

GROUND WATER DISCHARGE PERMIT RENEWAL AND MODIFICATION
F&A Dairy Products, Inc., DP-1008

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit Renewal and Modification (Discharge Permit), DP-1008, to F&A Dairy Products, Inc. (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 the F&A Dairy Products, Inc. (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 400,000 gallons per day (gpd) of agricultural wastewater from a cheese plant, including reverse osmosis (RO) water and up to 3,500 gpd of domestic wastewater, is discharged. The cheese processing wastewater is discharged to a wet well and pumped to an on-site wastewater treatment system prior to being land applied by sprinkler-gun irrigation to 1,560 acres of cropland under cultivation or discharged to the City of Las Cruces-West Mesa Treatment Facility. The wastewater treatment system consists of an equalization tank, two anaerobic digesters, and a Dissolved Air Flotation (DAF) unit which includes a flocculation tank, a holding tank, and an aerated tank to remove solids, and a synthetically lined aerated lagoon. Water, from processed milk conveyed through a RO unit, is discharged to the synthetically lined aeration lagoon. Domestic wastewater is discharged to two septic tank/leachfield systems for disposal. Brine wastewater is discharged to an evaporator and hauled off-site. The modification consists of increasing the wastewater discharge from 200,000 gpd to 400,000 gpd; the addition of the equalization tank, two anaerobic digesters, and DAF unit; and increasing the land application area from 120 acres to 1,560 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 355 South Crawford Blvd., approximately 10 miles southwest of Las Cruces, in Section 35, T23S, R01W, Doña Ana County. The land application area is located in Sections 2, 10, 11 & 16, T24S, R01W, Doña Ana County. Ground water most likely to be affected is at a depth of approximately 450 feet and has a total dissolved solids concentration of approximately 650 milligrams per liter.

The original Discharge Permit was issued on October 7, 1994 and subsequently renewed and/or modified on February 2, 2001. The permittee's application consists of the materials submitted by Zia Engineering and Environmental Consultants, LLC on behalf of the permittee dated November 21, 2005, additional information received on May 22, 2006, January 13, 2009, and the modified Discharge Permit application received March 30, 2009. 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: relining the lagoon; expanding land application areas; changing waste management practices; expanding monitoring requirements; installing an advanced treatment system; 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		

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 400,000 gallons per day (gpd) of wastewater which includes process wastewater from a cheese plant, reverse osmosis (RO) water and up to 3,500 gpd of domestic wastewater. Cheese processing wastewater and equipment clean up wastewater is discharged to a wet well, pumped to an equalization tank and conveyed to a Dissolved Air Flotation (DAF) unit which consists of a holding tank, flocculation tank and an aerated tank. Wastewater is pumped from the DAF unit's holding tank to one of two anaerobic digesters. After digestion, the treated wastewater is discharged to the DAF unit's flocculation tank where a polymer is added. Treated wastewater is conveyed to the DAF unit's aerated tank where solids are skimmed off of the surface of the aerated tank and discharged back to the DAF unit's holding tank. Treated wastewater and suspended solids are discharged to a double synthetically lined aeration lagoon with a leak detection system. The treated wastewater and solids are land applied by a Nelson Big Gun sprinkler system to 1,560 acres of cropland or discharged to the West Mesa Wastewater Treatment Facility. RO water, from conveying processed milk through a RO unit, is discharged directly to the synthetically lined lagoon and the concentrate is used in cheese processing. Domestic wastewater is discharged to two septic tank/leachfield systems for disposal. Brine water is discharged to an evaporator and hauled off-site. [20.6.2.3104 NMAC, 20.6.2.3106 NMAC]
Cheese Processing Wastewater	
4.	Prior to the discharging treated wastewater to any field within the 1,560 acre land application area, the permittee shall install the infrastructure necessary to properly transfer, distribute and apply treated wastewater. Written confirmation of the land application distribution system installation including the type and location(s) of the system, and photographic documentation, shall be submitted to NMED prior to discharging to any field. [20.6.2.3109 NMAC]
5.	The permittee shall apply treated wastewater to up to 1,560 acres of cropland. Wastewater shall be applied to cropland under cultivation in such a manner that the amount of total nitrogen in the combined application of wastewater, commercial fertilizer and wastewater treatment plant sludge 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 distributed evenly over each land application area. Excessive ponding shall be prevented. [20.6.2.3109 NMAC]

