STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

IN THE MATTER OF:

PETITION FOR REQUEST FOR VARIANCE FROM REGULATIONS 20.6.6 NMAC, IRONHORSE PERMIAN BASIN, LLC FORMER LAKESIDE DAIRY DP-796

NO. WQCC 20-72(V)

NEW MEXICO ENVIRONMENT DEPARTMENT'S
RESPONSE TO VARIANCE PETITION

Pursuant to the Adjudicatory Procedures of the New Mexico Water Quality Control Commission ("Commission"), 20.1.3.18(A)(3) NMAC, the New Mexico Environment Department ("Department") submits its Response to the Petition for Request for Variance from Regulations 20.6.6 NMAC, Ironhorse Permian Basin, LLC, DP-796 ("Petition"). Ironhorse Permian Basin, LLC ("Petitioner") filed its Petition on October 16, 2020, and the Department received the Petition via electronic mail on October 23, 2020. The Petition requests a variance from 20.6.6.30(A)(1)(c), (e), and (f) NMAC. The Department recommends that the Commission approve the Petition.

I. BACKGROUND

Petitioner holds a discharge permit, DP-796, for the Ironhorse Permian Basin, LLC ("Ironhorse") formerly Lakeside Dairy, located in Artesia, New Mexico. The Department originally issued DP-796 on June 20, 1991 and subsequently renewed and/or modified DP-796 on June 7, 1999, and again on November 8, 2010. The Department recently issued a renewal for closure to DP-796 on August 28, 2020, which authorizes the discharge of zero gallons per day of dairy wastewater and permanent facility closure pursuant to 20.6.6.30 NMAC. The former Lakeside Dairy permanently ceased dairy operations in 2013, and Ironhorse purchased the facility

in 2014. Ironhorse altered the property into a railroad terminal for off-loading and reloading primarily oil industry supplies such as oil, frac sands, oil field pipe, and water. Ironhorse constructed 45,000 feet of tracks including two 13,600-foot track loops that occupy the areas of the former dairy corrals and most of the former land application areas. Petition, pp. 1-2, ¶ 3. Prior to cessation of dairy operations, the former Lakeside Dairy discharged up to 90,000 gpd of wastewater from the production area to a concrete sump then pumped the wastewater through a screen solids separator to a synthetically lined combination wastewater and stormwater impoundment for storage. NMED Exhibit 1, p. 3. The former Lakeside Dairy then land applied the wastewater by flood/center pivot/sprinkler irrigation to up to 358 acres of irrigated cropland under cultivation. *Id.*

The Department issued a discharge permit to the former Lakeside Dairy in 2010. The Department issued the permit pursuant to 20.6.2 NMAC. NMED Exhibit 1, p.1. This discharge permit was not issued pursuant to 20.6.6 NMAC, Ground Water Protection - Supplemental Permitting Requirements for Dairy Facilities ("Dairy Rule") because the Commission did not adopt the Dairy Rule until 2011. The discharge permit expired in 2015, and since the discharge permit was not subject to the Dairy Rule, 20.6.6.30(A)(1)(c), (e), and (f) NMAC were inapplicable at the time the former Lakeside Dairy stopped its wastewater discharge. Once Ironhorse received is permit for closure, the Dairy Rule requirements, specifically 206.6.30(A)(1)(c), (e), and (f) NMAC, became applicable to the former Lakeside Dairy because the facility operated as a dairy pursuant to 20.6.6.2 and 20.6.6.7(B)(7) NMAC; it will remain subject to the Dairy Rule until completing closure of the facility pursuant to 20.6.6.30 NMAC. Ground water at the former Lakeside Dairy is protected pursuant to the Water Quality Act, NMSA 1978, Sections 74-6-1 – 74-6-17. Ground water most likely to be affected by discharges at the former Lakeside Dairy is at

a depth of approximately 50 feet and had a pre-discharge total dissolved solids concentration of approximately 1,070 milligrams per liter.

In its Petition, Ironhorse requests a variance from 20.6.6.30(A)(1)(c), (e), and (f) NMAC. The requirements of each subparagraph, in relevant parts, are summarized as follows:

- Subparagraph (c) requires an owner or operator to empty stormwater from all stormwater and combination wastewater/stormwater impoundments within one year of cessation of wastewater discharge.
- Subparagraph (e) requires an owner or operator to complete removal of all manure solids from stormwater and combination wastewater/stormwater impoundments within two years of cessation of wastewater discharge.
- Subparagraph (f) requires an owner or operator to perforate or remove all impoundment liners and regrade the impoundments with clean fill to blend with surface topography to prevent ponding within two years of permanently ceasing wastewater discharge.

II. STANDARD FOR GRANTING A VARIANCE

The Commission may grant a variance from any requirement of its regulations. Specifically, the Commission:

> [M]ay grant an individual variance from any regulation of the commission whenever it is found that compliance with the regulation will impose an unreasonable burden upon any lawful business, occupation or activity. The commission may only grant a variance conditioned upon a person effecting a particular abatement of water pollution within a reasonable period of time. Any variance shall be granted for the period of time specified by the commission. The commission shall adopt regulations specifying the procedure under which variances may be sought, which regulations shall provide for the holding of a public hearing before any variance may be granted.

NMSA 1978, § 74-6-4(H) (2019).

Accordingly, the Commission adopted procedural rules as part of its water quality regulations to govern variances. The regulations are found in their entirety at 20.6.2.1210 NMAC.

The Commission also adopted special regulations for variances from the Dairy Rule. These regulations provide, in their entirety:

> A. A petition for variance from the dairy rule shall be submitted in accordance with Subsection A of 20.6.2.1210 NMAC.
>
> B. In addition to any other criteria offered by the petitioner, the commission may consider as an unreasonable burden upon the petitioner's activity that the requirements of the dairy rule are unnecessary to prevent ground water pollution due to site-specific conditions.
>
> C. In addition to any other information required under Paragraph (7) of that subsection, the petition shall, if applicable, identify any alternative facility design, alternative measuring device, or other variation from the requirements of the dairy rule and describe why variation from the diary rule is warranted based upon site-specific conditions.
>
> D. Notwithstanding Subsection C of 20.6.2.1210 NMAC, a variance from the requirements of the diary rule may be granted for a period of time in excess of five years through the period of the expected useful life of the feature for which a variance is granted.
>
> E. The department may review a variance every five years in conjunction with the discharge permit renewal to determine whether the variance is achieving its designed purpose and whether the variance has caused an exceedance of the standards of 20.6.2.3103 NMAC. If a five year review demonstrates that the variance cannot meet these criteria, the department may request a hearing before the commission to revoke the variance.

20.6.6.18 NMAC.

Thus, pursuant to Section 74-6-4(H), before the Commission can grant a variance, the discharger must show the requirement imposes an unreasonable burden on the discharger's activities. This may include a showing that the requirements are unnecessary to prevent ground water pollution due to site-specific conditions. 20.6.6.18(B) NMAC.

Pursuant to the Commission's Adjudicatory Procedures, the Department must review a petition for variance within 60 days after receipt and file a recommendation with the Commission to grant, grant with conditions, or deny the petition. 20.1.3.18(A) NMAC. The Department

received the Petition on October 23, 2020.

III. DEPARTMENT'S RECOMMENDATION

The Department supports the Petition and recommends its approval. As stated in Section I of this response, Petitioner requests a variance from 20.6.6.30(A)(1)(c), (e), and (f) NMAC, which govern permanent closure of the former Lakeside Dairy wastewater impoundment system. These requirements are memorialized as Condition B101 in DP 796. NMED Exhibit 1, pp. 7-8. In support of its recommendation, the Department states as follows:

1. Petitioner demonstrated that compliance with the Dairy Rule would impose an unreasonable burden.

The Commission may only grant a variance if it first finds that the requirements of the regulations would place an unreasonable burden on Petitioner if the variance is not granted. NMSA 1978, § 74-6-4(H). Pursuant to the Dairy Rule, the Commission may consider as an unreasonable burden upon the Petitioner's activity that the requirements of the Dairy Rule are unnecessary to prevent ground water pollution due to site-specific conditions. 20.6.6.18(B) NMAC. Petitioner demonstrated that compliance with these requirements would create an unreasonable burden by requiring permanent closure of the synthetically impoundment system that is still being used for storm water control. Petition, pg. 3, ¶ 8. The operator of the former Lakeside Dairy constructed the impoundments to be protective of ground water quality for Discharge Permit, DP-796; and therefore, they do not pose a threat to ground water quality when used as proposed for commercial water sales via Ironhorse Water Producers LLC, as permitted by the New Mexico Office of the State Engineer for commercial water sales. *See id.* That operator constructed the impoundment system and used it for less than two years before dairy operations permanently ceased. Ironhorse constructed its rail terminal to incorporate a new stormwater control network

with the existing impoundments. Petition, pp. 1-2, ¶ 3. These impoundments are adequate for stormwater control, and no alternative is applicable in this situation. *See* 20.6.6.18(C) NMAC.

2. Petitioner's proposal is protective of ground water quality.

The use of an existing synthetically lined impoundment for storage of ground water obtained via facility water rights for commercial water sales does not pose an inherent threat to ground water quality. The water collected in the impoundments system originates from an artesian aquifer well (RA-3361) and is pumped directly from RA-3361 into the impoundment system. Petition, pg. 7. This water is not used in an operation that would require a discharge permit in accordance with 20.6.2.3104 NMAC, thereby having no likely potential to cause an exceedance of the WQCC ground water quality standards.

The Department on October 29, 2020, requested that the Petitioner confirm that water quality in RA-3361 and the impoundment system conform to the Commission's ground water quality standards for nitrate (NO_3N), total dissolved solids (TDS), and chloride (Cl) found at 20.6.2.3103(A) and (B) NMAC as a condition to Department support of the Petition. Thus, as a condition of its support, the Department requests that the Commission require this information should the Petitioner not provide it prior to the Commission's determination of the Petition. The Department expects that TDS and Cl at the site will not conform to the WQCC ground water quality standard for TDS at 1,000 mg/L or Cl at 250 mg/L. The water quality in this region is known to be above standard with respect to TDS and CL as documented in *Seasonal and Long-Term Variations in Hydraulic Head in a Karstic Aquifer: Roswell Artesian Basin, New Mexico*[1] and *Geohydrologic framework of the Roswell ground-water basin, Chaves and Eddy Counties,*

[1] Land, Lewis, and Brad T. Newton. "Seasonal and Long-Term Variations in Hydraulic Head in a Karstic Aquifer: Roswell Artesian Basin, New Mexico 1." JAWRA Journal of the American Water Resources Association 44.1 (2008): 175-191.

New Mexico.[2] Therefore, it is the opinion of the Department that the Petitioner should not be held responsible for existing ambient ground water quality conditions as related to TDS and Cl. The Department cannot speculate on nitrate concentrations without additional data. Should subsequent data show that nitrate conditions exceed the WQCC ground water quality standard the Department would require the permittee to submit a corrective action plan pursuant to 20.6.6.27 NMAC or abate ground water pollution pursuant to 20.6.2.4000-4115 NMAC.

IV. REASONS

Generally, variances from the requirements of the water quality regulations should be granted sparingly, and only in a unique set of circumstances where the goals of the WQA are not compromised and compliance would create an unreasonable burden in accordance with Section 74-6-6(H). For example, a variance should not be granted simply because it is more expensive for a discharger to comply with the regulations than not. Expense alone, even substantial expense, does not justify noncompliance with regulations designed to protect New Mexico's limited ground water resources. In this case, Petitioner demonstrated that compliance with the Dairy Rule is an unreasonable burden because keeping the existing impoundments will not adversely impact groundwater but will continue to provide necessary stormwater control for a discharge that would otherwise be unpermitted. Closure of the facility pursuant to 20.6.6.30(A)(1)(c), (e), and (f) NMAC would remove this stormwater control. NMED recommends approval of this variance for the life of the feature. *See* 20.6.6.18(D) NMAC.

V. CONCLUSION

For the foregoing reasons, the Department recommends that the Commission approve the

[2] Welder, George E. Geohydrologic framework of the Roswell ground-water basin, Chaves and Eddy Counties, New Mexico. No. 42. New Mexico State Engineer, 1983.

variance request and require that Petitioner confirm that water quality in RA-3361 and the impoundment system conform to the Commission's ground water quality standards for nitrate (NO_3N), total dissolved solids (TDS), and chloride (Cl) found at 20.6.2.3103(A) and (B) NMAC.

Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT

Christopher Atencio

Digitally signed by Christopher Atencio
Date: 2020.12.22 17:03:26 -07'00'

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CERTIFICATE OF SERVICE

I hereby certify that a copy of this Response to Variance Petition was filed with the Office of Public Facilitation and was served on the following parties of record on December 22, 2020, by electronic mail due to administrative restrictions related to the ongoing public health emergency. Petitioner has agreed to service by electronic mail.

Steve Jetter, Sr. Environmental Geologist
Consultant for Petitioner
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Christopher N. Atencio

NEW MEXICO
ENVIRONMENT DEPARTMENT

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James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

August 28, 2020

Kevin Ramage, CFO
Ironhorse Permian Basin, LLC
49 Atoka Road
Artesia, NM 88210

RE: Discharge Permit Renewal for Closure, DP-796, Ironhorse Permian Basin, LLC, Formerly Lakeside Dairy

Dear Mr. Ramage:

The New Mexico Environment Department (NMED) issues the enclosed Discharge Permit Renewal for Closure DP-796, to Ironhorse Permian Basin, LLC (permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978 §§74-6-1 through 74-6-17, the Ground and Surface Water Protection Regulations, 20.6.2 NMAC, and the Supplemental Permitting Requirements for Dairy Facilities (Dairy Rule), 20.6.6 NMAC.

NMED sent a draft permit dated June 14, 2019 and also made the draft available to the public for a 30-day comment period. NMED did not receive any comments on the draft permit. The permittee may file a petition with the New Mexico Water Quality Control Commission (WQCC) requesting a variance from site specific requirements of 20.6.6 NMAC.

The Discharge Permit contains requirements that shall be complied with by the permittee and are enforceable by NMED pursuant to Sections 20.6.2.3104 and 20.6.6.8 NMAC, WQA, and NMSA 1978 §74-6-5 and §74-6-10. The discharge shall be managed in accordance with all applicable requirements of the Dairy Rule and this Discharge Permit. Issuance of this Discharge Permit does not relieve the permittee of the responsibility to comply with the WQA, 20.6.2 and 20.6.6 NMAC, and any other applicable federal, state and/or local laws and regulations, such as zoning requirements and nuisance ordinances.

NMED will send you an invoice for the Discharge Permit Fee of $575.00 under separate cover.

Pursuant to Subsection I of NMSA 1978 § 74-6-5, the term of this Discharge Permit shall be for the fixed term of five years. The term of this Discharge Permit will end on **August 27, 2025**.

You are required to submit an application for renewal or renewal/modification, pursuant to Subsection A of 20.6.6.10 NMAC, to NMED **one year prior** to the end of the Discharge Permit term.

NMED is taking all necessary precautions to reduce the spread of COVID-19. Given the current public health emergency, all field activities must be conducted in accordance with the Governor's current Executive Orders and Public Health Orders. Please help to keep New Mexicans safe by visiting the New Mexico Department of Health's website to learn how you can play a role in stopping the spread of COVID-19. That website is cv.nmhealth.org. If you believe the current COVID-19 restrictions impact your ability to safely complete one or more required tasks in accordance with your field schedule, please include this information with your submittal of the updated schedule.

Pursuant to the NMED Delegation Order dated January 15, 2020, the Cabinet Secretary has delegated the authority to sign a Ground Water Discharge Permit under the New Mexico Water Quality Act to the Chief of the Ground Water Quality Bureau.

Please contact Matthew Smith at matthew.smith3@state.nm.us with any questions. Thank you for your cooperation during the permit review process.

