GROUND WATER DISCHARGE PERMIT - RENEWAL
EXISTING DAIRY FACILITY with an EVAPORATIVE DISPOSAL SYSTEM
W-Diamond Dairy, DP-880

I. INTRODUCTION AND SUMMARY

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal (Discharge Permit), DP-880, to Robert L. Rogers (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 W-Diamond Dairy (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 daily discharge volume of 49,999 gallons per day (gpd) of wastewater may be discharged from the production area. Wastewater flows to one of two concrete sumps and is pumped to a passive two-cell concrete solids separator into a synthetically lined combination wastewater and stormwater impoundment, followed by either a second synthetically lined combination wastewater and stormwater impoundment or another concrete separator and synthetically lined combination wastewater and stormwater impoundment for disposal by evaporation. 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 at 2875 South Roosevelt Road 7, approximately nine miles west of Portales, in Section 7, T02S, R33E, Roosevelt County. Ground water most likely to be affected is at a depth of approximately 60 feet and had a pre-discharge total dissolved solids concentration of approximately 640 milligrams per liter.

The original Discharge Permit was issued on November 12, 1992, and subsequently renewed and modified on February 15, 1999, and renewed and modified on November 16, 2006. The application consists of the materials submitted by the permittee dated February 14, 2011, 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

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Abbreviation	Explanation		Abbreviation	Explanation
gpd	gallons per day		S	Sulfur
LADS	land application data sheet(s)		SO_4	Sulfate
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 is discharging from a facility that meets the definition of "dairy facility" and is subject to the Dairy Rule (20.6.6 NMAC). This dairy facility meets the definition of "existing facility".

2. The permittee is discharging effluent or leachate from the dairy facility that may move directly or indirectly into ground water within the meaning of Section 20.6.2.3104 NMAC.

3. The permittee is discharging effluent or leachate from the dairy facility that 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. Data collected from on-site monitoring wells document ground water contamination attributed to one or more sources at this dairy facility. Ground water quality standards for Cl and TDS have been exceeded according to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC.

6. The Discharge Permit for this facility last issued on November 16, 2006 (before the effective date of the Dairy Rule of December 31, 2011) required the wastewater impoundment system to have the capacity to dispose of the maximum daily discharge volume (expressed in gallons per day), plus stormwater runoff and direct precipitation generated from the facility, by evaporation while preserving two feet of freeboard.

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7. The dairy facility was existing as of the effective date of the Dairy Rule (December 31, 2011) and measures the volume of wastewater discharged to a wastewater impoundment(s) using totalizing flow meters installed on the discharge line(s) from all wastewater sources to the wastewater impoundment(s).

8. 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) Combination Wastewater/Stormwater Impoundments
      i. **Lagoon 1** - authorized for use by this Discharge Permit.
      ii. **Lagoon 2** - authorized for use by this Discharge Permit.
      iii. **Lagoon 4** - authorized for use by this Discharge Permit.
   b) Stormwater Impoundments
      i. **Lagoon 3** - authorized for use by this Discharge Permit.

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 49,999 gpd of wastewater from the production area. Wastewater flows to one of two concrete sumps and is pumped to a passive two-cell concrete solids separator into a synthetically lined combination wastewater and stormwater impoundment, followed by either a second synthetically lined combination wastewater and stormwater impoundment, or another concrete separator and synthetically lined combination wastewater and stormwater impoundment for disposal by evaporation.

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) **Lagoon 1** – authorized to receive wastewater and stormwater for disposal by evaporation. This impoundment exists as of the effective date of this Discharge

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Permit and is synthetically lined with 60-mil HDPE. This impoundment is located east of the western corrals.

b) **Lagoon 2** – authorized to receive wastewater and stormwater for disposal by evaporation. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined with 60-mil HDPE. Wastewater from Lagoon 1 may flow into Lagoon 2. This impoundment is located east of Lagoon 1.

c) **Lagoon 4** – authorized to receive wastewater and stormwater for disposal by evaporation. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined with 60-mil HDPE. Wastewater from Lagoon 1 may flow into a passive concrete solids separator into Lagoon 4. This impoundment is located south of Lagoon 2.

d) **Lagoon 3** – authorized to receive stormwater for disposal by evaporation. This impoundment exists as of the effective date of this Discharge Permit and is synthetically lined with 60-mil HDPE. This impoundment is located east of the eastern corrals.

DAIRY RULE TRANSITION REQUIREMENTS

3. 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 Renewal and/or Modification 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
c) Part II.A.1
d) Part II.A.2(a)
e) Part II.B.1, 2, 4, 5, 6 and 7
f) Part II.C
g) Part II.D.2
h) Part II.D.3(a) and (b)
i) Part II.E.1, 2 and 3
j) Part IV.B

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ENGINEERING AND SURVEYING REQUIREMENTS

4. 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

5. The permittee shall comply with the requirements of Sections 20.6.6.20 and 20.6.6.22 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.20 and 20.6.6.22 NMAC.

6. The permittee shall provide written notice to NMED regarding any changes 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

7. Pursuant to Subsection D of 20.6.6.35 NMAC, the permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit documentation in accordance with Subsection M of 20.6.6.20 NMAC to demonstrate that the existing flow meter(s) meets the requirements of Subsection M of 20.6.6.20 NMAC.

8. The permittee is authorized to <u>use</u> the following existing flow meters to measure the volume of wastewater discharged from the production area to Lagoon 1, provided that the requirements of Subsection M of 20.6.6.20 NMAC have been met.
   a) **Meter-1** – located at the west parlor sump on the transfer line from the west parlor sump to the wastewater impoundment system; measures the volume of wastewater discharged from the production area to Lagoon 1.
   b) **Meter-2** – located at the concrete solids separator on the transfer line from the east parlor sump to the wastewater impoundment system; measures the volume of wastewater discharged from the production area to Lagoon 1.