<p>6.</p>	<p>Within 180 days of the effective date of this Discharge Permit (by DATE), the permittee shall submit to NMED an up-to-date scaled map of the entire facility. 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.</p> <p>The map shall include the following objects:</p> <ol style="list-style-type: none"> a) Overall facility layout (cheese processing areas, brine evaporation area, storage areas, etc.); b) Location of all components of the wastewater treatment system; c) Location of the synthetically lined aeration lagoon and blowers; d) Location of all septic tank/leachfield systems; e) Location and acreage of each field within the land application area; and f) Location of monitoring well. <p>The following elements shall also be shown on the map:</p> <ol style="list-style-type: none"> a) Location of meter measuring water supplied to the facility; b) Location of meter measuring wastewater discharges from the lagoon to the land application area; c) Location of all transfer pump(s); and d) Location of all wastewater distribution pipelines. <p>If these items cannot be directly shown, due to their location inside of existing structures or because they are buried without surface identification, they shall be identified on the map in a schematic format and called out as such.</p> <p>The facility map shall be updated and resubmitted to NMED within 120 days of any additions or changes to the facility layout which includes any of the items listed above. [20.6.2.3106 NMAC, 20.6.2.3109 NMAC]</p>
<p>7.</p>	<p>Within 60 days of the effective date of this Discharge Permit (by DATE), the permittee shall measure the thickness of the sludge blanket in the lagoon. If sludge accumulation exceeds one-third of the maximum liquid depth of the lagoon at any location within the lagoon, the permittee shall remove the sludge to a depth of less than six inches throughout the lagoon in a manner that is protective of the lagoon liner. A report detailing the sludge depth measurement and disposal of excess accumulated solids (if any disposal occurs) shall be submitted to NMED within 180 days of the effective date of this Discharge Permit (by DATE). [20.6.2.3109 NMAC]</p>
<p>8.</p>	<p>The lagoon liners shall be maintained in such a manner as to avoid conditions which could affect the structural integrity of the lagoons and/or lagoon liners. Such conditions include, but are not limited to:</p> <ul style="list-style-type: none"> • 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;

	<ul style="list-style-type: none"> • Evidence of seepage; • Evidence of berm subsidence; and/or • The presence of large pieces or large quantities of debris in the lagoon. <p>The permittee shall visually inspect the lagoon and surrounding berms on a monthly basis to ensure proper maintenance. Vegetation growing around the lagoon shall be routinely controlled by removal in a manner that is protective of the lagoon liner. Any evidence of damage to the lagoon berm or liner shall be reported to NMED immediately upon discovery. [20.6.2.3107 NMAC]</p>
9.	<p>The permittee shall maintain a minimum of two feet of freeboard between the liquid level in the lagoon and the top elevation of the lagoon liner at all times. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
Domestic Wastewater	
10.	<p>Within 90 days of the effective date of this Discharge Permit (by DATE), the permittee shall provide access to all septic tanks by installing two 24-inch openings in each septic tank. The access openings shall be located above the inlet and outlet piping of the septic tank to facilitate inspection of the tank's interior, repair of the internal piping and removal of sludge and scum. The access openings shall be extended from the tank to at least three inches above the ground surface or as approved by NMED. The access openings shall have a secured lid to deter unauthorized access but the lid shall remain above ground, unconcealed by dirt or pavement. A secure lid shall consist of one of the following: a padlock; a twist lock cover requiring special tools for removal; a cover weighing 58 pounds or more, net weight; or a stainless steel hinge and hasp mechanism. Written confirmation of access-way installation, including photographic documentation, shall be submitted to NMED within 180 days of the effective date of this Discharge Permit (by DATE). [20.6.2.3107 NMAC]</p>