Sincerely,

Michelle Hunter, Chief
Ground Water Quality Bureau

MH:NM/ms

Encs: Discharge Permit Renewal for Closure, DP-796

cc: Nancy McDuffie, ACS Manager
Michael Kesler, EHB District Manager, NMED District III
John Romero, Office of the State Engineer
Jay Lazarus, Glorieta Geoscience, Inc., Lazarus@glorietageo.com
Steve Jetter, Glorieta Geoscience, Inc., steve@glorietageo.com
Kevin Ramage, CFO, Ironhorse Permian Basin, LLC, kevinr@ironhorsepermianbasin.com
ACS Reading File

NEW MEXICO

ENVIRONMENT DEPARTMENT

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GROUND WATER QUALITY BUREAU
DISCHARGE PERMIT – RENEWAL FOR CLOSURE
EXISTING DAIRY FACILITY with a LAND APPLICATION AREA
Issued under 20.6.2 and 20.6.6 NMAC

Facility Name:	Ironhorse Permian Basin, LLC
Discharge Permit No:	DP-796
Facility Location:	49 East Atoka Rd., Artesia, 88210
	Sections 4 & 9, Township 18S, Range 26E
County:	Eddy
Facility Operator:	Kevin Ramage
Permittee Name:	Ironhorse Permian Basin, LLC
Mailing Address:	2100 N. Moore Ave.
	Roswell, NM 88201
Permitting Action:	Renewal for Closure
Source Classification:	Agriculture- Dairy
Permit Issuance Date:	August 28, 2020
Permit Expiration Date:	August 27, 2025
NMED Permit Contact:	Matthew Smith
Telephone Number/Email:	(505) 827-2797/matthew.smith3@state.nm.us

Michelle Hunter
Chief, Ground Water Quality Bureau

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Part A GENERAL INFORMATION

A100 Introduction

A. The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal for Closure (Discharge Permit), **DP-796**, to Ironhorse Permian Basin, LLC (Permittee) pursuant to the New Mexico Water Quality Act (WQA), NMSA 1978, §§ 74-6-1 through 74-6-17, and the New Mexico Ground and Surface Water Protection Regulations, 20.6.2 NMAC and the Supplemental Permitting Requirements for Dairy Facilities (Dairy Rule), 20.6.6 NMAC. NMED's purpose in issuing this Discharge Permit to Ironhorse Permian Basin, LLC is to promote the protection of public health and groundwater resources (groundwater and those segments of surface water gaining from groundwater inflow, for present and potential future use as domestic and agricultural water supply and other uses) by requiring controls on the presence and distribution of water contaminants associated with former dairy facility operations and permanent closure activities and by providing oversight of post-closure monitoring.

B. Under prior authorization of DP-796, last issued prior to the effective date of the Dairy Rule, on November 8, 2010, NMED authorized the Permittee to discharge up to 90,000 gallons per day (gpd) of wastewater from Lakeside Dairy.

C. The dairy facility permanently ceased discharge in August 2013. Even after cessation of active discharge, the discharge or leachate retains the potential to move directly or indirectly into groundwater of the State of New Mexico which has an existing concentration of 10,000 milligrams per liter (mg/L) or less of total dissolved solids (TDS) within the meaning of Section 20.6.2.3104 and Subsection A of 20.6.2.3101 NMAC.

D. The Permittee is authorized to perform closure activities and post-closure monitoring pursuant to this Discharge Permit which contains requirements authorized or specified by the Dairy Rule on condition that the Permittee complies with the Dairy Rule and this Discharge Permit, which are enforceable by NMED.

A101 Terms of Permit Issuance

A. **Permit Duration** - Pursuant to WQA 74-6-5(I) and Subsection H of 20.6.2.3109 NMAC, the term of a Discharge Permit is for the fixed term of **five years** from the effective date of the Discharge Permit. The obligation of the Permittee to implement facility closure and post-closure requirements survives the expiration of this Discharge Permit. If closure or post-closure activities specified herein have not been completed by the Permittee prior to the expiration of this Discharge Permit and/or the Permittee has not received from NMED a notice of Discharge Permit termination, the Permittee must request from NMED a renewal of this Discharge Permit as described in Item C below.

B. **Permit Fees** - As a discharge permit associated with a former dairy facility, the Permittee shall remit an annual permit fee payment equal to one-tenth of the applicable permit fee from Table 1 of 20.6.2.3114 NMAC on the first occurrence of August 1 after the effective date of

this Discharge Permit, and annually thereafter until expiration or termination of this Discharge Permit [Subsection A of 20.6.6.9 NMAC].

C. **Permit Renewal** - To renew this Discharge Permit, the Permittee shall submit, in accordance with 20.6.6.10 NMAC, an application and any associated fees for renewal at least one year before the discharge permit expiration date, unless permanent closure and cessation of all post-closure monitoring requirements has been approved by NMED before that date.

D. **Transfer of Ownership** - This Discharge Permit is being issued to Ironhorse Permian Basin, LLC (Permittee) as identified in **Section A100** above. In accordance with Section 20.6.6.8 NMAC, the Permittee, any listed owner(s) of record, and any [other] holder(s) of an expired discharge permit are responsible for complying with the conditions listed herein and the Dairy Rule. If during the duration of this Discharge Permit a change in the list of responsible persons is required, transfer of ownership shall be completed in accordance with Section 20.6.6.34 NMAC as described further in Item D of **Part C101** of this Discharge Permit.

A102 Applicable Regulations

A. **Scope** - This Discharge Permit applies solely for the regulation of process wastewater or stormwater generated as a result of former dairy facility operations and closure and post-closure monitoring activities and does not include regulation of domestic wastewater at the facility [Subsection Y of 20.6.6.20 NMAC]. Domestic wastewater generated at the facility is treated or disposed of pursuant to 20.7.3 NMAC.

B. The Permittee is requesting closure of a facility that meets the definition of "dairy facility." 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. Permanent closure of the dairy facility shall be managed in accordance with all applicable requirements of the Dairy Rule and this Discharge Permit.

C. The discharge from the dairy facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

D. Groundwater quality as observed in on-site monitoring wells is subject to the criteria of Sections 20.6.2.3101 and 20.6.2.3103 NMAC unless otherwise specified in this Discharge Permit.

E. Complying with the applicable requirements of 20.6.2 and 20.6.6 NMAC does not relieve a dairy facility's owner, operator or Permittee from complying with the requirements of other applicable local, state and federal regulations or laws.

A103 Additional Information Requirements

A. **No Further Action Required**. The Permittee has satisfied the requirements of Sections 20.6.6.10 and 20.6.6.13 NMAC prior to the effective date of this Discharge Permit.

A104 Facility: Physical Description

A. This dairy facility meets the definition of "existing facility."

B. This dairy facility is located at 49 E. Atoka Rd, Artesia, located in Sections 4 and 9, T18S, R26E, Eddy County.

C. On the effective date of this Discharge Permit, the former dairy facility was comprised of the following wastewater system components as identified in the application and the administrative record:

1. Wastewater impoundments:
    a. **North Lagoon** – clay lined retention impoundment used to store wastewater for disposal by land application. North Lagoon was located approximately 1,300 feet southwest of the milking parlor. Constructed between 1990 and 1997 and closed post 2013 in accordance with 20.6.6.30 NMAC. The constructed storage capacity of North Lagoon was unknown.
    b. **South Lagoon** – clay lined retention impoundment used to store wastewater for disposal by land application. South Lagoon was located approximately 1,500 feet southwest of the milking parlor and south of North Lagoon. Constructed between 1990 and 1997 and closed post 2013 in accordance with 20.6.6.30 NMAC. The constructed storage capacity of South Lagoon was unknown.
    c. **Lagoon** – originally constructed as an unlined runoff pond in the mid 1990's and relined with 40 mil HDPE in 2012. Lagoon was used to store wastewater and stormwater for disposal by land application. Lagoon is located approximately 1,800 ft southwest of the milking parlor and has a constructed storage capacity of 52.4 Ac-Ft.
    d. **Settling Impoundment 1** – originally constructed as an unlined runoff pond in the mid 1990's and lined with 40 mil HDPE in 2012. Settling Impoundment 1 was used to collect wastewater for settling. Settling Impoundment 1 is located approximately 1,500 ft southeast of the former milking parlor.
    e. **Settling Impoundment 2** – originally constructed as an unlined runoff pond in the mid 1990's and lined with 40 mil HDPE in 2012. Settling Impoundment 2 was used to collect wastewater for settling. Settling Impoundment 2 is located approximately 1,500 ft southeast of the former milking parlor.
2. Fields within the former land application area:
    a. **Field 1** – 110 acres, located approximately 1,000 ft east of the milking parlor. Field 1 received wastewater starting 1993, by 2000 Field 1 had been converted to corral space.
    b. **North Field** – located north of E. Atoka Road and west Lake road, North Field originally consisted of four sprinkler irrigated fields in the early 2000's that covered 150 acres. These fields were known as Field 1, 2, 3 and 4 respectively. Wastewater application to North Field commenced circa 2000 and permanently ceased in 2013. Wastewater

was applied by sprinkler/side roll irrigation initially and was later converted to center pivot irrigation. North Field currently covers 155 acres.

c. **E-W Field** – located north of the milking parlor and corrals, and south of E. Atoka Road, E-W Field originally consisted of two fields that covered 10 acres each. These fields were known as Field East and Field West. Wastewater application to E-W Field commenced circa 2000 and permanently ceased in 2013. Wastewater was applied by sprinkler/side roll irrigation. E-W Field currently covers 26 acres.

d. **South Field** – located south-southeast of the corrals and west of Lagoon. Wastewater application to South Field commenced circa 2000 and permanently ceased in 2013. Wastewater was applied by flood irrigation. South Field originally consisted of 30 acres and currently covers 18 acres. The decrease in acreage was due to the installation of the settling basins and Lagoon. The installation of a rail spur line has covered portions of this field.

e. **Torres Field** – located north of E. Four Dinkus Road and west of Lake Road. Wastewater application to Torres Field commenced circa 2008 and permanently ceased in 2013. Wastewater was applied by center pivot irrigation. Torres Field currently covers 160 acres. The installation of a rail spur line has covered portions of this field.

f. **Field NW** – located in the northwest corner of North Field. Wastewater application to Field NW commenced circa 2000 and permanently ceased in 2013. Wastewater was applied by sprinkler/side roll irrigation. Field NW covers 10 acres.

These system components are identified as potential sources of groundwater contamination and may require closure as identified in this Discharge Permit. A summary of all wastewater system components authorized to release/receive discharge under prior issuance(s) of this Discharge Permit is provided in **Section A107.**

A105 Facility: Documented Hydrogeologic Conditions

A. Groundwater most likely to be affected at this dairy facility is at a depth of approximately 50 feet and had a pre-discharge total dissolved solids concentration of approximately 1,070 milligrams per liter.

B. There are no perennial surface waters existing within the bounds of the facility. The closest surface water system is the Pecos River which flows north and south and, is located approximately three miles east of the facility. The headwaters are located north of Pecos, New Mexico, at an elevation of over 12,000 feet on the western slope of the Sangre de Cristo mountain range. The Pecos River flows for 926 miles through eastern New Mexico and western Texas, emptying into the Rio Grande.

A106 Facility: Existing System Controls

A. During operation, this dairy facility employed the following system controls pursuant to operational requirements as listed in prior issuance(s) of this Discharge Permit:

1. **Impoundments**: As listed in A104 Item C above
2. **Flow Meters**:
   a. **Parlor Meter** – was located at the milking parlor to measure the volume of wastewater discharged from the production area to the wastewater impoundment system.
   b. **LAA Meter** – was located on the discharge line to measure the volume of wastewater applied to all fields within the land application area.
3. **Monitoring Wells** - The dairy facility used the following monitoring wells to supply data representative of groundwater quality:
   a. **MW-1** – hydrologically upgradient of all contamination sources at the dairy facility and was located adjacent to the northwest corner of North Lagoon. MW-1 was plugged and abandoned circa 2015. MW-1 exceeded the standards of 20.6.2.3103 NMAC prior to plugging and abandonment and is required to be replaced to meet the closure requirements of 20.6.6.30 NMAC and this Discharge Permit. This well shall be replaced by existing supply or stock well pending investigation per condition b of Table B4.
   b. **MW-8** – hydrologically upgradient of all contamination sources at the dairy facility and was located within the commodity storage area adjacent to the railroad tracks and south of East Atoka Rd. MW-8 was plugged and abandoned circa 2015. MW-8 did not exceed the standards of 20.6.2.3103 NMAC and this Discharge Permit does not require replacement.
   c. **MW-3A** – hydrologically downgradient of North Lagoon and was located adjacent to the southeastern corner of North Lagoon. MW-3A was plugged and abandoned circa 2015. MW-3A did not exceed the standards of 20.6.2.3103 NMAC and this Discharge Permit does not require replacement.
   d. **MW-5** – hydrologically downgradient of South Lagoon and was located adjacent to the southeastern corner of south Lagoon. MW-5 was plugged and abandoned circa 2015. MW-5 did not exceed the standards of 20.6.2.3103 NMAC and this Discharge Permit does not require replacement.
   e. **MW-6A** – hydrologically downgradient of Lagoon and was located along the eastern edge of Lagoon near the midpoint of the eastern edge. MW-6A was plugged and abandoned circa 2015. MW-6A exceeded the standards of 20.6.2.3103 NMAC prior to plugging and abandonment and is required to be replaced to meet the closure requirements of 20.6.6.30 NMAC and this discharge permit. This well shall be replaced by MW-6R.
   f. **MW-7** – hydrologically downgradient of North Field and Field NW and was located approximately 1,000 feet north-northwest of the intersection of Lake Rd. and East Atoka Rd. adjacent to North Field. MW-7 was plugged and abandoned circa 2015. MW-7 exceeded the standards of 20.6.2.3103 NMAC prior to plugging and abandonment and shall be replaced by MW-10R.
   g. **MW-9** – hydrologically downgradient of South Field and was located approximately 1,700 feet south of the milking parlor in the southeast corner of South Field. MW-9

was plugged and abandoned circa 2015. MW-9 exceeded the standards of 20.6.2.3103 NMAC prior to plugging and abandonment and shall be replaced by MW-6R.

h. **MW-10** – hydrologically downgradient of E-W Field and was located approximately 1,600 feet northeast of the milking parlor in the southeast corner of E-W Field. MW-10 was plugged and abandoned circa 2015. MW-10 exceeded the standards of 20.6.2.3103 NMAC prior to plugging and abandonment and is required to be replaced to meet the closure requirements of 20.6.6.30 NMAC and this discharge permit. This well shall be replaced by MW-10R.

i. **MW-11** – hydrologically downgradient of Torres Field and was located approximately 900 feet northwest of the intersection of Lake Rd. and E. Four Dinkus Rd, adjunct to the Torres Field. MW-11 was plugged and abandoned circa 2015. MW-11 did not exceed the standards of 20.6.2.3103 NMAC and this Discharge Permit does not require replacement.

These system controls may require continued operation or replacement and maintenance during closure or post-closure activities and/or termination and removal as identified in this Discharge Permit.

