Maintain and submit a log of all additional fertilizer applied to each field within the land application area.	Quarterly	20.6.6.25.F NMAC
H.	<u>Land Application Data Sheets:</u> Complete and submit land application data sheets (LADS) for each field within the land application area.	Quarterly	20.6.6.25.G NMAC
I.	<u>Crop Yield Documentation:</u> Submit crop yield documentation and plant and harvest dates of each crop grown.	Quarterly	20.6.6.25.H NMAC
J.	<u>Nitrogen Concentration of Harvested Crop:</u> Determine the percent total nitrogen and dry matter of each harvested crop and submit results.	Quarterly	20.6.6.25.I NMAC
K.	<u>Nitrogen Removal Summary of Harvested Crop:</u> Develop and submit a nitrogen removal summary for each crop grown on each field within the land application area.	Quarterly	20.6.6.25.J NMAC
L.	<u>Soil Sampling – Initial Event in a Discharge Permit Term:</u> Collect and analyze <u>initial</u> soil samples from each field in the land application area for the first soil sampling event during the first year following the effective date of this Discharge Permit. Submit the results.	Annually: May 1	20.6.6.25.K NMAC
M.	<u>Soil Sampling – Routine:</u> Collect and analyze <u>routine</u> soil samples annually from each field in the land application area beginning the year following the initial sampling event. Submit the results.	Annually: May 1	20.6.6.25.L NMAC

CONTINGENCY REQUIREMENTS

- The permittee shall comply with the requirements of Section 20.6.6.27 NMAC and shall submit to NMED all information or documentation required by with the applicable portions of Section 20.6.6.27 NMAC.

CLOSURE REQUIREMENTS

- The permittee shall comply with the requirements of Section 20.6.6.30 NMAC and shall submit to NMED all information or documentation required by the applicable portions of Section 20.6.6.30 NMAC.

GENERAL REQUIREMENTS

23. The permittee shall operate in a manner such that standards and requirements of Sections 20.6.2.3101 and 20.6.2.3103 NMAC are not violated.
24. The permittee shall retain required records for a minimum period of 10 years from the date of sample collection, measurement, report or application in accordance with Section 20.6.6.33 NMAC.
25. Transfer of a Discharge Permit for a dairy facility shall be completed in accordance with Section 20.6.6.34 NMAC.
26. To renew this Discharge Permit, the permittee shall submit an application for renewal, renewal and modification, or renewal for closure at least one year prior to the expiration date of the Discharge Permit in accordance with Section 20.6.6.10 NMAC.
27. In accordance with Subsection A of 20.6.6.9 NMAC, the permittee shall remit a permit fee payment equal to one-tenth of the applicable permit fee from Table 1 of Section 20.6.2.3114 NMAC on the first occurrence of August 1 after the effective date of the Discharge Permit, and annually thereafter until expiration or termination of the Discharge Permit.

V. ADDITIONAL CONDITIONS

In addition to the requirements of 20.6.6 NMAC, the permittee shall comply with the following conditions as authorized by Subsection H of 20.6.6.10 NMAC pursuant to Section 74-6-5 WQA. A hearing may be requested on additional conditions in accordance with Section 20.6.6.15 NMAC.

1. This Discharge Permit does not contain additional conditions.

VI. PERMIT ISSUANCE

Pursuant to WQA 74-6-5(I), the term of this Discharge Permit shall be for the fixed term of five years, except for new discharges for which the term of the permit shall commence on the date the discharge begins, but in no event shall the term of the permit exceed seven years from the date the Discharge Permit is issued.

Issued by: New Mexico Environment Department

Date of Issuance: [DATE]

John Visser Dairy 2, **DP-1587**

Effective Date

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Expiration Date: Seven years from the effective date or five years from the date the discharge commences, whichever occurs first.

JERRY SCHOEPNER

Acting Chief, Ground Water Quality Bureau

New Mexico Environment Department

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