MONITORING, REPORTING, AND OTHER REQUIREMENTS

#	Terms and Conditions
11.	<p>The permittee shall conduct the following monitoring, reporting, and other requirements listed below. [20.6.2.3107 NMAC]</p>
12.	<p>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:</p> <ol style="list-style-type: none"> 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; or f) Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods and Part 2. Chemical and Microbiological Properties, American Society of Agronomy. <p>[20.6.2.3107.B NMAC]</p>

13.	<p>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 periods:</p> <ul style="list-style-type: none"> • 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; and • October 1st through December 31st (fourth quarter) – due by February 1st. <p>Monitoring requirements detailed in this Discharge Permit are summarized on the sheet titled <i>Summary of Required Actions, Monitoring and Reporting</i>. [20.6.2.3107 NMAC]</p>
14.	<p>The permittee shall measure the monthly volume of wastewater discharged from the facility by measuring the total monthly volume of city water transferred to the facility using the facility’s totalizing water supply meter. Monthly meter readings and monthly water usage, in gallons, shall be submitted to NMED in the quarterly monitoring reports. The water supply meter shall be kept operational at all times. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H NMAC]</p>
Cheese Processing Wastewater	
15.	<p>The permittee shall measure and record all discharges from the synthetically lined aeration lagoon to each field in the land application area. The volume of each discharge shall be measured using a totalizing flow meter on the transfer line between the synthetically lined aeration lagoon 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]</p>
16.	<p>Within 30 days of the effective date of this Discharge Permit (by DATE)], the permittee shall submit a written monitoring well location proposal for review and approval by NMED. The proposal shall include, at a minimum, the following information:</p> <ol style="list-style-type: none"> a) A map showing the proposed location of the monitoring well from the boundary of the source it is intended to monitor. b) A written description of the specific location proposed for the monitoring well including the distance (in feet) and direction of the monitoring well from the edge of the source it is intended to monitor. Examples include, 35 feet north-northwest of the northern berm of the synthetically lined wastewater lagoon; 45 feet due south of the leachfield; 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. <p>[20.6.2.3107 NMAC]</p>
17.	<p>Within 90 days of the effective date of this Discharge Permit (by DATE), the permittee shall install one new monitoring well. The permittee shall install:</p> <ul style="list-style-type: none"> • One monitoring well (MW-1) located 20 to 50 feet hydrologically downgradient of land application area located in Section 10, T24S, R01W.

	<p>The monitoring well location shall be approved by NMED prior to installation. The well shall be completed in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, 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 DATE). [20.6.2.3107 NMAC]</p>
<p>18.</p>	<p>Following installation of the new monitoring well required by this Discharge Permit, the permittee shall sample ground water in the new well and analyze the sample for NO₃-N, TKN, TDS, and Cl. The permittee shall sample:</p> <ul style="list-style-type: none"> • MW-1, intended to be located hydrologically downgradient of the land application area located in Section 10, T24S, R01W. <p>Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:</p> <ol style="list-style-type: none"> 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; and e) analyze samples in accordance with the methods authorized in this Discharge Permit. <p>Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of the well shall be submitted to NMED within 180 days of the effective date of this Discharge Permit (by DATE). [20.6.2.3107 NMAC]</p>
<p>19.</p>	<p>The permittee shall perform quarterly ground water sampling in one monitoring well and analyze the sample for NO₃-N, TKN, TDS, and Cl. The permittee shall sample:</p> <ul style="list-style-type: none"> • MW-1, intended to be located hydrologically downgradient of the land application area located in Section 10, T24S, Ro1W. <p>Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:</p> <ol style="list-style-type: none"> 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; and e) analyze samples in accordance with the methods authorized in this Discharge Permit. <p>Depth-to-water measurements, analytical results, including laboratory QA/QC summary report, and a facility layout map showing the location and number of the well shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC]</p>
<p>20.</p>	<p>The permittee shall conduct daily inspections of the leak detection system for the double synthetically lined aeration lagoon. The permittee shall maintain on-site a log of daily inspection findings. [20.6.2.3107 NMAC]</p>