B. As of the effective date of this Discharge Permit, a total of zero monitoring wells are documented at or near this dairy facility as identified in the application and/or the administrative record. All facility monitoring wells were plugged and abandoned circa 2015 by Ironhorse Permian Basin, LLC. All new facility monitoring wells are subject either to closure or to post-closure monitoring as specified in **Section B102** and in **Table C1** of this Discharge Permit:

A107 Facility: Discharge Permit History and Prior Authorization

A. The original Discharge Permit was issued on June 20, 1991 and subsequently renewed and/or modified on June 7, 1999 and November 8, 2010, respectively. DP-796, last issued on November 8, 2010, authorized the Permittee to discharge water contaminants as part of facility operations subject to the following requirements:

1. Discharge up to 90,000 gpd of wastewater from the production area. Wastewater flowed to a concrete sump and was pumped through a screen solids separator to a synthetically lined combination wastewater and stormwater impoundment for storage. Wastewater was land applied by flood/center pivot/sprinkler irrigation to up to 358 acres of irrigated cropland under cultivation.
2. Utilize the following impoundments in accordance with Subsection B of 20.6.6.20 NMAC as follows:
   a. **North Lagoon** – permanently closed circa 2014 prior to the effective date of this Discharge Permit.
   b. **South Lagoon** – permanently closed circa 2014 prior to the effective date of this Discharge Permit.

c. **Lagoon** – authorized to receive wastewater and stormwater for storage prior to land application. This impoundment ***exists*** and remains unclosed as of the effective date of this Discharge Permit.

d. **Settling Impoundment 1** – authorized to receive wastewater for collection prior to transfer to Lagoon. This impoundment ***exists*** and remains unclosed as of the effective date of this Discharge Permit.

e. **Settling Impoundment 2** – authorized to receive wastewater for collection prior to transfer to Lagoon. This impoundment exists and remains unclosed as of the effective date of this Discharge Permit.

3. Apply wastewater and stormwater to fields within the land application area in accordance with Subsections B, C and I of 20.6.6.21 NMAC. The land application area was comprised of the following fields for a total land application area of 358 acres:

   a. **North Field** – received wastewater/stormwater from 2000 to 2013.

   b. **E-W Field** – received wastewater/stormwater from 2000 to 2013.

   c. **South Field** – received wastewater/stormwater from 2000 to 2013.

   d. **Torres Field** – received wastewater/stormwater from 2008 to 2013.

   e. **Field NW** – received wastewater/stormwater from 2000 to 2013.

Part B FACILITY SPECIFIC REQUIREMENTS

B100 Authorization for Land Application During Closure

A. Pursuant to Subsection A of 20.6.6.30 NMAC, the Permittee is hereby authorized to apply stormwater, and manure solids and compost to fields within the land application area after permanent cessation of discharge operations in accordance with Subsections B, C and I of 20.6.6.21 NMAC. Authorization to discharge to these fields is being solely granted for the purposes of completing closure measures as specified in 20.6.6.30 NMAC and shall be redacted upon NMED confirmation of completion of the required closure measures listed in **Table B1** and **Table B3** of this Discharge Permit.

B101 Facility: Conditions for Closure

A. **Impoundment(s), Pond(s), and/or Settling Basin(s)** - The Permittee shall permanently close all impoundments, ponds, and/or settling basins at the former dairy facility as identified in **Section A104** above in accordance with 20.6.6 NMAC and the conditions summarized in **Table B1** below.

Table B1
Impoundment(s), Pond(s), and Settling Basin(s) Closure Requirements

Engineering and Surveying
a) None required.
Operations and Maintenance

Table B1
Impoundment(s), Pond(s), and Settling Basin(s) Closure Requirements

b) Within one (1) year of the effective date of this Discharge Permit (by **August 28, 2021**), empty and land apply all combination wastewater/stormwater or stormwater from the following impoundments, ponds, and/or settling basins in accordance the conditions specified in **Table B2** of this Discharge Permit: **Settling Impoundment 1, Settling Impoundment 2, Lagoon**. [Subsection A of 20.6.6.30 NMAC]

c) Upon emptying each impoundment, pond, and/or settling basin and unless otherwise designated and approved by NMED for continued service as part of closure or post-closure maintenance (see **Table C1** of this Discharge Permit), remove and properly dispose of all supporting infrastructure and any associated system controls used to supply or transfer wastewater and/or stormwater to/from the impoundment, pond, and/or settling basin.

d) Within two (2) years of the effective date of this Discharge Permit (by **August 28, 2022**), remove and land apply manure solids from the following facility impoundments, ponds, and/or settling basins in accordance with conditions specified in **Table B2** of this Discharge Permit: **Settling Impoundment 1, Settling Impoundment 2, Lagoon**. [Subsection A of 20.6.6.30 NMAC]

e) Within two (2) years of the effective date of this Discharge Permit (by **August 28, 2022**), perforate/ remove and properly dispose of all liner material from the following facility impoundments, ponds, and/or settling basins: **Settling Impoundment 1, Settling Impoundment 2, Lagoon**. [Subsection A of 20.6.6.30 NMAC]

f) Using clean fill for which a borrow source is appropriated by, fill and re-grade all emptied impoundments, ponds, and/or settling basins to blend into the surrounding pre-existing surface topography within two (2) years of the effective date of this Discharge Permit [by **August 28, 2022**] to prevent any subsequent ponding of stormwater in the area. [Subsection A of 20.6.6.30 NMAC]

g) Send photo documentation to NMED of the properly closed Impoundments and Settling Basins.

h) Until all wastewater has been removed from an impoundment, pond, and/or settling basin and the feature filled and re-graded to reflect surrounding topography, maintain the feature such that:

- storage capacity preserves a minimum of two feet of freeboard at all times as required by Subsection D of 20.6.6.17 NMAC. [Subsection A of 20.6.6.21 NMAC]
- conditions which could affect the structural integrity of the feature or any associated feature liner are prevented. [Subsection P of 20.6.6.20 NMAC]
- any associated faulty pipe(s) or fixture(s) are repaired or replaced within 72 hours of discovery to mitigate or prevent an unauthorized discharge. [Subsection Q of 20.6.6.20 NMAC]

Inspection and Monitoring

i) Until all wastewater has been removed, continue to collect and analyze composite wastewater samples from each wastewater impoundment in accordance with Subsection C of 20.6.6.25 NMAC to maintain compliance with the general monitoring and reporting requirements specified for a dairy facility (**Table C1**). Wastewater samples shall be collected annually and analyzed for nitrate as nitrogen, total Kjeldahl nitrogen, chloride, total sulfur, and total dissolved solids pursuant to Subsection B of 20.6.6.24 NMAC.

Recordkeeping and Reporting

j) Report any unauthorized discharges to NMED pursuant to 20.6.2.1203 NMAC.

k) Unless otherwise specified in this Discharge Permit, continue to submit all required monitoring information quarterly as part of the **Quarterly Monitoring Report** in accordance with the general reporting schedule listed in **Table C1** of this Discharge Permit.

l) Until all wastewater is removed:

Table B1
Impoundment(s), Pond(s), and Settling Basin(s) Closure Requirements

- notify NMED within 24 hours of discovery of any observed condition(s) that may impact the structural integrity of a berm or liner or that may result in an unauthorized discharge. [Subsection P 20.6.6.20 NMAC]
- continue to report composite wastewater sample results to NMED annually as part of the **Quarterly Monitoring Report** due **May 1**. [Subsection C of 20.6.6.25 NMAC]

m) Maintain written records of any facility inspections performed during closure activities including repairs or replacements. Keep records at the facility or make them available to NMED upon request.

B. **Land Application Area Management** - The Permittee shall continue to manage all land application areas at the dairy facility in accordance with 20.6.6 NMAC and the conditions summarized in **Table B2** below.

Table B2
Land Application Area Management During Closure

Engineering and Surveying
a) None required.
Operations and Maintenance All Land Application Areas
b) Land apply wastewater/stormwater uniformly to all fields within the land application area as authorized in **Section B100** and at a planned rate consistent with an approved **NMP**. [Subsection B of 20.6.6.21 NMAC]
c) Land apply wastewater/stormwater **only** to field(s) within the land application area receiving fresh irrigation water. Wastewater/stormwater are intended as sources of crop nutrients and shall not be used as a primary source to meet the water consumptive needs of a crop.
d) Land apply manure solids and composted material to the land application area in accordance with an approved **NMP**. [Subsection S of 20.6.6.20 NMAC]. Estimate the nitrogen content of the manure solids applied to each field of the land application area at 25 pounds/ton or use the actual nitrogen content values from a composite sample collected annually of on-site manure solids. [Subsection D of 20.6.6.25 NMAC]
e) As required, blend wastewater with fresh water using any of the methods provided in Subsection D of 20.6.6.21 NMAC.
f) utilize and maintain all backflow prevention methods or devices in compliance with Subsection L of 20.6.6.21 NMAC
g) Minimize ponding within the land application area. [Subsection B of 20.6.6.21 NMAC]
Inspection and Monitoring All Land Application Areas
h) As applicable, until all wastes generated from the facility, as specified in **Table B1** and **B3,** are properly disposed of, continue the following monitoring requirements: • monitor and record via flow meter(s) the volume of wastewater and/or stormwater distributed to the land application area to ensure compliance with an approved **NMP** [Subsections G and H of 20.6.6.21 NMAC]; • for each irrigation well, estimate the annual volume of fresh water applied to each field within the land application area [Subsection E of 20.6.6.25 NMAC];

Table B2
Land Application Area Management During Closure

- collect a soil sample from each receiving field within the land application area annually in accordance with Subsections K and L of 20.6.6.25 NMAC. If a field has never before received wastewater but will begin receiving wastewater as part of an approved **NMP**, collect a soil sample immediately prior to initial application and annually thereafter;
- annually collect a sample of irrigation water supplied from each well or a group of physically connected wells and analyze for nitrate as nitrogen and total Kjeldahl nitrogen, pursuant to Subsection B of 20.6.6.24 NMAC;
- collect and analyze a composite sample of plant material representative of each type of crop harvested from each field in the land application area over the course of the year in accordance with Subsection I of 20.6.6.25 NMAC;
- annually collect a composite sample to calculate actual nitrogen content values of on-site manure solids. Collect and analyze sample in accordance with the requirements listed in Subsection D of 20.6.6.25 NMAC;
- maintain and submit inspection and maintenance records for each check valve device associated with the backflow prevention program in accordance with Subsection M of 20.6.6.21 NMAC;
- maintain and submit land application data sheets (LADS) for each authorized field within the land application area in accordance with Subsection G of 20.6.6.25 NMAC; and
- maintain and submit a log recording for all additional fertilizers applied to each field within the land application area during closure measures.

i) Repair or replace a malfunctioning check valve device within 30 days of discovery, and use of all wastewater supply lines associated with the check valve device shall cease until repair or replacement has been completed. [Subsection M of 20.6.6.21 NMAC]

Recordkeeping and Reporting All Land Application Areas

j) Land application and closure activities shall be performed in a manner that is consistent with an approved NMP.

k) To achieve compliance with applicable sections of 20.6.6.21 NMAC, the Permittee shall submit a revised NMP by May 1 of the first year this permit is in effect (**by May 1, 2021**).

l) As applicable, submit annual updates to the approved **NMP** to NMED as part of the **Quarterly Monitoring Report** due **May 1**. [Subsection I of 20.6.6.21 NMAC]

m) Unless otherwise specified in this Discharge Permit, continue to submit all required monitoring or recordkeeping information quarterly or as part of the next scheduled **Quarterly Monitoring Report** in accordance with the general reporting schedule listed in **Table C1** of this Discharge Permit.

n) If blending, maintain an accurate written record of the volume of fresh water added to the wastewater to properly calculate the overall volume of wastewater applied under an approved **NMP**.

o) Maintain an inspection log regarding maintenance of land application infrastructure. Provide log to NMED upon request. [Subsection K of 20.6.6.21 NMAC]

p) Per Subsection H of 20.6.6.25 NMAC, submit crop yield documentation and plant and harvest dates of each crop grown during closure measures to NMED.

q) Per Subsection J of 20.6.6.25 NMAC, submit a nitrogen removal summary report to NMED.

C. **Manure Solids and Compost** - The Permittee shall permanently remove from the surface of the dairy facility all residual manure solids and compost in accordance with 20.6.6.30 NMAC and the conditions summarized in **Table B3** below.

Table B3
Manure Solids and Compost Closure Requirements

Engineering and Surveying
a) Include, for NMED approval, a **NMP** to achieve compliance with Subsection A of 20.6.6.30 NMAC, by **May 1, 2021. -OR-** Include, for NMED approval, a **Disposal Plan** to achieve compliance with Subsection A of 20.6.6.30 NMAC, within **60 DAYS** of effective date of this Discharge Permit (by **October 27, 2020**).
Operations and Maintenance
b) Manure solids and compost shall be removed from surface areas at the dairy facility and applied to the designated land application area, as authorized by a discharge permit per an approved **NMP**, *or* transferred off-site for proper disposal as authorized by an approved Disposal Plan.
Inspection and Monitoring
c) None required.
Recordkeeping and Reporting
d) Provide to NMED a summary of completed closure measures according to the implementation schedule in the approved **[NMP *or* Disposal Plan]** and any associated monitoring and sampling data collected in the **Quarterly Monitoring Report** (see **Table C1** of this Discharge Permit).

D. **Monitoring Well(s)** – As part of closure, a Permittee may be required to either install one or more additional groundwater monitoring wells for post-closure monitoring (per Subsection A of 20.6.6.30) and/or plug and abandon one or more existing groundwater monitoring wells (per Subsection C of 20.6.6.30). The groundwater monitoring well system approved for closure of this dairy facility is detailed in **Table B4** below.

Table B4
Monitoring Well Requirements for Closure

Engineering and Surveying
a) None required.
Operations and Maintenance
b) In order to achieve compliance with Subsection A of 20.6.6.23 NMAC, the Permittee within (120) days of the effective date of this Discharge Permit (**by December 26, 2020**), shall investigate the following existing supply or stock wells: **RA-03029, RA-07831, RA-02585, RA-01462, and RA-01462CLW** to identify a monitoring station hydrologically upgradient of the facility. The investigation should identify an existing supply or stock well that is screened in the appropriate aquifer and has a screened interval with at least five feet of screen above the static water table. The Permittee shall identify the existing supply or stock well to be used for permit compliance with the information required to be submitted per condition K of this table (Table B4). This well is identified by its POD number and/or MW-1R
c) Within (120) days of the effective date of this Discharge Permit (**by December 26, 2020**), install and complete the additional groundwater monitoring wells as listed as listed below for use in facility post-closure monitoring. [Subsection A of 20.6.6.23 NMAC]

Table B4
Monitoring Well Requirements for Closure

- **MW-6R**, hydrologically downgradient of South Field and Lagoon and located approximately 130 feet east (downgradient) of the lagoon and 1000 feet downgradient of the South Field and former monitoring well, MW-9
- **MW-10R,** hydrologically downgradient of E-W field and within 500 feet of the original MW-10. MW-10 was located approximately 1,600 feet northeast of the milking parlor in the southeast corner of E-W Field.

All new wells shall be constructed and completed in accordance with Subsection D of 20.6.6.23 NMAC. On installation, all new wells shall be operated and maintained in compliance with Subsection A of 20.6.6.23 NMAC and this section of this Discharge Permit.

d) Verify all facility monitoring wells are permanently identified in accordance with Subsection C of 20.6.6.23 NMAC.

Inspection and Monitoring

e) Collect a groundwater sample from each newly installed groundwater monitoring well within 30 days of well completion. [Subsection H of 20.6.6.23 NMAC]

f) Continue to perform quarterly routine groundwater sampling of all wells in accordance with Subsection F of 20.6.6.23 NMAC to comply with the required monitoring reporting schedule listed in **Table C1: MW-1R , MW-6R, and MW-10R**. Monitoring of these wells shall, at a minimum, continue until all closure measures as specified in **Section B100** of this Discharge Permit have been completed and confirmation of closure completion has been received from NMED. Any post-closure monitoring requirements for the dairy facility are specified in **Section B101** of this Discharge Permit.

g) Analyze collected groundwater sample(s) according to the methods listed in Subsection B of 20.6.6.24 and Subsection B of 20.6.2.3107 NMAC. Pursuant to Subsection B of 20.6.6.24 NMAC, sample constituents that require analysis and reporting to NMED include: nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids. [Subsection G of 20.6.6.23 NMAC].

h) Prior to the expiration date of this Discharge Permit, NMED shall have the option to perform one downhole inspection of each monitoring well identified in this Discharge Permit. NMED shall establish the inspection date and provide at least 60 days' notice to the Permittee by certified mail. The Permittee shall have any existing dedicated pumps removed at least 48 hours prior to NMED inspection to allow adequate settling time of any sediment agitated as a result of pump removal.