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9. The permittee shall remove all manure solids and composted material from the dairy in accordance with Subsection S of 20.6.6.20 NMAC.

10. 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.	**Scaled Map of Dairy Facility – Updates:** 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.	**Within 90 days of any addition or change.**	20.6.6.20.V NMAC

GROUND WATER MONITORING REQUIREMENTS

11. 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.

12. Monitoring wells shall be constructed and completed in accordance with Subsection D of 20.6.6.23 NMAC.

13. Monitoring wells shall be permanently identified in accordance with Subsection C of 20.6.6.23 NMAC

14. Pursuant to Subsection D of 20.6.6.35 NMAC, the permittee shall have 90 days from the effective date of this Discharge Permit (**by DATE**) to submit the information required by Paragraph (6) of Subsection A of 20.6.6.23 NMAC to verify that monitoring wells in existence as of the effective date of this Discharge Permit and prior to the effective date of the Dairy Rule (December 31, 2011) are appropriate for continued use for ground water monitoring.

    The permittee is authorized to use the following monitoring well(s) provided that the requirements of Paragraph (6) of Subsection A of 20.6.6.23 NMAC are met.
    a) **MW-6**, hydrologically downgradient of Lagoon 4.
    b) **MW-7**, hydrologically downgradient of Lagoon 3.

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

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Item No.	Action Required and Submittal Due to NMED	Due Date	Citation
A.	**Ground Water Monitoring – Existing Combination Wastewater/Stormwater Impoundments:** Install the following monitoring wells within 75 feet hydrologically downgradient of the top inside edge of each existing combination impoundment: i) **MW-5A**, hydrologically downgradient of Lagoon 1. ii) **MW-8**, hydrologically downgradient of Lagoon 2.	**[120 days of effective date]**	20.6.6.23.A(2) NMAC
B.	**Ground Water Monitoring – Upgradient:** Install a monitoring well, **MW-1A**, hydrologically upgradient of all contamination sources at the dairy facility; replaces the supply well known as MW-1.	**[120 days of effective date]**	20.6.6.23.A(5) NMAC
C.	**Ground Water Sampling and Reporting – Routine:** 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
D.	**Ground Water Sampling – New Monitoring Wells:** Collect ground water samples in accordance with Subsection F of 20.6.6.23 NMAC from the following newly installed monitoring wells required to be installed in the following locations: i) **MW-1A**, hydrologically upgradient of all contamination sources at the dairy facility. ii) **MW-5A**, hydrologically downgradient of Lagoon 1. iii) **MW-8**, hydrologically downgradient of Lagoon 2.	**[150 days of effective date]**	20.6.6.23.H NMAC
E.	**Monitoring Well Survey and Ground Water Flow Determination:** Survey monitoring wells required to be installed *within 120 days of the effective date of the Discharge Permit* to a USGS benchmark.	**[150 days of effective date]**	20.6.6.23.I NMAC
F.	**Monitoring Well Completion Report:** Submit a monitoring well completion report for monitoring wells required to be installed *within 120 days of the effective date of the Discharge Permit*. The report shall include information from all monitoring wells.	**[180 days of effective date]**	20.6.6.23.J NMAC
G.	**Ground Water Elevation Contour Maps:** 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

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MONITORING REQUIREMENTS

16. The permittee shall comply with the requirements of Sections 20.6.6.24 and 20.6.6.26 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.24 and 20.6.6.26 NMAC.

17. 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**

18. 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.	**Wastewater Volume Measurement and Reporting:** 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. Submit the information.	**Quarterly**	20.6.6.24.C NMAC
B.	**Stormwater Sampling and Reporting:** Collect and analyze stormwater samples on a quarterly basis from each stormwater impoundment, and submit results.	**Quarterly**	20.6.6.24.D NMAC
C.	**Flow Meter Field Calibration:** Perform flow meter field calibrations annually and submit a flow meter field calibration report.	**Annually:** May 1	20.6.6.24.E NMAC
D.	**Wastewater to be Evaporated – Sampling and Reporting:** Analyze wastewater samples on a semi-annual basis collected from each impoundment used for disposal of wastewater by evaporation, and submit results.	**Semi-annually:** May 1 November 1	20.6.6.26 NMAC

CONTINGENCY REQUIREMENTS

19. The permittee shall comply with the requirements of Sections 20.6.6.27 and 20.6.6.29 NMAC, and shall submit to NMED all information or documentation required by the applicable portions of Sections 20.6.6.27 and 20.6.6.29 NMAC.

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CLOSURE REQUIREMENTS

20. 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.

21. Only upon written notification by certified mail from NMED, shall the permittee abandon the following well(s) previously used for monitoring in accordance with Subsection C of 20.6.6.30 NMAC. The permittee is not required to perform routine ground water sampling from the following well(s); however, NMED may collect ground water samples from the well(s) pursuant to Subsection D of 20.6.2.3107 NMAC.
    a) **MW-5 –** located approximately 150 feet east of the southeast corner of Lagoon 1.

    The well abandonment report shall be submitted to NMED within 60 days of completion of well plugging activities.

GENERAL REQUIREMENTS

22. 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.

23. 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.

24. Transfer of a Discharge Permit for a dairy facility shall be completed in accordance with Section 20.6.6.34 NMAC.

25. 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.

26. 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.

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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 from the effective date of the Discharge Permit.

Issued by: New Mexico Environment Department

Effective Date: **[DATE]**
Expiration Date: **[DATE]**

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JERRY SCHOEPPNER
Chief, Ground Water Quality Bureau
New Mexico Environment Department

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