21.	<p>The permittee shall collect a wastewater sample from the wet well located between the synthetically lined aeration lagoon and the land application area on a quarterly basis. Wastewater samples shall be collected while irrigating, but <u>not</u> during the first hour of irrigation. In the event that no land application of wastewater occurs during a particular quarter, a wastewater sample shall be collected during the first wastewater application event of the following quarter. The regularly scheduled quarterly wastewater sample shall also be collected within the quarter, but during a later application event. Wastewater samples shall be analyzed for NO₃-N, TKN, TDS, and Cl. Analytical results, distinctly associated with each individual quarter, shall be submitted to NMED in the quarterly monitoring reports.</p> <p>[20.6.2.3107 NMAC]</p>
22.	<p>The permittee shall submit an annual crop and nutrient management plan which describes the crops to be grown, harvest method and product, and calculated nitrogen loading for the next reporting period. The plan shall incorporate current results from soil and crop nitrogen analysis to predict nitrogen uptake by each crop and to determine the amount of nitrogen to be applied to each field in the land application area. The plan shall be submitted to NMED in the monitoring report due February 1st of each year.</p> <p>[20.6.2.3107 NMAC]</p>
23.	<p>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 monitoring report due February 1st of each year.</p> <p>[20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
24.	<p>Yield documentation and plant and harvest dates of each crop grown shall be submitted to NMED in the monitoring report due February 1st of each year. Yield documentation shall consist of scale-weight tickets or harvest summaries based on scale-weights.</p> <p>[20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
25.	<p>The permittee shall complete LADS which document the amount of nitrogen from wastewater and/or wastewater treatment facility sludge, 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 used in the LADS calculations shall be the volume obtained from meter readings required in this Discharge Permit. The applied wastewater treatment plant sludge shall be analyzed in mg/Kg on a dry weight basis. 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 monitoring report due February 1st of each year.</p> <p>[20.6.2.3107 NMAC, 20.6.2.3109 NMAC]</p>
26.	<p>For the first soil sampling event following the effective date of this Discharge Permit, the permittee shall collect and analyze soil samples from each field and/or management unit in the permitted land application area. Composite soil samples shall be collected between December 1st and May 31st for all fields regardless of whether the field is cropped, remains fallow, or has received wastewater. One surface composite soil sample (1st-foot) and two sub-surface composite soil samples (2nd and 3rd-foot) shall be collected from each field.</p>

Composite soil samples shall be collected according to the following procedure:

- Each surface and sub-surface soil sample shall consist of a single composite of 15 soil cores collected randomly throughout each field. If a field is divided into differing management units (i.e., two separate crops on a single pivot), soil samples shall be collected from each management unit. Should a field or management unit consist of considerably different soil textures (i.e., sandy and silty clay); soil samples shall be collected from each soil texture within each field or management unit.
- Surface soil samples (1st-foot) shall be collected from a depth of 0 to 12 inches.
- Each 2nd-foot sub-surface soil sample shall be collected from a depth of 12 to 24 inches.
- Each 3rd-foot sub-surface soil sample shall be collected from a depth of 24 to 36 inches.

Each surface and sub-surface composite sample shall be analyzed for:

- pH, electrical conductivity (EC), TKN, NO₃-N, Cl, organic matter (OM), potassium (K), phosphorus (P), sodium (Na), calcium (Ca), magnesium (Mg), bicarbonate (HCO₃), sulfate (SO₄), soil texture and determination of the sodium adsorption ratio (SAR).

Soil samples shall be analyzed according to the following methods:

- Soil pH, EC, Na, Ca, Mg and SO₄ shall be analyzed using a saturated paste extract, as described in Methods of Soil Analysis: Part 2, Chemical and Microbiological Properties, Agronomy Monograph no.9 (2nd edition), pp 167-179, American Society of Agronomy.
- Soil P shall be analyzed using the Olsen sodium bicarbonate method, as described in Methods of Soil Analysis: Part 2, Chemical and Microbiological Properties, Agronomy Monograph no.9 (2nd edition), pp 421-422, American Society of Agronomy.
- Soil NO₃-N shall be analyzed by a 2 molar KCl extract, as described in Methods of Soil Analysis: Part 2, Chemical and Microbiological Properties, Agronomy Monograph no.9 (2nd edition), pp 643-698, American Society of Agronomy.