Should a facility not have existing dedicated pumps, but decide to install pumps in any of the monitoring wells, NMED shall be notified at least 90 days prior to pump installation so that a downhole well inspection can be scheduled prior to pump placement. [20.6.2.3107 NMAC]

Recordkeeping and Reporting

i) For plugged monitoring wells as described in Section A106 A.4., Provide to NMED a **Well Abandonment Report** within 60 days of the effective date of this discharge permit **(by October 27, 2020)**

j) Provide to NMED a **Monitoring Well Survey Report** for all (new or existing) monitoring stations within 60 days of well completion. [Subsections I and K of 20.6.6.23 NMAC] A **Monitoring Well Survey Report** shall contain, at a minimum, the following information:

- Facility map with location and number of each well
- Top-of-casing survey elevation data of each well
- Depth-to-shallowest groundwater measurements
- Direction and gradient of groundwater flow at the dairy facility

Table B4
Monitoring Well Requirements for Closure

k) A **Monitoring Well Completion Report** shall be filed with NMED for all new or existing monitoring stations within 60 days of new well completion. [Subsection J of 20.6.6.23 NMAC] A **Monitoring Well Completion Report** shall contain, at a minimum, the following information:

- Construction and lithologic logs for the new monitoring wells including well record information specified by 19.27.4 NMAC.
- Depth-to-most-shallow groundwater measured in each new and existing monitoring well.
- Survey data and a survey map showing the locations of each new and existing monitoring well and a groundwater elevation contour map developed pursuant to Subsection L of 20.6.6.23 NMAC.
- Analytical results of groundwater samples collected from the new monitoring wells, including laboratory quality assurance and quality control summary reports, and field parameter measurements.

l) A **Quarterly Monitoring Report** shall continue to be filed with NMED in accordance with the general reporting schedule listed in **Table C1**. Each **Quarterly Monitoring Report** shall contain, at a minimum, the following information: [Subsection G of 20.6.6.23 NMAC]

- Facility map with location and number of each well in relation to the contamination source it is intended to monitor
- Depth-to-shallowest groundwater measurements
- Field parameter measurements and parameter stabilization log
- Analytical results (including the laboratory quality assurance and quality control summary report)
- Groundwater elevation contour maps utilizing elevation contours of 2 ft or less in accordance with Subsection L of 20.6.6.23 NMAC

E. **Stormwater Management** - During implementation of both closure measures and post-closure monitoring, the Permittee shall manage stormwater at the dairy facility in accordance with 20.6.6 NMAC and the conditions summarized in **Table B5** below.

Table B5
Stormwater Management During Closure and Post-Closure

Engineering and Surveying
a) None required
Operations and Maintenance
b) Implement stormwater management by: [20.6.2.3109 NMAC] • Maintain stormwater conveyance [Subsection H of 20.6.6.20 NMAC] • Divert stormwater to minimize stormwater ponding and infiltration. [Subsection H of 20.6.6.20 NMAC] • Before removal is complete, maintain diversions for facility stormwater run-on and run-off to prevent ponding within areas used for manure and compost stockpiling [Subsection S of 20.6.6.20 NMAC]

Table B5
Stormwater Management During Closure and Post-Closure

Inspection and Monitoring
c) None required
Recordkeeping and Reporting
d) None required

B102 Facility: Conditions for Post-Closure Monitoring and Maintenance

A. Pursuant to Subsection B of 20.6.6.30, the Permittee may initiate post-closure monitoring and maintenance at a dairy facility following completion of and confirmation by NMED that the requirements of **Section B100** have been adequately met.

B. **Groundwater Monitoring** - The Permittee is required to perform post-closure groundwater monitoring in accordance with Subsection B of 20.6.6.30 NMAC and **Table B6** below.

Table B6
Post-Closure Groundwater Monitoring Requirements

Engineering and Surveying
a) None required.
Operations and Maintenance
b) Operate and maintain the following facility groundwater monitoring well(s) for post-closure monitoring in compliance with Subsection A of 20.6.6.23 NMAC and this section of this Discharge Permit: **MW-1R, MW-6R, and MW-10R**.
Inspection and Monitoring
c) Perform quarterly routine groundwater sampling of all post-closure monitoring wells in accordance with Subsection F of 20.6.6.23 NMAC to comply with the required monitoring reporting schedule listed in **Table C1: MW-1R, MW-6R, and MW-10R**. Post-closure monitoring at a dairy facility shall continue until a minimum of eight consecutive groundwater sampling events confirm that the standards of 20.6.2.3103 NMAC are not exceeded and the total nitrogen concentration in groundwater is less than or equal to 10 mg/L. If monitoring results show failure of one or both of these conditions, the Permittee shall implement contingency requirements pursuant to 20.6.6.27 NMAC (**Section B102**).
d) Analyze collected groundwater sample(s) according to the methods listed in Subsection B of 20.6.6.24 and Subsection B of 20.6.2.3107 NMAC. Pursuant to Subsection B of 20.6.6.24 NMAC, sample constituents that require analysis and reporting to NMED include: nitrate as nitrogen, total Kjeldahl nitrogen, chloride, sulfate and total dissolved solids. [Subsection G of 20.6.6.23 NMAC]
e) Prior to the expiration date of this Discharge Permit, NMED shall have the option to perform one downhole inspection of each monitoring well identified in this Discharge Permit. NMED shall establish the inspection date and provide at least 60 days' notice to the Permittee by certified mail. The Permittee shall have any existing dedicated pumps removed at least 48 hours prior to NMED inspection to allow adequate settling time of any sediment agitated as a result of pump removal. Should a facility not have existing dedicated pumps, but decide to install pumps in any of the monitoring wells, NMED shall be notified at least 90 days prior to pump installation so that a downhole well inspection can be scheduled prior to pump placement. [20.6.2.3107 NMAC]
Recordkeeping and Reporting

Table B6
Post-Closure Groundwater Monitoring Requirements

f) A **Quarterly Monitoring Report** shall continue to be filed with NMED in accordance with the general reporting schedule listed in **Table C1**. Each **Quarterly Monitoring Report** shall contain, at a minimum, the following information: [Subsection G of 20.6.6.23 NMAC] • Facility map with location and number of each well in relation to the contamination source it is intended to monitor • Depth-to-shallowest groundwater measurements • Field parameter measurements and parameter stabilization log • Analytical results (including the laboratory quality assurance and quality control summary report) • Updated groundwater elevation contour maps utilizing elevation contours of 2 ft or less in accordance with Subsection L of 20.6.6.23 NMAC

C. **Stormwater Management** - During implementation of post-closure monitoring, the Permittee shall continue to manage stormwater at the dairy facility in accordance with 20.6.6 NMAC and the conditions as summarized in **Table B5** presented in **Section B100** of this Discharge Permit.

D. **Well Plugging and Abandonment** - Upon written notification by certified mail from NMED that post-closure monitoring at the facility as specified in **Table B6** of this Discharge Permit may cease, the Permittee shall abandon all facility well(s) in accordance with the conditions specified in Subsection C of 20.6.6.30 NMAC and **Table B7** below.

Table B7
Post-Closure Well Plugging and Abandonment Requirements

Engineering and Surveying
a) None required.
Operations and Maintenance
b) Within ninety (90) days of receipt of written notification from NMED, the Permittee shall properly plug and abandon the following all existing monitoring wells. Wells shall be plugged and abandoned pursuant to 19.27.4 and Subsection C of 20.6.6.30 NMAC and in accordance with NMED's *Monitoring Well Construction and Abandonment Guidelines* and any other applicable local, state, and federal regulations. Documentation describing the plug and abandonment procedures, including photographic documentation, shall be presented in a **Post-Closure Well Abandonment Report**.
Inspection and Monitoring
c) None required.
Recordkeeping and Reporting
d) Provide to NMED a **Post-Closure Well Abandonment Report** within 60 days of completion of well plugging activities. The **Post-Closure Well Abandonment Report** shall provide information equivalent to the plugging record requirements of 19.27.4 NMAC. [Subsection C of 20.6.6.30 NMAC]

B103 Facility: Contingency Plan

A. In the event NMED or the Permittee identifies any failures of the Discharge Permit or system not specifically noted herein, NMED may require the Permittee to develop for NMED approval a contingency or corrective action plan and schedule to cope with the failure(s) [20.6.2.3107.A(10) NMAC].

B. Facility conditions that may occur as part of closure or post-closure and will invariably require permittee action under one or more contingency plans include:

1. **Exceedance of groundwater quality standards** – Constituent concentration(s) in one or more groundwater samples collected from a monitoring well intended to monitor contamination sources at a dairy facility including impoundments exceed (1) one or more of the groundwater standards of 20.6.2.3103 NMAC and (2) reported constituent concentration(s) in one or more groundwater samples collected from the upgradient monitoring well for four consecutive quarters.
2. **Ineffective groundwater monitoring well(s)** – One or more monitoring well(s) required by 20.6.6.23 NMAC are (1) not located hydrologically downgradient of the contamination source(s) intended to monitor, (2) not completed pursuant to 20.6.6.23 NMAC or (3) contains insufficient water to monitor groundwater quality effectively.
3. **Spills, leaks, unauthorized discharge** - Any spill or release that is not authorized under this Discharge Permit.

If a contingency or corrective action plan is required, the Permittee shall comply with the requirements of Sections 20.6.2.1203, 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 20.6.2.1203, 20.6.6.27 and 20.6.6.29 NMAC. The Permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000 through 20.6.2.4115 NMAC, should the corrective action plan not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC.

Part C GENERAL CONDITIONS

C100 Introduction

A. NMED has reviewed the permit application for the proposed closure and has determined that the provisions of the Dairy Rule and applicable groundwater quality standards will be met in accordance with this Discharge Permit. General conditions for all Discharge Permits issued by the Ground Water Quality Bureau pursuant to NMAC 20.6.2 as well as specific conditions as applied to the closure and post-closure of a dairy facility with use of a land application area pursuant to 20.6.6.30 NMAC are summarized on **Table C1**. Unless otherwise specified in Parts A or B of this Discharge Permit, both the conditions as listed in this part and the facility-specific conditions as listed in **Part B** of this Discharge Permit are mandated to achieve permanent closure of the facility.

B. For closure, 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.

Table C1
General Discharge Permit Conditions for Dairy Facility Closure

Engineering and Surveying
a) None required
Operations and Maintenance
b) None required
Inspection and Monitoring
c) None required
Recordkeeping and Reporting
d) Records of any inspection(s), repairs and maintenance conducted on facility infrastructure as related the former wastewater management system shall be maintained at the dairy facility or be available for NMED review.
e) Continue to generate monitoring reports that contain monitoring data and information collected pursuant to the Dairy Rule and as described in applicable sections of this Discharge Permit.
f) Retain required records for a minimum period of 10 years from the date of any sample collection, measurement, report or application in accordance with Section 20.6.6.33 NMAC.
g) Unless otherwise identified in this Discharge Permit, submit monitoring reports to NMED quarterly according to the following schedule: [Subsection A of 20.6.6.24 NMAC]
h) January 1 through March 31 (first quarter) – report due by **May 1**
i) April 1 through June 30 (second quarter) – report due by **August 1**
j) July 1 through September 30 (third quarter) – report due by **November 1**
k) October 1 through December 31 (fourth quarter) – report due by **February 1**

C101 Legal

A. Nothing in this Discharge Permit shall be construed in any way as relieving the Permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders [20.6.2 NMAC].

B. Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a Discharge Permit Modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or may be violated or the standards of Section 20.6.2.3103 NMAC are being or may be violated. NMED may require more stringent requirements to protect groundwater quality if a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of groundwater quality. NMED may require the Permittee to implement abatement of water pollution and remediate groundwater quality.

C. Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure

to provide NMED with records or information, may subject the Permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to $15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to $10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the Permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [74-6-10 WQA, 74-6-10.1 WQA]

D. Pursuant to WQA 74-6-10.2(A-F), NMED shall assess criminal penalties for any person who knowingly violates or knowingly causes or allows another person to:

4. Make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA;
5. Falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or
6. Fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation, is subject to felony charges and shall be sentenced in accordance with the provisions of Section 31-18-15 NMSA 1978.

E. The Permittee shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Discharge Permit with the notice in accordance with 20.6.2.3111 NMAC, prior to the transfer of any ownership, control, or possession of this permitted facility or any portion thereof. The transferee(s) shall notify NMED, in writing, of the date of transfer of ownership and provide contact information for the new owner(s) pursuant to Subsection B of 20.6.6.12 NMAC. Submit to NMED notification of the transfer within 30 days of the ownership transfer date. [20.6.6.34 NMAC]

F. Pursuant to WQA 74-6-5(o), the Permittee has a right to appeal the conditions and requirements as outlined in this Discharge Permit through filing a petition for review before the WQCC. Such petition shall be in writing to the WQCC within thirty (30) days of the receipt of this Discharge Permit. Unless a timely petition for review is made, the decision of NMED shall be final and not subject to judicial review.

C102 General Inspection and Entry Requirements

A. Nothing in this Discharge Permit limits in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC, 74-6-9(B) & (E) WQA]

B. The Permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to: [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]

1. Enter at regular business hours or at other reasonable times upon the Permittee's premises or other location where records must be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
2. Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation.
3. Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment or treatment works), practices or operations regulated or required under this Discharge Permit, or under any federal or WQCC regulation.
4. Sample or monitor, at reasonable times for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the WQA, any effluent, water contaminant, or receiving water at any location before or after discharge.

C103 General Record Keeping and Reporting Requirements

A. The Permittee shall maintain a written record of the following:

1. Amount of wastewater, effluent, leachate or other wastes discharged pursuant to this Discharge Permit. [20.6.2.3107.A NMAC]
2. Operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater; to measure flow rates, to monitor water quality, or to collect other data required by this Discharge Permit. Per Section A of 20.6.2.3107 NMAC, this record shall include:
   a. Repair, replacement or calibration of any monitoring equipment; and
   b. Repair or replacement of any equipment used in the Permittee's waste or wastewater treatment and disposal system.
3. Any spills, seeps, and/or leaks of effluent, and of leachate and/or process fluids not authorized by this Discharge Permit. [20.6.2.3107.A NMAC]

B. The Permittee shall maintain at its facility a written record of all data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit. The following information shall be recorded and shall be made available to NMED upon request:

1. The dates, exact place and times of sampling or field measurements;
2. The name and job title of the individuals who performed each sample collection or field measurement;
3. The date of the analysis of each sample;
4. The name and address of the laboratory and the name and job title of the person that

performed the analysis of each sample;

5. The analytical technique or method used to analyze each sample or take each field measurement;
6. The results of each analysis or field measurement, including raw data;
7. The results of any split sampling, spikes or repeat sampling; and
8. A description of the quality assurance (QA) and quality control (QC) procedures used.

C. The Permittee shall furnish to NMED, within a reasonable time, any documents or other information which it may request to determine whether cause exists for terminating and/or renewing this Discharge Permit or to determine compliance with this Discharge Permit. The Permittee shall also furnish to NMED, upon request, copies of documents required to be kept by this Discharge Permit. [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]

Part D MISCELLANEOUS

D100 Supporting On-Line Documents

A. Copies of the following documents can be downloaded from NMED's web site under Ground Water Quality Bureau or requested from the Bureau.

1. Documents found at:

   https://www.env.nm.gov/gwqb/forms/

   a. Notice of Intent to Discharge

2. Documents found at:

   https://www.env.nm.gov/gwqb/dairy/

   a. Application for a New Discharge Permit (dairy facility only)
   b. Application for Discharge Permit Renewal and/or Modification (dairy facility only)
   c. Application for Discharge Permit Renewal for Closure (dairy facility only)

3. Documents found at:

   https://www.env.nm.gov/gwqb/gw-regulations/

   a. Regulation 20.6.2 NMAC - Ground and Surface Water Protection
   b. Regulation 20.6.6 NMAC - Supplemental Permitting Requirements for Dairy Facilities (Dairy Rule)
   c. Monitoring well construction and abandonment guidelines
   d. Synthetically lined lagoons - liner material and site preparation guidelines

D101 Definitions

A. "**abatement plan**" means a description of any operational, monitoring, contingency and closure requirements and conditions for the prevention, investigation and abatement of water pollution, and includes Stage 1, Stage 2, or Stage 1 and 2 of the abatement plan, as approved by the secretary

B. "**commission**" means:

1. the New Mexico water quality control commission (WQCC), or
2. NMED, when used in connection with any administrative and enforcement activity

C. "**dairy facility**" means the production area and the land application area (if applicable), where the discharge and associated activities will or do take place

D. "**Dairy rule**" means 20.6.6 NMAC, as amended

E. "**NMED**", "**agency**", or "**division**" means the New Mexico Environment Department or a constituent agency designated by the **commission**

F. "**discharge permit**" means a discharge plan approved by NMED

G. "**discharge permit modification**" means a change to the requirements of a discharge permit that result from a change in the location of the discharge, a significant increase in the quantity of the discharge, a significant change in the quality of the discharge; or as required by the secretary

H. "**discharge permit renewal**" means the re-issuance of a discharge permit for the same, previously permitted discharge

I. "**discharge plan**" means a description of any operational, monitoring , contingency, and closure requirements and conditions for any discharge of effluent or leachate which may move directly or indirectly into groundwater

J. "**discharge site**" means the entire site where the discharge and associated activities will take place

K. "**discharge volume**" means the measured daily volume of wastewater actually discharged within the production area. This definition does not include the volume of wastewater discharged to a land application area (if applicable).

L. "**disposal**" means to abandon, deposit, inter or otherwise discard a fluid as a final action after its use has been achieved

M. "**existing dairy facility**" means a dairy facility that is currently discharging, or has previously discharged and has not been issued a notice from NMED verifying that closure and post-closure monitoring activities have been completed

N. "**fluid**" means material or substance which flows or moves whether in a semisolid, liquid, sludge, gas, or any other form or state

O. "**flow meter**" means a device used to measure the volume of water, wastewater or stormwater that passes a particular reference section in a unit of time

P. "**freeboard**" means the vertical distance between the elevation at the lowest point of the top inside edge of the impoundment and the design high water elevation of the water level in the impoundment

Q. "**groundwater**" means interstitial water which occurs in saturated earth material and which is capable of entering a well in sufficient amounts to be utilized as a water supply

R. "**impoundment**" means any structure designed and used for storage or disposal by evaporation of wastewater, stormwater, or a combination of both wastewater and stormwater. A multiple-cell impoundment system having at least one shared berm or barrier whose smallest cells have a cumulative constructed capacity of 10 percent or less of the constructed capacity of the largest cell shall be considered a single impoundment for the purposes of the Dairy Rule. A wastewater or stormwater transfer sump or a solids settling separator is not an impoundment

S. "**manure**" means an agricultural waste composed of excreta of animals, and residual bedding materials, waste feed or other materials that have contacted excreta from such animals

T. "**maximum daily discharge volume**" means the total daily volume of wastewater (expressed in gallons per day) authorized for discharge by a discharge permit. This definition does not include the volume of wastewater discharged to a land application area (as applicable)

U. "**owner of record**" means an owner of property according to the property records of the tax assessor in the county in which the discharge site is located at the time the application was deemed administratively complete

V. "**permittee**" means a person who is issued or receives by transfer a discharge permit for a dairy facility or, in the absence of a discharge permit, a person who makes or controls a discharge at a dairy facility.

W. "**production area**" means that part of the animal feeding operation that includes the following: the animal confinement areas; the manure, residual solids and compost storage areas; the raw materials storage areas; and the wastewater and stormwater containment areas. The animal confinement areas include but are not limited to open lots, housed lots, feedlots, confinement barns, stall barns, free stall barns, milkrooms, milk centers, cowyards, barnyards, hospital pens and barns, and animal walkways. The manure, residual solids and compost storage areas include, but are not limited to, storage sheds, stockpiles, static piles, and composting piles. The raw materials storage areas include, but are not limited, to feed silos, silage storage areas, feed storage barns, and liquid feed tanks. The wastewater and stormwater containment areas include, but are not limited to, settling separators,

impoundments, sumps, run-off drainage channels, and areas within berms and diversions which prohibit uncontaminated stormwater from coming into contact with contaminants

X. "**responsible person**" means a person who is required to submit a discharge permit or who submits a discharge permit

Y. "**secretary**" or "**director**" means the secretary of the New Mexico NMED of environment or the director of a constituent agency designated by the **commission**

Z. "**spillway**" means a structure used for controlled releases from an impoundment designed to receive stormwater, in a manner that protects the structural integrity of the impoundment

AA. "**stormwater**" means direct precipitation and run-off that comes into contact with water contaminants within the production area of a dairy facility

BB. "**TDS**" means total dissolved solids as determined by the "calculation method" (sum of constituents), by the "residue on evaporation method at 180 degrees" of the "U.S. geological survey techniques of water resource investigations," or by conductivity, as the secretary may determine

CC. "**toxic pollutant**" means a water contaminant or combination of water contaminants in concentration(s) which, upon exposure, ingestion, or assimilation either directly from the environment or indirectly by ingestion through food chains, will unreasonably threaten to injure human health, or the health of animals or plants which are commonly hatched, bred, cultivated or protected for use by man for food or economic benefit; as used in this definition injuries to health include death, histopathologic change, clinical symptoms of disease, behavioral abnormalities, genetic mutation, physiological malfunctions or physical deformations in such organisms or their offspring; in order to be considered a toxic pollutant a contaminant must be one or a combination of the potential toxic pollutants listed below and be at a concentration shown by scientific information currently available to the public to have potential for causing one or more of the effects listed above; any water contaminant or combination of the water contaminants in the list below creating a lifetime risk of more than one cancer per 100,000 exposed persons is a toxic pollutant. The list of **toxic pollutants** recognized by NMED can be found in Subsection WW of 20.6.2.7 NMAC.

DD. "**unauthorized discharge**" means a release of wastewater, stormwater or other substances containing water contaminants not approved by a discharge permit

EE. "**wastewater**" means water, that has come into contact with water contaminants as a result of being directly or indirectly used in the operations of a dairy facility including, but not limited to, the following: washing, cleaning, or flushing barns or other roof-covered production areas; washing of animals; spray-cooling of animals (except in open lots); and cooling or cleaning of feed mills and equipment. Wastewater does not include overflow from the drinking water system or stormwater unless overflow or stormwater that is collected is comingled with wastewater, or it comes into contact with water contaminants as a result of being directly or indirectly used in dairy facility operations

FF. "**wastes**" means sewage, industrial wastes, or any other liquid, gaseous or solid substance which will pollute any waters of the state

GG. "**water**" means all water including water situated wholly or partly within or bordering upon the state, whether surface or subsurface, public or private, except private waters that do not combine with other surface or subsurface water

HH. "**water contaminant**" means any substance that could alter if discharged or spilled the physical, chemical, biological or radiological qualities of water; "**water contaminant**" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954

II. "**water pollution**" means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere with the public welfare or the use of property

D102 Acronyms

CQA	construction quality assurance
CQC	construction quality control
DP	discharge permit
FEMA	federal emergency management administration
FIRM	flood insurance rate map
gpd	gallon per day
mg/L	milligram per liter
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMP	Nutrient Management Plan
NMSA	New Mexico Statutes Annotated
TDS	total dissolved solids
WQA	New Mexico Water Quality Act
WQCC	Water Quality Control Commission

NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

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BILL RICHARDSON
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DIANE DENISH
Lieutenant Governor

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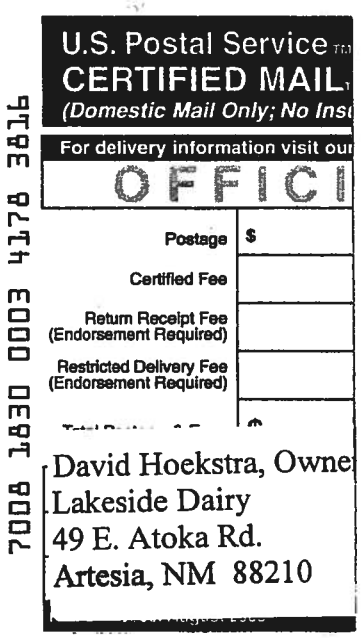
Secretary
SARAH COTTRELL
Deputy Secretary



CERTIFIED MAIL – RETURN RECEIPT REQUESTED

November 8, 2010

David Hoekstra, Owner
Lakeside Dairy
49 E. Atoka Rd.
Artesia, NM 88210

RE: Discharge Permit Renewal and Modification, DP-796, Lakeside Dair

Dear Mr. Hoekstra:

The New Mexico Environment Department (NMED) issues the enclosed Discharge Permit Renewal and Modification, DP-796, to David Hoekstra, Owner, 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 NMAC.

The Discharge Permit contains terms and conditions that shall be complied with by David Hoekstra and are enforceable by NMED pursuant to Section 20.6.2.3104 NMAC, WQA, NMSA 1978 §74-6-5 and §74-6-10. Issuance of this Discharge Permit does not relieve David Hoekstra 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.

Pursuant to Paragraph (4) of Subsection H of 20.6.2.3109 NMAC, the term of the Discharge Permit shall be five years from the date of issuance and will expire on **November 8, 2015**. You must submit an application for renewal at least 180 days before the permit expiration date.

An invoice for the Discharge Permit Fee of $3,450 is being sent under separate cover. Payment of the Discharge Permit Fee must be received by NMED within 30 days of the date the Discharge Permit is issued.

If you have any questions, please contact Kimberly Kirby at (505) 222-9523. Thank you for your cooperation during this Discharge Permit review.

Sincerely,

George Schuman for W. Olson

William C. Olson, Chief
Ground Water Quality Bureau

WO:KK/kk

Encs: Discharge Permit Renewal and Modification, DP-796
Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons – Liner Material and Site Preparation, Revision 0.0, May 2007
Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions, Revision 1.0, July 2008
Land Application Data Sheet (LADS)

cc: Glorieta Geoscience, Inc., P.O. Box 5727, Santa Fe, NM 87502 (permit)
~~Carlos Romero~~, Acting District Manager, NMED District IV (permit)-electronic transmittal
Jim Sizemore, Office of the State Engineer (permit)-electronic transmittal

GROUND WATER DISCHARGE PERMIT
RENEWAL AND MODIFICATION
Lakeside Dairy, DP-796

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal and Modification (Discharge Permit), DP-796, to David Hoekstra (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 NMAC.

NMED's purpose in issuing this Discharge Permit, and in imposing the requirements and conditions specified herein, is to control the discharge of water contaminants from Lakeside Dairy (facility) into ground and surface water, so as to protect ground and surface water for present and potential future use as domestic and agricultural water supply and other uses and protect public health. In issuing this Discharge Permit, NMED has determined that the requirements of Subsection C of 20.6.2.3109 NMAC have been met.

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:

Up to 90,000 gallons per day (gpd) of wastewater is discharged from the milking parlor. Wastewater flows from the parlor into a small concrete-lined sump and is pumped to a larger concrete-lined sump where wastewater is recycled for use in and collected from a flush alley system. Wastewater is pumped from the large sump over a screen solids separator into a synthetically lined combination wastewater and stormwater lagoon system for storage. The synthetically lined combination lagoon system required by this Discharge Permit shall replace the two clay-lined wastewater storage lagoons and the unlined stormwater impoundment currently in use. Wastewater from the lagoon system is land applied by center pivot and side-roll sprinkler systems, and flood irrigation to up to 358 acres of irrigated cropland under cultivation. The modification consists of increasing the land application area from 220 acres to 358 acres. The discharge contains water contaminants or toxic pollutants which may be elevated above the standards of Section 20.6.2.3103 NMAC. The facility is located at 49 E. Atoka Road, approximately five miles south of Artesia, in Sections 4 and 9, Township 18S, Range 26E, Eddy County. Ground water most likely to be affected is at a depth of approximately 46 feet and has a total dissolved solids concentration of approximately 1,070 milligrams per liter.

The original Discharge Permit was issued on June 20, 1991 and subsequently renewed and/or modified on June 7, 1999. The permittee's application consists of the materials submitted by Jack Tuls (previous owner) dated December 8, 2003 and additional information received from Glorieta Geoscience, Inc., on behalf of Jack Tuls and David Hoekstra, on July 19, 2007; April 10 and August 20, 2008; January 26, June 23, August 28, and September 8, 2009; and January 14 and 27, and September 21, 2010. The discharge shall be managed in accordance with all conditions and requirements of this Discharge Permit.

Pursuant to Section 20.6.2.3109 NMAC, NMED reserves the right to require a Discharge Permit Modification in the event NMED determines that the requirements of 20.6.2 NMAC are being or

may be violated or the standards of Section 20.6.2.3103 NMAC are being or may be violated. This may include a determination that structural controls and/or management practices approved under this Discharge Permit are not protective of ground water quality, and that more stringent requirements to protect and/or remediate ground water quality may be required by NMED. These requirements may include lining/relining lagoons; expanding the land application area; changing waste management practices; expanding monitoring requirements; and/or implementing abatement of water pollution.

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 abbreviations may be used in this Discharge Permit:

Abbreviation	Explanation		Abbreviation	Explanation
BOD_5	biochemical oxygen demand (5-day)		NTU	nephelometric turbidity units
CFR	Code of Federal Regulations		Org	organisms
Cl	chloride		TDS	total dissolved solids
LADS	land application data sheet(s)		TKN	total Kjeldahl nitrogen
mg/L	milligrams per liter		total nitrogen	TKN+NO_3-N
mL	milliliters		TRC	Total Residual Chlorine
NMAC	New Mexico Administrative Code		TSS	total suspended solids
NMED	New Mexico Environment Department		WQA	New Mexico Water Quality Act
NMSA	New Mexico Statutes Annotated		WQCC	Water Quality Control Commission
NO_3-N	nitrate-nitrogen		SO_4	Sulfate

II. FINDINGS

In issuing this Discharge Permit, NMED finds:

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

2. The permittee is discharging effluent or leachate from the facility so that such effluent or leachate 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.

3. The discharge from the facility is not subject to any of the exemptions of Section 20.6.2.3105 NMAC.

III. CONDITIONS

The following conditions shall be complied with by the permittee and are enforceable by NMED. The permittee is authorized to discharge water contaminants subject to the following conditions:

OPERATIONAL PLAN

#	Terms and Conditions
1.	The permittee shall implement the following operational plan to ensure compliance with Title 20, Chapter 6, Parts 1 and 2 NMAC. [20.6.2.3106.C NMAC, 20.6.2.3107 NMAC]
2.	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. [20.6.2.3101 NMAC, 20.6.2.3103 NMAC]
3.	The permittee is authorized to discharge up to 90,000 gpd of wastewater from the milking parlor. Wastewater from the parlor flows into a small concrete-lined sump located at the parlor and is pumped to a larger concrete-lined sump located near the stormwater impoundment where wastewater is recycled for use in and collected from a flush alley system. Wastewater is pumped from the large sump over a screen solids separator into a synthetically lined combination wastewater and stormwater lagoon system for storage. The synthetically lined combination lagoon system required by this Discharge Permit shall replace the two clay-lined wastewater storage lagoons and the unlined stormwater impoundment currently in use. Wastewater from the storage lagoon system is land applied by center pivot and side-roll sprinkler systems, and flood irrigation to up to 358 acres of irrigated cropland under cultivation. [20.6.2.3104 NMAC]
4.	The permittee shall remove or land apply manure solids and composted material from the facility in a manner and at a frequency necessary to prevent the contamination of ground water. Management practices for manure and composted material stored at the facility prior to removal or land application shall minimize generation and infiltration of leachate by diverting stormwater run-on and run-off and by preventing the ponding of water within areas used for manure and compost stockpiling. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
5.	Within 120 days of the effective date of this Discharge Permit (by **March 8, 2011**), the permittee shall submit construction plans and specifications, and supporting design calculations for a new synthetically lined combination lagoon system for the storage of wastewater and stormwater, certified by a licensed New Mexico professional engineer. The plans shall demonstrate that the lagoon system is designed at minimum to contain the maximum daily discharge volume allowed by this Discharge Permit for a minimum period of 60 days, plus stormwater runoff and direct precipitation generated from a 25-year, 24-hour storm event, while maintaining two feet of freeboard at all times.