The analytical results and a map showing the fields and/or management units as well as the sampling locations within each field/management unit shall be submitted to NMED in the monitoring report due by August 1, 2010. [20.6.2.3107 NMAC]

27. Following the initial soil sampling required by this Discharge Permit, the permittee shall, on an annual basis, collect and analyze soil samples from each field and/or management unit within the permitted land application area that has received or is actively receiving wastewater during the term of this Discharge Permit. Additionally, for those fields which have never before received wastewater, soil samples shall be collected immediately prior to initial wastewater application and annually thereafter for the term of this Discharge Permit. Once a field has received wastewater it shall be sampled annually regardless of whether the field is cropped, remains fallow, or has recently received wastewater. Each surface composite soil sample (1st-foot) and sub-surface composite soil sample (2nd and 3rd-foot) shall be collected in accordance with the soil sampling procedures provided in the preceding permit condition and analyzed for the constituents listed below. Composite soil samples shall be collected between December 1st and May 31st.

Surface (1st-foot) samples shall be analyzed for:

- pH, EC, NO₃-N, Cl, OM, K, P, Na, Ca, Mg, and determination of the SAR.

	<p>Sub-surface (2nd and 3rd-foot) samples shall be analyzed for:</p> <ul style="list-style-type: none"> • EC, NO₃-N, and Cl <p>Soil samples shall be analyzed in accordance with the methods as required by this Discharge Permit.</p> <p>The analytical results and a map showing the fields and/or management units as well as the monitoring report due February 1st of each year. [20.6.2.3107 NMAC]</p>
28.	<p>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 nutrient concentration of the fertilizer, and the amount of fertilizer applied to each field. A summary of the log entries shall be submitted to NMED in the monitoring report due February 1st of each year. [20.6.2.3107 NMAC]</p>
Domestic Wastewater	
29.	<p>The permittee shall inspect all septic tanks semi-annually for the accumulation of scum and solids. In the event that the scum layer exceeds three inches or the settled solids exceed 50% of the depth of the liquid in the tank, the contents of the tanks shall be pumped by a licensed hauler. The inspection and pumping records shall be submitted to NMED in the monitoring report due February 1st of each year. [20.6.2.3107 NMAC]</p>
30.	<p>The permittee shall visually inspect the area above the two leachfields semi-annually to ensure proper maintenance. Any conditions that indicate damage to any leachfield shall be corrected. Such conditions include, but are not limited to erosion damage, animal activity/damage, woody shrubs, or evidence of seepage. The permittee shall keep a log of the inspection findings and repairs made. In the event that inspection findings reveal failure of any leachfield, the permittee shall submit a corrective action plan to NMED for approval. [20.6.2.3107 NMAC]</p>
31.	<p>The permittee shall sample wastewater from both septic tank systems final on an annual basis for TKN. Analytical results shall be submitted to NMED in the monitoring report due February 1st of each year. [20.6.2.3107 NMAC]</p>

CONTINGENCY PLAN

#	Terms and Conditions
32.	<p>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:</p> <ol style="list-style-type: none"> Collect a second sample from the monitoring well(s) within 30 days of the initial sample analysis date to verify the initial results. 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. <p>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</p>