	[20.6.2.3109 NMAC]
6.	Within one year of the effective date of this Discharge Permit (by **November 8, 2011**), the permittee shall complete construction of a synthetically lined combination lagoon(s) for the storage of wastewater and stormwater. The lagoon system shall be constructed in accordance with the construction plans and specifications as required by this Discharge Permit and the attachment titled *Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons - Liner Material and Site Preparation*, Revision 0.0, May 2007. The permittee shall notify NMED at least five working days prior to lagoon construction to allow NMED personnel to be on-site for inspection. Record drawings and final specifications for the lagoon system and lagoon liner(s), and final lagoon system capacity calculations, shall be submitted to NMED within 60 days of liner installation. A licensed New Mexico professional engineer shall certify all record drawings and final specifications for the lagoon system and liner(s), as well as final capacity calculations. [20.6.2.3109 NMAC]
7.	The permittee shall divert stormwater from the corrals and other applicable areas at the facility (i.e., calf pens, alleys, feed storage and mixing, etc.) into the synthetically lined combination wastewater and stormwater lagoon system in a manner that minimizes impacts to ground and surface water. Adequate free capacity shall be maintained in the lined lagoon system to contain runoff and direct precipitation from a 25-year, 24-hour rainfall event. [20.6.2.3109 NMAC]
8.	The permittee shall operate and maintain the synthetically lined lagoon system for the combined purpose of storing and managing wastewater and stormwater generated at the dairy. The permittee shall maintain the capacity of the lagoon system to store the maximum daily discharge volume allowed by this Discharge Permit for a minimum period of 60 days, plus stormwater generated from a 25-year, 24-hour storm event, while maintaining two feet of freeboard at all times. In order to maintain the required capacity, solids shall be removed from the lagoon system as needed in a manner that is protective of the lagoon liner. [20.6.2.3109 NMAC]
9.	The synthetically lined combination lagoon system shall be maintained in such a manner as to avoid conditions which could affect the structural integrity of the lagoon system and the associated liner. Such conditions include, but are not limited to: • erosion damage; • animal activity/damage; • the presence of vegetation such as: aquatic plants, weeds, woody shrubs or trees growing within five feet of the lagoon edge or within the lagoon itself; • evidence of seepage; • evidence of berm subsidence; and/or • the presence of large pieces or large quantities of debris in the lagoon. The permittee shall visually inspect the combination lagoon system and surrounding

	berms on a monthly basis to ensure proper maintenance. Vegetation growing around the combination lagoon system shall be routinely controlled in a manner that is protective of liner. Any evidence of damage to the berm of a lagoon system or to a liner shall be reported to NMED immediately upon discovery. [20.6.2.3107 NMAC]
10.	Within 180 days of the effective date of this Discharge Permit (by **May 7, 2011**), the permittee shall submit to NMED documentation of the existing infrastructure necessary to properly transfer, distribute and apply wastewater and/or stormwater to all fields which have received wastewater within the 358-acre land application area. Fields include: NW Field, North Field (aka CP-1), E-W Field, and South Field. Written confirmation of the land application distribution system installation shall include the type and locations of the system, the method of backflow prevention employed, and photographic documentation. [20.6.2.3109 NMAC] Within 90 days of the completion of the synthetically lined lagoon system, the permittee shall submit to NMED documentation indicating how the new lagoon system has been connected to the land application infrastructure. The documentation shall also describe how the connection from the clay-lined lagoons to the land application infrastructure has been permanently severed. [20.6.2.3109 NMAC]
11.	Prior to the initial discharge of wastewater to any field within the 358-acre land application area that has not previously received wastewater (Torres Field), the permittee shall install the infrastructure necessary to properly transfer, distribute and apply wastewater and/or stormwater. Written confirmation of the land application distribution system installation including the type and locations of the system, the method of backflow prevention employed, and photographic documentation, shall be submitted to NMED prior to discharging to any field. [20.6.2.3109 NMAC]
12.	The permittee shall apply dairy wastes to up to 358 acres of irrigated cropland. Dairy wastes shall be applied to cropland under cultivation in such a manner that the amount of total nitrogen in the combined applications of wastewater, manure solids, composted material, residual soil nitrogen, stormwater applications, irrigation water and/or commercial fertilizer shall not exceed by more than 25% the amount reasonably expected to be taken up and removed by the harvested crops on an annual basis. Nitrogen content shall not be adjusted to account for volatilization or mineralization processes. Wastewater shall be applied alternately with irrigation water. All dairy wastes shall be distributed evenly over the entire area of application. Excessive ponding shall be prevented. [20.6.2.3109 NMAC]
13.	The permittee shall install, implement, and maintain backflow prevention to protect all wells used in the land application distribution system from contamination by wastewater. Backflow prevention shall be achieved by an air gap method or reduced pressure principal backflow prevention assembly (RP). Backflow prevention assemblies (RPs) shall be tested by a certified backflow prevention assembly tester at the time of installation, repair, or relocation, and at least on an annual schedule thereafter. Copies of

	the inspection and maintenance records and test results for each RP device associated with the permitted land application area shall be kept on-site and available for inspection upon request. [20.6.2.3109 NMAC]
14.	Following completion of any additions or changes to the dairy facility (i.e., complete construction of the new lagoon system, installation of monitoring wells), which affects the following items, the permittee shall update and resubmit the scaled map of the entire dairy facility to NMED within 120 days of the additions or changes. The map shall be clear and legible, and drawn to a scale such that all necessary information is plainly shown and identified. The map shall show the scale in feet or metric measure, a graphical scale, a north arrow, and the effective date of the map. Documentation identifying the means used to locate the mapped objects (i.e., GPS, land survey, digital map interpolation, etc.) and the relative accuracy of the data (i.e., +/- XX feet or meters) shall be included with the map. The map shall include the following elements: a) overall dairy facility layout (barns, feed storage areas, pens, etc.); b) location of sumps; c) location of manure separators; d) location of all wastewater storage lagoon(s); e) location of all stormwater impoundment(s); f) location of all mix tanks; g) location and acreage of each field within the land application area; h) location of monitoring wells (including permanent designation); i) location of all irrigation wells; j) location of all meters measuring wastewater discharges to and from lagoons; k) location of all meters measuring stormwater applied to the land application area; l) location of all fixed pump(s) for discharge and transfer of wastewater or stormwater; m) location of all wastewater and stormwater distribution pipelines; n) location of each ditch irrigation system, acequia, irrigation canal and drain; o) location of all backflow prevention methods or devices; and p) wastewater sampling location(s). Any items cannot be directly shown, due to its location inside of existing structures, or because it is buried without surface identification, shall be identified on the map in a schematic format and identified as such. [20.6.2.3106 NMAC, 20.6.2.3109 NMAC]

MONITORING, REPORTING, AND OTHER REQUIREMENTS

#	**Terms and Conditions**
15.	The permittee shall conduct the monitoring, reporting, and other requirements listed below. [20.6.2.3107 NMAC]

16.	METHODOLOGY - Unless otherwise approved in writing by NMED, the permittee shall conduct sampling and analysis in accordance with the most recent edition of the following documents: a) American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th or current) b) U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste c) U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey d) American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31.Water e) U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition f) Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods, Part 2. Microbiological and Biochemical Properties, and Part 3. Chemical Methods. American Society of Agronomy [20.6.2.3107.B NMAC]
17.	The permittee shall submit quarterly monitoring reports to NMED by the 1st of February, May, August, and November of each year. Quarterly monitoring shall be performed during the following quarters and submitted as follows: • January 1st through March 31st (first quarter) - **due by May 1st** • April 1st through June 30th (second quarter) - **due by August 1st** • July 1st through September 30th (third quarter) - **due by November 1st** • October 1st through December 31st (fourth quarter) - **due by February 1st** Monitoring requirements detailed in this Discharge Permit are summarized on the sheet titled *Summary of Required Actions, Monitoring and Reporting.* [20.6.2.3107 NMAC]
18.	Within 90 days of completion of and prior to discharging from the synthetically lined combination lagoon system, the permittee shall install the following totalizing flow meter(s): a) A meter(s) installed on the transfer line(s) from the combination lagoon system to the land application area to measure the volume of wastewater discharged from the lagoon system to each individual field within the land application area. Confirmation of meter installation, type, calibration and locations shall be submitted to NMED within 30 days of completed installation. [20.6.2.3109 NMAC]
19.	The permittee shall measure the monthly volume of wastewater discharged from the milking parlor to the lagoon system using the totalizing flow meter installed at the small sump located just south of the milking parlor. Monthly meter readings including units of measurement, calculations, and monthly discharge volumes for the previous three-month period shall be submitted to NMED in the quarterly monitoring reports. The flow meter

	shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H NMAC]
20.	The permittee shall measure and record all discharges from the lagoon system to each field in the land application area. The volume of each discharge shall be measured using a totalizing flow meter(s) on the transfer line(s) between the lagoon system and the land application area. The permittee shall maintain a log showing the date and location of each discharge, meter readings immediately prior to and after each discharge, and the calculated total volume of each discharge. A copy of the log entries including units of measurement for the previous three-month period shall be submitted to NMED in the quarterly monitoring reports. The discharge volumes shall be used to calculate nitrogen loading on the LADS. The flow meter shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H(1) NMAC]
21.	Once prior to the expiration date of this Discharge Permit, NMED shall have the option to perform downhole inspections of all monitoring wells identified in this Discharge Permit. NMED shall establish the inspection date and provide at least 60 days notice to the permittee by certified mail. The permittee shall have any existing dedicated pumps removed at least 48 hours prior to NMED inspection to allow adequate settling time of sediment agitated from pump removal. Should a facility not have existing dedicated pumps, but decide to install pumps in any of the monitoring wells, NMED shall be notified at least 90 days prior to pump installation so that a downhole well inspection(s) can be scheduled prior to pump placement. [20.6.2.3107 NMAC]
22.	At least 60 days prior to monitoring well installation(s), the permittee shall submit a written monitoring well location proposal for review and approval by NMED. The proposal shall designate the locations of all monitoring wells required to be installed by this Discharge Permit. The proposal shall include, at a minimum, the following information: a) A map showing the proposed location of each monitoring well from the boundary of the source it is intended to monitor. b) A written description of the specific location proposed for each monitoring well including the distance (in feet) and direction of each monitoring well from the edge (i.e., toe of lagoon berm) of the source it is intended to monitor. Examples include, 35 feet north-northwest of the northern berm of the synthetically lined wastewater lagoon; 30 feet southeast of the land application area 150 degrees from north. c) A statement describing the ground water flow direction beneath the facility and data supporting the determination. [20.6.2.3107 NMAC]
23.	Within 120 days of the effective date of this Discharge Permit (by **March 8, 2011**), the permittee shall install the following five new monitoring wells: • One monitoring well (MW-3A), to be located 20 to 50 feet hydrologically downgradient of the existing clay-lined North Lagoon, replacing MW-3 plugged in

	2005. • One monitoring well (MW-8) to be located hydrologically upgradient of the entire facility. • One monitoring well (MW-9) to be located 20 to 50 feet hydrologically downgradient of South Field. • One monitoring well (MW-10) to be located 20 to 50 feet hydrologically downgradient of E-W Field. • One monitoring well (MW-11) to be located 20 to 50 feet hydrologically downgradient of Torres Field (aka New Land Application Area). All monitoring well locations shall be approved by NMED prior to installation. The wells shall be completed in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008. Construction and lithologic logs shall be submitted to NMED within 180 days of the effective date of this Discharge Permit (by **May 7, 2011**). [20.6.2.3107 NMAC]
24.	Within one year of the effective date of this Discharge Permit (by **November 8, 2011**) and prior to discharging wastewater or stormwater into the synthetically lined combination lagoon system, the permittee shall install a monitoring well (MW-6A) hydrologically downgradient and within 20 to 50 feet of the newly constructed synthetically lined lagoon system. This well replaces existing MW-6 to be plugged and abandoned for the new lagoon construction. The monitoring well location shall be approved by NMED prior to installation. The well shall be completed in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008. Construction and lithologic logs shall be submitted to NMED within 60 days of well completion. [20.6.2.3107 NMAC]
25.	Following installation of the new monitoring wells required by this Discharge Permit, the permittee shall sample ground water in the new wells and analyze the samples for NO_3-N, TKN, Cl, and TDS. The permittee shall sample the following wells: • MW-3A, intended to be located hydrologically downgradient of the existing clay-lined North Lagoon. • MW-6A, intended to be located hydrologically downgradient of the newly constructed synthetically lined combination lagoon system. • MW-8, intended to be located hydrologically upgradient of the entire facility. • MW-9, intended to be located hydrologically downgradient of South Field. • MW-10, intended to be located hydrologically downgradient of E-W Field. • MW-11, intended to be located hydrologically downgradient of Torres Field. Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:

	a) Measure the depth-to-ground water from the top-of-well casing to the nearest hundredth of a foot. b) Purge three well volumes of water from the well prior to sample collection. c) Obtain samples from the well for analysis. d) Properly prepare, preserve and transport samples. e) Analyze samples in accordance with the methods authorized in this Discharge Permit. Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of each well shall be submitted to NMED within 60 days of the installation of the monitoring wells. [20.6.2.3107 NMAC]
26.	Within 150 days of the effective date of this Discharge Permit (by **April 7, 2011**), the permittee shall survey monitoring wells MW-1, MW-3A, MW-5, MW-7, MW-8, MW-9, MW-10 and MW-11 to a U.S. Geological Survey (USGS) or other permanent benchmark. Survey data shall include northing, easting and elevation to the nearest hundredth of a foot or in accordance with the "Minimum Standards for Surveying in New Mexico" (12.8.2 NMAC). A survey elevation shall be established at the top-of-casing, with a permanent marking indicating the point of survey. The survey shall be completed and certified by a licensed New Mexico professional surveyor. Depth-to-water shall be measured to the nearest hundredth of a foot in all surveyed wells, and the data shall be used to develop a map showing the location of all monitoring wells and the direction and gradient of ground water flow at the facility. The data and map of ground water flow direction at the facility shall be submitted to NMED within 180 days of the effective date of this Discharge Permit (by **May 7, 2011**). [20.6.2.3107 NMAC]
27.	Within 60 days of completion of MW-6A, the permittee shall survey the new monitoring well to the same permanent benchmark used for the previous monitoring well survey required by this Discharge Permit. Survey data shall include northing, easting and elevation to the nearest hundredth of a foot or in accordance with the "Minimum Standards for Surveying in New Mexico" (12.8.2 NMAC). A survey elevation shall be established at the top-of-casing, with a permanent marking indicating the point of survey. The survey shall be completed and certified by a licensed New Mexico professional surveyor. Depth-to-water shall be measured to the nearest hundredth of a foot in all surveyed wells, and the data shall be used to develop a map showing the location of all monitoring wells and the direction and gradient of ground water flow at the facility. The data and map of ground water flow direction at the facility shall be submitted to NMED within 60 days of survey completion. [20.6.2.3107 NMAC]
28.	The permittee shall perform quarterly ground water sampling in all monitoring wells and analyze the samples for NO_3-N, TKN, Cl, and TDS. The permittee shall sample the following wells: • MW-1, located northwest of existing clay-lined North Lagoon. • MW-3A, intended to be located hydrologically downgradient of the existing clay-

	lined North Lagoon. • MW-5, located southeast of existing clay-lined South Lagoon. • MW-6A, intended to be located hydrologically downgradient of the newly constructed synthetically lined combination wastewater and stormwater lagoon system. • MW-7, located east of North Field, intended to be located hydrologically downgradient of Fields North and NW. • MW-8, intended to be located hydrologically upgradient of the entire facility. • MW-9, intended to be located hydrologically downgradient of South Field. • MW-10, intended to be located hydrologically downgradient of E-W Field. • MW-11, intended to be located hydrologically downgradient of Torres Field. Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure: a) Measure the depth-to-ground water from the top-of-well casing to the nearest hundredth of a foot; b) Purge three well volumes of water from the well prior to sample collection. c) Obtain samples from the well for analysis. d) Properly prepare, preserve and transport samples. e) Analyze samples in accordance with the methods authorized in this Discharge Permit. Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of each well shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC]
29.	The permittee shall develop a ground water elevation contour map on a quarterly basis using the monitoring well survey data and quarterly depth-to-water measurements as required by this Discharge Permit. The ground water elevation contour map shall depict the ground water flow direction based on the ground water elevation contours. The data and ground water elevation contour maps shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC]
30.	The permittee shall collect and analyze wastewater samples on a quarterly basis for NO_3-N, TKN, Cl, and TDS. Samples shall be collected during active milking from a location between the manure screen solids separator and the lagoon system. Analytical results shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC]
31.	The permittee shall determine the total nitrogen concentration of each harvested crop grown to verify plant nitrogen removal levels. A composite sample consisting of 15 sub-samples of plant material shall be taken from each field during the final harvest of each crop grown per year. Samples shall be analyzed for percent total nitrogen and percent dry matter. Analytical reports shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]

32.	Yield documentation and plant and harvest dates of each crop grown shall be submitted to NMED in the quarterly monitoring reports. Yield documentation shall consist of scale-weight tickets or harvest summaries based on scale-weights. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
33.	The permittee shall complete LADS, which document the amount of nitrogen from wastewater, stormwater and/or manure solids, applied to each field in the land application area. The LADS shall be completed for each crop grown associated with each field and shall reflect the nitrogen concentration from the quarterly wastewater analyses and the measured discharge volumes for each month. The volume of wastewater and stormwater used in the LADS calculations shall be the volume obtained from meter readings required in this Discharge Permit. The nitrogen concentration of the applied manure solids may be estimated at 13 pounds per ton. The permittee shall also include with the LADS, the crops grown, yields removed and the total nitrogen concentration of the harvested crop for each crop grown. The LADS or a statement that no land application occurred shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
34.	For the **first soil sampling event** during the first year following the effective date of the discharge permit, the permittee shall collect composite soil samples from each field within the land application area. Composite soil samples shall be collected in the five-month period between September 1 and January 31 for all fields regardless of whether the field is cropped, remains fallow, or has received wastewater or stormwater. One surface composite soil sample (first-foot) and two sub-surface composite soil samples (second-foot and third-foot) shall be collected from each field. Composite soil samples shall be collected and analyzed according to the following procedure. 1. Each surface and sub-surface soil sample shall consist of a single composite of 15 soil cores collected randomly throughout each field. Should a field consist of different soil textures (i.e., sandy and silty clay), a composite soil sample shall be collected from each soil texture within each field. 2. Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches. 3. Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24 inches. 4. Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36 inches. 5. Each surface and sub-surface composite sample shall be analyzed for pH, electrical conductivity (EC), TKN, NO_3-N, Cl, organic matter (OM), potassium (K), phosphorus (P), sodium (Na), calcium (Ca), magnesium (Mg), sulfate (SO_4), soil texture, and sodium adsorption ratio (SAR). 6. Soil pH, EC, Na, Ca, Mg, and SO_4 shall be analyzed using a saturated paste extract in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil P shall be analyzed using the Olsen sodium bicarbonate method in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil NO_3-N shall be analyzed by a 2 molar KCl extract in

	accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil TKN, Cl, OM, K, soil texture, and SAR shall be analyzed in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. The permittee shall submit the analytical results and a map showing the fields and the sampling locations within each field to NMED in the monitoring report due by May 1 following the effective date of the discharge permit. [20.6.2.3107 NMAC]
35.	Beginning in the year following the initial soil sampling required by this section, the permittee shall collect annual soil samples from each field (within the land application area) that has received or is actively receiving wastewater or stormwater. Composite soil samples shall be collected in the five-month period between September 1 and January 31. For those fields that have never before received wastewater, the permittee shall collect soil samples immediately before initial wastewater application and annually thereafter. Once a field has received wastewater it shall be sampled annually, for the term of the discharge permit, regardless of whether the field is cropped, remains fallow, or has recently received wastewater or stormwater. One surface composite soil sample (first-foot) and two sub-surface composite soil samples (second-foot and third-foot) shall be collected from each field. Composite soil samples shall be collected and analyzed according to the following procedure. 1. Each surface and sub-surface soil sample shall consist of a single composite of 15 soil cores collected randomly throughout each field. Should a field consist of different soil textures (i.e., sandy and silty clay), a composite soil sample shall be collected from each soil texture within each field. 2. Surface soil samples (first-foot) shall be collected from a depth of 0 to 12 inches. 3. Each second-foot sub-surface soil sample shall be collected from a depth of 12 to 24 inches. 4. Each third-foot sub-surface soil sample shall be collected from a depth of 24 to 36 inches. 5. Surface soil samples shall be analyzed for pH, EC, NO_3-N, Cl, OM, K, P, Na, Ca, Mg, and SAR. 6. Sub-surface soil samples shall be analyzed for EC, NO_3-N, and Cl. 7. Soil pH, EC, Na, Ca, and Mg shall be analyzed using a saturated paste extract in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil P shall be analyzed using the Olsen sodium bicarbonate method in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil NO_3-N shall be analyzed by a 2 molar KCl extract in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. Soil Cl, OM, K, and SAR shall be analyzed in accordance with the analytical methodology required by Condition 16 of this Discharge Permit. The permittee shall submit the analytical results and a map showing the fields and the sampling locations within each field to NMED in the monitoring reports due by May 1.

	[20.6.2.3107 NMAC]
36.	The permittee shall keep a log of all additional fertilizer applied to each field in the land application area. The log shall contain the date of fertilizer application, the type and fertilizer analysis, and the amount of fertilizer applied (lbs/ac) to each field. A copy of the log entries for the previous 12-month period shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]

CONTINGENCY PLAN

#	Terms and Conditions
37.	In the event that ground water monitoring indicates that one or more of the ground water standards of Section 20.6.2.3103 NMAC are violated during the term of this Discharge Permit, upon closure of the facility or during post-closure monitoring, the permittee shall perform the following actions: a) Collect a second sample from the monitoring well(s) within 30 days of the initial sample analysis date to verify the initial results. b) Submit the analytical results for both the initial and second ground water samples to NMED within 30 days of the analysis date of the second ground water sample. In the event that analytical results of the second ground water sample verify the exceedance of one or more of the ground water standards of Section 20.6.2.3103 NMAC, within 60 days of the second sample analysis date the permittee shall submit a corrective action plan to NMED and implement the plan upon NMED approval. The corrective action plan shall propose measures to mitigate damage from the discharge including, at a minimum, source control measures and an implementation schedule. The permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000 though 20.6.2.4115 NMAC, if the corrective action plan will not result in compliance with the standards and requirements set forth in Section 20.6.2.4103 NMAC within 180 days of confirmed ground water contamination. [20.6.2.1203 NMAC, 20.6.2.4105.A(8) NMAC]
38.	In the event that a minimum of two feet of freeboard cannot be maintained in the combination wastewater and stormwater lagoon at all times, the permittee shall submit a corrective action plan for NMED approval within 30 days of the date when the two feet of freeboard limit was initially exceeded. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
39.	In the event that information available to NMED indicates that a well(s) is not appropriately constructed to effectively monitor ground water quality, contains insufficient water to allow the collection of representative ground water samples, or is not completed in a manner that is protective of ground water quality, the permittee shall install a replacement well(s) within 90 days of notification from NMED. The replacement well location(s) shall be approved by NMED prior to installation and completed in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008.

	Construction and lithologic logs shall be submitted to NMED within 60 days of well completion. Upon completion of the replacement monitoring well(s), the monitoring well(s) requiring replacement shall be properly plugged and abandoned. The well(s) shall be plugged and abandoned in accordance with the abandonment details in the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008, and any applicable local, state, and federal regulations. Documentation describing the plugging and abandonment procedures, including photographic documentation, shall be submitted to NMED within 60 days of completed well abandonment. [20.6.2.3107 NMAC]
40.	In the event that information on the direction of ground water flow obtained pursuant to this Discharge Permit indicates that a monitoring well(s) is not located hydrologically downgradient of the discharge location(s) the well(s) is intended to monitor, the permittee shall propose a location(s) for a replacement monitoring well(s) within 30 days of notification from NMED. The permittee shall propose a replacement monitoring well location(s) that is anticipated to be hydrologically downgradient of the discharge location(s) to be monitored. The permittee shall install the replacement monitoring well(s) within 90 days of NMED approval of the proposed replacement monitoring well location(s). The replacement monitoring well(s) shall be completed in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008. Construction and lithologic logs shall be submitted to NMED within 60 days of well completion. [20.6.2.3107 NMAC]
41.	In the event that LADS show that the amount of nitrogen applied to a field(s) within the land application area exceeds by more than 25% the amount reasonably expected to be taken up and removed by the harvested crop(s), the permittee shall submit to NMED for approval a corrective action plan for the reduction of nitrogen loading to the land application area within 30 days of the exceedance. The corrective action plan shall be implemented within 30 days of NMED approval. [20.6.2.3107.A(10) NMAC, 20.6.2.3109 NMAC]
42.	In the event of a spill or release that is not authorized under this Discharge Permit, the permittee shall initiate the notifications and corrective actions as required in Section 20.6.2.1203 NMAC. The permittee shall take immediate corrective action to contain and remove or mitigate the damage caused by the discharge. Within 24 hours after discovery of the discharge, the permittee shall verbally notify NMED and provide the information required by Paragraph (1) of Subsection A of 20.6.2.1203 NMAC. Wastewater shall be contained, pumped and/or transferred to the concrete sump, lagoon and/or land application area as necessary. Failed components shall be repaired or replaced within 48 hours from the time of failure or as soon as possible. Within seven days of discovering the discharge, the permittee shall submit a written report to NMED verifying the oral notification and providing any additional information or changes. The permittee shall submit a corrective action report within 15 days after discovery of the discharge.

	[20.6.2.1203 NMAC]
43.	In the event NMED or the permittee identifies any other failures of the Discharge Permit or system not specifically noted herein, NMED may require the permittee to develop for NMED approval contingency plans and schedules to cope with the failures. [20.6.2.3107.A(10) NMAC]

CLOSURE PLAN

#	Terms and Conditions
44.	Immediately prior to beginning construction of the new synthetically lined lagoon, the permittee shall properly plug and abandon MW-6, located on the northeast corner of existing runoff pond. The well shall be plugged and abandoned in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008, and any applicable local, state, and federal regulations. Documentation describing the plug and abandonment procedures, including photographic documentation, shall be submitted to NMED within 60 days of completed well abandonment. [20.6.2.3107 NMAC]
45.	Within three years of the effective date of this Discharge Permit (by **November 8, 2013**), the permittee shall have completed closure of the two existing clay-lined lagoons. Upon completion of the new synthetically lined combination lagoon system discharges to the two clay-lined lagoons shall cease and wastewater shall be transferred to the new lagoon system or land applied. Manure solids shall be removed and the lagoon areas regraded to blend with surface topography and prevent ponding. The manure solids shall be disposed of in accordance with all local, state, and federal regulations. Documentation verifying complete closure of the lagoons, including photographic documentation, shall be submitted to NMED within 60 days of lagoon closure completion. [20.6.2.3109 NMAC, 20.6.2.3107 NMAC]
46.	Upon closure of the facility, the permittee shall perform the following closure measures: a) Complete the installation of all monitoring wells as required by this Discharge Permit. b) Remove all manure solids and compost from the facility and apply to the designated land application area or transfer offsite for proper disposal. c) Empty lagoons of all wastewater, stormwater and manure solids. d) Perforate or remove lagoon liner and re-grade the lagoon with clean fill to blend with surface topography and to prevent ponding. e) Continue ground water monitoring as required by this Discharge Permit for two years after closure to confirm the absence of ground water contamination. If monitoring results show that the ground water standards in Section 20.6.2.3103 NMAC are being violated, the permittee shall implement the contingency plan required by this Discharge Permit.

	f) Following notification from NMED that post-closure monitoring may cease, the permittee shall plug and abandon the monitoring well(s) in accordance with the attachment titled *Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions*, Revision 1.0, July 2008. When all post-closure requirements have been met, the permittee may request to terminate the Discharge Permit. [20.6.2.3107.A(11) NMAC]

GENERAL TERMS AND CONDITIONS

#	Terms and Conditions
47.	RECORD KEEPING - The permittee shall maintain at its facility a written record of all data and information related to field measurements, sampling, and analysis conducted pursuant to this Discharge Permit. The following information shall be recorded and shall be made available to NMED upon request: a) The dates, exact place and times of sampling or field measurements; b) The name and job title of the individuals who performed each sample collection or field measurement; c) The date of the analysis of each sample; d) The name and address of the laboratory and the name and job title of the person that performed the analysis of each sample; e) The analytical technique or method used to analyze each sample or take each field measurement; f) The results of each analysis or field measurement, including raw data; g) The results of any split sampling, spikes or repeat sampling; and h) A description of the quality assurance and quality control procedures used. [20.6.2.3107.A NMAC]
	RECORD KEEPING - The permittee shall maintain a written record of any spills, seeps, and/or leaks of effluent, and of leachate and/or process fluids not authorized by this Discharge Permit. [20.6.2.3107.A NMAC]
49.	RECORD KEEPING - The permittee shall maintain a written record of the operation, maintenance, and repair of all facilities/equipment used to treat, store or dispose of wastewater; to measure flow rates, to monitor water quality, or to collect other data required by this Discharge Permit. This record shall include repair, replacement or calibration of any monitoring equipment and repair or replacement of any equipment used in the permittee's waste or wastewater treatment and disposal system. [20.6.2.3107.A NMAC]
50.	RECORD KEEPING - The permittee shall maintain a written record of the amount of wastewater, effluent, leachate or other wastes discharged pursuant to this Discharge Permit. [20.6.2.3107.A NMAC]