	<p>implementation schedule. The permittee may be required to abate water pollution pursuant to Sections 20.6.2.4000 through 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]</p>
33.	<p>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. Within 7 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]</p>
34.	<p>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]</p>
35.	<p>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]</p>
36.	<p>In the event NMED determines, upon review of analytical results from surface and sub-surface soil sampling, that nitrogen may be migrating vertically, the permittee shall, within 30 days of notification, submit for NMED approval a corrective action plan to reduce nitrogen concentrations in soil. The plan shall include source control measures, such as a reduction in the amount of wastewater or solids applied to the land, expansion of the land application area, and/or changes in crop rotation.</p> <p>The permittee shall also implement the following deep soil sampling. From each field, the permittee shall collect composite soil samples at depths of 2, 4, 6, 8 and 10 feet from three separate soil cores. Composite samples for each depth shall be assembled from the three cores and analyzed for NO₃-N and TKN. Soil NO₃-N shall be analyzed by a 2 molar KCl extract, as described in Methods of Soil Analysis: Part 2, Chemical and Microbiological Properties, Agronomy Monograph no.9 (2nd edition), pp 643-698, American Society of Agronomy. The analytical results and a map showing the sampling locations within each field shall be submitted to NMED within 30 days of the sampling date. If initial deep soil sampling results indicate the presence of excessive nitrogen at depths below 36 inches, NMED may require deep soil sampling on an annual basis to verify success of the corrective actions. [20.6.2.3107.A(10) NMAC, 20.6.2.3109 NMAC]</p>
37.	<p>In the event that a minimum of two feet of freeboard cannot be maintained in the 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]</p>

38.	In the event that inspection findings reveal significant damage likely to affect the ability of the lined lagoon to contain contaminants, the permittee shall submit a corrective action plan for the repair or replacement of the lagoon liners to NMED for approval within 30 days of discovery by the permittee or following notification from NMED that significant liner damage is evident. [20.6.2.3107 NMAC, 20.6.2.3109 NMAC]
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CLOSURE PLAN

#	Terms and Conditions
39.	<p>Upon closure of the facility, the permittee shall perform the following closure measures:</p> <ul style="list-style-type: none"> a) Complete the installation of the monitoring well as required by this Discharge Permit. b) Remove or plug all lines leading to the wastewater treatment units, synthetically lined aeration lagoon, each field in the permitted land application area and the two septic tank/leachfield disposal systems so that a discharge can no longer occur. c) Drain and/or evaporate all liquids from the lagoon, septic tanks, other treatment units and dispose of all sludge/solids in accordance with all local, state and federal (40 CFR 503) regulations. d) Backfill the septic tanks with clean fill/sand or remove from the site with the wastewater treatment units. e) Perforate or remove the lagoon liners and re-grade the lagoon with clean fill to blend with surface topography and prevent ponding. f) 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. g) Following notification from NMED that post-closure monitoring may cease, the permittee shall plug and abandon the monitoring well in accordance with the attachment titled <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, Revision 1.0, July 2008. <p>When all post-closure requirements have been met, the permittee may request to terminate the Discharge Permit. [20.6.2.3107.A(11) NMAC]</p>

GENERAL TERMS AND CONDITIONS

#	Terms and Conditions
40.	<p>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:</p> <ul style="list-style-type: none"> 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;

	<p>e) The analytical technique or method used to analyze each sample or take each field measurement;</p> <p>f) The results of each analysis or field measurement, including raw data;</p> <p>g) The results of any split sampling, spikes or repeat sampling; and</p> <p>h) A description of the quality assurance and quality control procedures used.</p> <p>[20.6.2.3107.A NMAC]</p>
41.	<p>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.</p> <p>[20.6.2.3107.A NMAC]</p>
42.	<p>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]</p>
43.	<p>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.</p> <p>[20.6.2.3107.A NMAC]</p>
44.	<p>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.</p> <p>[20.6.2.3107.A NMAC]</p>
45.	<p>INSPECTION and ENTRY - The permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>[20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]</p>
46.	<p>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]</p>
47.	<p>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</p>

	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]
48.	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]
49.	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]
50.	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]
51.	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]
52.	CRIMINAL PENALTIES – Any person who knowingly violates or knowingly causes or allows another person to: <ol style="list-style-type: none"> 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]

53.	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]
54.	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]
55.	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]
56.	TERM - Pursuant to 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 180 days before the termination date. [20.6.2.3109.H NMAC, 74-6-5(I) WQA]
57.	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: effective date
 EXPIRATION DATE: expiration date

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