51.	RECORD KEEPING - The permittee shall retain records of all monitoring information, including all calibration and maintenance records, copies of all reports required by this Discharge Permit, and records of all data used to complete the application for this Discharge Permit for a period of at least five years from the date of the sample collection, measurement, report or application. This period may be extended by request of the Secretary at any time. [20.6.2.3107.A NMAC]
52.	INSPECTION and ENTRY - The permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to: a) Enter at regular business hours or at other reasonable times upon the permittee's premises or other location where records must be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation. b) Inspect and copy, during regular business hours or at other reasonable times, any records required to be kept under the conditions of this Discharge Permit, or under any federal or WQCC regulation. c) Inspect, at regular business hours or at other reasonable times, any facility, equipment (including monitoring and control equipment or treatment works), practices or operations regulated or required under this Discharge Permit, or under any federal or WQCC regulation. d) Sample or monitor, at reasonable times for the purpose of assuring compliance with this Discharge Permit or as otherwise authorized by the WQA, any effluent, water contaminant, or receiving water at any location before or after discharge. [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]
53.	INSPECTION and ENTRY - Nothing in this Discharge Permit shall be construed as limiting in any way the inspection and entry authority of NMED under the WQA, the WQCC Regulations, or any other applicable law or regulation. [20.6.2.3107 NMAC, 74-6-9(B) & (E) WQA]
54.	DUTY to PROVIDE INFORMATION - The permittee shall furnish to NMED, within a reasonable time, any documents or other information which it may request to determine whether cause exists for modifying, terminating and/or renewing this Discharge Permit or to determine compliance with this Discharge Permit. The permittee shall also furnish to NMED, upon request, copies of documents required to be kept by this Discharge Permit. [20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]
55.	SPILLS, LEAKS, and OTHER UNAUTHORIZED DISCHARGES - This Discharge Permit authorizes only those discharges specified herein. Any unauthorized discharges violate Section 20.6.2.3104 NMAC and must be reported to NMED and remediated as required by Section 20.6.2.1203 NMAC. [20.6.2.1203 NMAC]
56.	MODIFICATIONS and/or AMENDMENTS - The permittee shall notify NMED of any changes to the permittee's wastewater treatment and disposal system, including any changes in the wastewater flow rate or the volume of wastewater storage, or of any other changes to operations or processes that would result in any significant change in the

	discharge of water contaminants. The permittee shall obtain NMED's approval, as a modification to this Discharge Permit pursuant to Subsections E, F, or G of 20.6.2.3109 NMAC, prior to any increase in the quantity discharged, or any increase in the concentration of water contaminants discharged, above those levels approved in this Discharge Permit. [20.6.2.3107.C NMAC]
57.	PLANS and SPECIFICATIONS - The permittee shall file plans and specifications with NMED for the construction of a wastewater system and for proposed changes that will change substantially the quantity or quality of the discharge from the system. The permittee shall file plans and specifications prior to the commencement of construction. Changes to the wastewater system having a minor effect on the character of the discharge shall be reported as of January 1 and June 30 of each year to NMED. [20.6.2.1202 NMAC]
58.	CIVIL PENALTIES - Any violation of the requirements and conditions of this Discharge Permit, including any failure to allow NMED staff to enter and inspect records or facilities, or any refusal or failure to provide NMED with records or information, may subject the permittee to a civil enforcement action. Pursuant to WQA 74-6-10(A) and (B), such action may include a compliance order requiring compliance immediately or in a specified time, assessing a civil penalty, modifying or terminating the Discharge Permit, or any combination of the foregoing; or an action in district court seeking injunctive relief, civil penalties, or both. Pursuant to WQA 74-6-10(C) and 74-6-10.1, civil penalties of up to $15,000 per day of noncompliance may be assessed for each violation of the WQA 74-6-5, the WQCC Regulations, or this Discharge Permit, and civil penalties of up to $10,000 per day of noncompliance may be assessed for each violation of any other provision of the WQA, or any regulation, standard, or order adopted pursuant to such other provision. In any action to enforce this Discharge Permit, the permittee waives any objection to the admissibility as evidence of any data generated pursuant to this Discharge Permit. [74-6-10 WQA, 74-6-10.1 WQA]
59.	CRIMINAL PENALTIES – Any person who knowingly violates or knowingly causes or allows another person to: 1) make any false material statement, representation, certification or omission of material fact in an application, record, report, plan or other document filed, submitted or required to be maintained under the WQA; 2) falsify, tamper with or render inaccurate any monitoring device, method or record required to be maintained under the WQA; or 3) fail to monitor, sample or report as required by a permit issued pursuant to a state or federal law or regulation, is subject to felony charges and shall be sentenced in accordance with the provisions of Section 31-18-15 NMSA 1978. [74-6-10.2(A-F) WQA]
60.	COMPLIANCE WITH OTHER LAWS - Nothing in this Discharge Permit shall be construed in any way as relieving the permittee of the obligation to comply with all applicable federal, state, and local laws, regulations, permits or orders. [20.6.2 NMAC]

61.	RIGHT to APPEAL - The permittee may file a petition for review before the WQCC on this Discharge Permit. Such petition shall be in writing to the WQCC within thirty (30) days of the receipt of this Discharge Permit. Unless a timely petition for review is made, the decision of NMED shall be final and not subject to judicial review. [74-6-5(O) WQA]
62.	TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or possession of this permitted facility or any portion thereof, the permittee shall notify the proposed transferee in writing of the existence of this Discharge Permit and include a copy of this Discharge Permit with the notice. The permittee shall deliver or send by certified mail to NMED a copy of the notification and proof that such notification has been received by the proposed transferee. [20.6.2.3111 NMAC]
63.	TERM - Pursuant to the WQA 74-6-5(I) and Subsection H of 20.6.2.3109 NMAC, the term of this Discharge Permit is five years from its effective date. To renew this Discharge Permit, the permittee must submit an application for renewal at least 120 days before the termination date. [20.6.2.3109.H NMAC, 74-6-5(I) WQA]
64.	Payment of permit fees is due at the time of Discharge Permit approval. Permit fees shall be paid in a single payment or shall be paid in equal installments on a yearly basis over the term of the Discharge Permit. Single payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date. Initial installment payments shall be remitted to NMED no later than 30 days after the Discharge Permit effective date; subsequent installment payments shall be remitted to NMED no later than the anniversary of the Discharge Permit effective date. An approved Discharge Permit shall be suspended or terminated if the facility fails to remit an installment payment by its due date. [20.6.2.3114.F NMAC, 74-6-5(K) WQA]

EFFECTIVE DATE: **November 8, 2010**
EXPIRATION DATE: **November 8, 2015**

George Schuman for W. Olson

WILLIAM C. OLSON
Chief, Ground Water Quality Bureau
New Mexico Environment Department

New Mexico Environment Department Ground Water Quality Bureau
Discharge Permit Summary

Facility Information

Facility Name Lakeside Dairy
Discharge Permit Number DP-796

Legally Responsible Party

David Hoekstra, Owner
Lakeside Dairy
49 E. Atoka Rd.
Artesia, NM 88210
(575) 910-8871

Treatment, Disposal and Site Information

Primary Waste Type Agriculture
Facility Type AGS-Dairy

Treatment Methods

Treatment Type	Designation	Description & Comments
Manure Solids Separation	Screen Solids Separator	Mechanical screen solids separator located on the east side of the two clay-lined lagoons. Separator will move to site of new synthetically lined combination lagoon(s) upon completion of lagoon(s).

Discharge Locations

Discharge Type	Designation	Description & Comments
Lagoon	Storage Lagoons	Two-cell clay-lined wastewater storage lagoon system. (to be closed under permit); a.k.a. North and South Lagoons
Lagoon	Combination Wastewater/Stormwater Lagoon	Synthetically lined combination lagoon system for storage of wastewater and stormwater runoff (to be built under permit)
Stormwater Runoff Pond	Stormwater Impoundment	Unlined impoundment (to be built over by new combo lagoon system)
Land Application or Farming	NW Field	10-acre field; side-roll sprinkler irrigation; located north of dairy and west of North Field. aka Field Northwest
Land Application or Farming	North Field	145.3-acre field; center pivot irrigation equipped with pivot-corner sprinkler; located north of dairy. aka CP-1 and Pivot North.
Land Application or Farming	E-W Field	25.6-acre field; side-roll sprinkler irrigation; located north of the parlor and corrals. Previously two separate fields of 10-arces each, Fields West and East.
Land Application or Farming	South Field	18.5-acre field; flood irrigation; located south of the clay-lined lagoons and corrals. aka Field South
Land Application or Farming	Torres Field	159.4-acre field; center pivot irrigation equipped with pivot-corner sprinkler; located south of the dairy and South Field. aka New Land Application Area

Ground Water Monitoring Locations

Type	Designation	Description & Comments
Monitoring Well	MW-1	Located on northwest corner of existing clay-lined North Lagoon.
Monitoring Well	MW-3A	To be installed hydrologically downgradient and within 20 to 50 feet of the existing clay-lined North Lagoon. Replaces MW-3 (plugged on February 19, 2005).
Monitoring Well	MW-5	Located southeast of existing clay-lined South Lagoon.
Monitoring Well	MW-6A	To be installed hydrologically downgradient and within 20 to 50 feet of the newly constructed synthetically lined combination wastewater and stormwater lagoon. Replaces MW-6 (to be abandoned).
Monitoring Well	MW-7	Located east of North Field; intended to be hydrologically downgradient of Fields North and NW.
Monitoring Well	MW-8	To be installed hydrologically upgradient of entire facility.
Monitoring Well	MW-9	To be installed hydrologically downgradient and within 20 to 50 feet of South Field.
Monitoring Well	MW-10	To be installed hydrologically downgradient and within 20 to 50 feet of E-W Field.
Monitoring Well	MW-11	To be installed hydrologically downgradient and within 20 to 50 feet of Torres Field.
Monitoring Well	MW-2 (plugged)	Plugged and abandoned on July 29, 1999 by Atkins Engineering Associates, Inc.
Monitoring Well	MW-3 (plugged)	Plugged and abandoned on February 19, 2005, by Atkins Engineering Associates, Inc. Previously reconstructed in same borehole by Atkins Engineering Assoc., Inc. on July 29, 1999.
Monitoring Well	MW-4 (plugged)	Plugged and abandoned on July 29, 1999 by Atkins Engineering Associates, Inc.
Monitoring Well	MW-6 (to be plugged)	To be plugged prior to construction of new synthetically lined lagoon system and replaced with MW-6A

Depth-to-Ground Water 46 feet
Total Dissolved Solids (TDS) 1,070 mg/L

Permit Information

Application Received December 8, 2003
Public Notice Published June 4, 2009
Public Notice Re-published September 23, 2010
Discharge Permit Issued November 8, 2010
Discharge Permit Expires November 8, 2015
Permitted Discharge Volume 90,000 gallons per day

NMED Contact Information

Mailing Address
Ground Water Quality Bureau
P.O. Box 5469
Santa Fe, New Mexico 87502-5469

GWQB Telephone Number (505) 827-2900

NMED Lead Staff	Kimberly Kirby
Lead Staff Telephone Number	(505) 222-9523
Lead Staff Email	kimberly.kirby@state.nm.us

Lakeside Dairy, DP-796
Effective Date: November 8, 2010

Required Actions

#	Description of Required Actions	Due Date
1.	**Construction of Synthetically Lined Combination Lagoon(s):**	
	Submit plans and specifications and supporting design calculations for synthetically lined combination lagoon system, certified by P.E.	Within 120 days of effective date (by **March 8, 2011**)
	Notify NMED prior to construction.	At least 5 days prior to construction
	Complete construction of lagoon system.	Within one year of effective date (by **November 8, 2011**)
	Submit as-built documentation for lagoon system and liners and final lagoon capacity calculations certified by PE.	Within 60 days of lagoon system completion
2.	**Wastewater Transfer Infrastructure:**	
	Submit documentation of existing wastewater transfer infrastructure.	Within 180 days of effective date (by **May 7, 2011**)
	• Submit documentation of new lagoon connection to the existing infrastructure	Within 90 days of new lagoon completion
	Install new wastewater transfer infrastructure to additional fields and submit confirmation.	Prior to discharging to field
3.	Submit an up-to-date scaled map of entire facility.	Within 120 days of any additions or changes to the dairy facility
4.	**Installation of Totalizing Flow Meters:**	
	Install a flow meter(s) to measure discharges from the new synthetically lined lagoon system to the land application area.	Within 90 days of completion of and prior to discharging from the new lagoon system
	Submit confirmation of installation, type, calibration and location of flow meters.	Within 30 days of completed installation
5.	Make wells available for well inspection by NMED, including temporary removal of pumps from monitoring wells if necessary for well access.	Upon written notification from NMED

#	Description of Required Actions	Due Date
6.	**Installation of Monitoring Wells:**	
	Obtain NMED approval of locations prior to installation.	At least 60 days prior to monitoring well installations
	Install five monitoring wells (MW-3A, MW-8, MW-9, MW-10 and MW-11).	Within 120 days of effective date (by **March 8, 2011**)
	• Submit monitoring well construction and lithologic logs.	Within 180 days of effective date (by **May 7, 2011**)
	Install monitoring well (MW-6A) hydrologically downgradient of new synthetically lined lagoon system	Within one year of effective date (by **November 8, 2011**) and prior to discharging to new lagoon system
	• Submit monitoring well construction and lithologic logs.	Within 60 days of well completion
7.	**Sampling of New Monitoring Wells:**	
	Collect initial ground water samples from new monitoring wells and analyze for NO_3-N, TKN, Cl, SO_4 and TDS.	Following well installation
	Submit depth-to-water measurements, analytical results (laboratory reports), and facility map with MW location.	Within 60 days of installation of each well
8.	**Monitoring Well Survey and Ground Water Flow Determination:**	
	Survey monitoring wells (MW-1, MW-3A, MW-5, MW-7, MW-8, MW-9, MW-10 and MW-11) to a U.S. Geological Survey (USGS) or other permanent benchmark.	Within 150 days of effective date (by **April 7, 2011**)
	• Submit survey data and map of ground water flow direction and gradient.	Within 180 days of effective date (by **May 7, 2011**)
	Survey MW-6A to same permanent benchmark as used in previous monitoring well survey.	Within 60 days of well completion
	• Submit survey data and map of ground water flow direction and gradient.	Within 60 days of each survey completion
9.	**Monitoring Well Abandonment:**	
	Plug and abandon MW-6	Prior to construction of new lagoon system
	Submit conformation of well abandonment, including photographic documentation.	Within 60 days of completed abandonment

#	Description of Required Actions	Due Date
10.	**Closure of clay-lined lagoons:**	
	Complete closure of the two clay-lined wastewater storage lagoons	Within three years of effective date (by **November 8, 2013**)
	Submit documentation of lagoon closure.	Within 60 days of completion

Monitoring and Reporting Requirements

Submit quarterly monitoring reports; containing items specified below. Quarterly monitoring shall be performed during the following calendar quarters and submitted as follows:

Jan 1st to Mar 31st (first quarter) – **due by May 1st**
Apr 1st to Jun 30th (second quarter) – **due by August 1st**
Jul 1st to Sept 30th (third quarter) – **due by November 1st**
Oct 1st to Dec 31st (fourth quarter) – **due by February 1st**

#	Description of Monitoring and Reporting Requirements	Monitoring Frequency
1.	Measure depth-to-water and analyze ground water samples from all monitoring wells for NO_3-N, TKN, Cl and TDS. Submit measurements, field data log, analytical results (laboratory reports), and facility map with MW locations.	Quarterly
2.	Develop a ground water elevation contour map using monitoring well survey data and quarterly depth-to-water measurements. Submit data and contour map.	Quarterly
3.	Analyze wastewater samples for NO_3-N, TKN, Cl and TDS. Submit analytical results (laboratory reports).	Quarterly
4.	Record monthly meter readings and calculate discharge volumes from milking parlor to lagoon. Submit meter readings and discharge volumes.	Monthly
5.	Maintain a log of discharges from lagoon to each field, including dates and locations of each discharge, meter readings prior to and after each discharge, and total volume of each discharge. Submit log.	Each Discharge
6.	Analyze plant material samples for percent total nitrogen and percent dry matter. Collect samples from each field during the final harvest of each crop grown per year. Submit analytical results (laboratory reports).	Final harvest of each crop
7.	Submit yield documentation and plant and harvest dates of each crop grown.	As appropriate for each crop and yield
8.	Complete and submit Land Application Data Sheet (LADS) for each field.	monthly; for each crop and field

#	Description of Monitoring and Reporting Requirements	Monitoring Frequency
9.	Maintain a log of all additional fertilizer applications to each field in the land application area. Submit log.	Each application
10.	Analyze soil samples collected from each field *(1st, 2nd and 3rd- foot)*. Submit analytical results (laboratory reports) and map showing sampling locations.	Annually; due in May 1st monitoring report
11.	Arrange for certified testing of backflow prevention devices or assemblies annually and at time of installation, repair, or relocation. Maintain inspection and maintenance records.	Annually, or as needed
12.	Inspect lagoons and berms. Keep log of inspection findings and repairs made.	Monthly; keep on-site
13.	Remove solids from lagoon to maintain capacity.	As needed

NOTE: See Discharge Permit for full requirement details.

Submit all reports to:

NMED Ground Water Quality Bureau
P.O. Box 5469
Santa Fe, New Mexico 87502-5469