

GROUND WATER DISCHARGE PERMIT
De Smet Dairy, DP-1713

I. INTRODUCTION

The New Mexico Environment Department (NMED) issues this Discharge Permit (Discharge Permit), DP-1713, to Michael De Smet (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 De Smet 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 7,500 gallons per day (gpd) of wastewater is discharged from the milking parlor to a concrete sump, and is pumped through a passive solids separator to a synthetically lined wastewater lagoon for disposal by evaporation. Stormwater generated at the facility is collected in a stormwater impoundment and land applied to up to 120 acres of irrigated cropland under cultivation (Field 3). 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 in McIntosh, in Sections 16 and 21, T07N, R09E, Torrance County. Ground water most likely to be affected is at a depth of approximately 63 feet and has a total dissolved solids concentration of approximately 2,740 milligrams per liter.

The permittee's application consists of the materials submitted by the permittee dated December 11, 2008 and additional information received on July 15, 2009, August 17, 2009, March 31, 2010 and October 9, 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; 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	SO ₄	sulfate
LADS	land application data sheet(s)	TDS	total dissolved solids
mg/L	milligrams per liter	TKN	total Kjeldahl nitrogen
mL	milliliters	total nitrogen	TKN+NO ₃ -N
NMAC	New Mexico Administrative Code	TRC	Total Residual Chlorine
NMED	New Mexico Environment Department	TSS	total suspended solids
NMSA	New Mexico Statutes Annotated	WQA	New Mexico Water Quality Act
NO ₃ -N	nitrate-nitrogen	WQCC	Water Quality Control Commission

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 7,500 gpd of wastewater from the milking parlor to a concrete sump and pump it through a two-celled passive solids separator to a synthetically lined wastewater lagoon for disposal by evaporation. The permittee is authorized to collect and land apply stormwater generated at the facility to up to 120 acres of irrigated cropland under cultivation (Field 3). [20.6.2.3104 NMAC]
4.	Prior to discharging from the facility, the permittee shall give written and verbal notification to NMED stating the date the discharge is to commence. [20.6.2.3109.H NMAC]
5.	Prior to discharging from the facility, the permittee shall submit documentation of irrigation water rights, from the Office of the State Engineer, for all fields within the stormwater land application area (Field 3). The facility must demonstrate adequate irrigation water is available to produce and harvest the crops necessary for the removal of nitrogen applied from stormwater generated at the facility. [20.6.2.3109 NMAC]
6.	The permittee shall remove, or land apply to the stormwater land application area (Field 3), 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]
7.	Prior to discharging from the facility, the permittee shall install a manure solids separator for the purpose of separating manure solids from the parlor wastewater before being discharged to the synthetically lined lagoon. Solids shall be removed from the manure solids separator as needed, in order to maintain proper solids removal. Confirmation of solids separator installation and location, including photographic documentation, shall be submitted to NMED prior to discharging from the facility. [20.6.2.3109 NMAC]
8.	Prior to discharging from the facility, the permittee shall construct a synthetically lined lagoon for the storage and disposal of wastewater by evaporation. The lagoon shall be constructed in accordance with the construction plans and specifications submitted on

	<p>March 22, 2010 and the attachment titled <i>Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons - Liner Material and Site Preparation</i>, 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 and lagoon liner, and final lagoon 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 and liner, as well as final capacity calculations. [20.6.2.3109 NMAC]</p>
9.	<p>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 a stormwater impoundment in a manner that minimizes impacts to ground and surface water. The impoundment shall be designed, operated and maintained to contain, at a minimum, run-off and direct precipitation from a 25-year, 24-hour rainfall event. The permittee shall maintain operational pumps on-site at all times for the transfer of stormwater to the stormwater land application area (Field 3) by truck with a sprinkler tank trailer. Stormwater collected in the impoundment shall be transferred to the the stormwater land application area (Field 3) by truck with a sprinkler tank trailer as soon as practicable, and in no case more than 14 days after the subject storm event. [20.6.2.3109 NMAC]</p>
10.	<p>The permittee shall operate and maintain the synthetically lined lagoon for the purpose of disposing of wastewater at the dairy. The permittee shall maintain the capacity of the lagoon to store the maximum daily discharge volume allowed by this Discharge Permit for disposal by evaporation while maintaining two feet of freeboard at all times. In order to maintain the required capacity, solids shall be removed from the lagoon as needed in a manner that is protective of the lagoon liner. [20.6.2.3109 NMAC]</p>
11.	<p>The wastewater lagoon and stormwater impoundment shall be maintained in such a manner as to avoid conditions which could affect the structural integrity of the lagoon, impoundment and/or the associated 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 or impoundment itself; • Evidence of seepage; • Evidence of berm subsidence; and/or • The presence of large pieces or large quantities of debris in the lagoon or impoundment. <p>The permittee shall visually inspect the wastewater lagoon, stormwater impoundment and surrounding berms on a monthly basis to ensure proper maintenance. Vegetation growing around the lagoon and impoundment shall be routinely controlled in a manner that is protective of liners. Any evidence of damage to the berm of a lagoon or impoundment or to a liner shall be reported to NMED immediately upon discovery. [20.6.2.3107 NMAC]</p>

12.	<p>The permittee shall apply stormwater to up to 120 acres of irrigated cropland (Field 3). Stormwater shall be applied to cropland under cultivation in such a manner that the amount of total nitrogen in the combined applications of stormwater, manure solids, composted material, residual soil nitrogen, 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. Stormwater shall be applied by truck with a sprinkler tank trailer. All dairy wastes shall be distributed evenly over the entire area of application. Excessive ponding shall be prevented. [20.6.2.3109 NMAC]</p>
13.	<p>Prior to discharging from the facility, 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> <ul style="list-style-type: none"> 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); and f) Location of monitoring wells (including permanent designation). <p>The following elements shall also be shown on the map:</p> <ul style="list-style-type: none"> a) Location of meters measuring wastewater discharges to and from lagoons; b) Location of all transfer pump(s); and c) 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>

MONITORING, REPORTING, AND OTHER REQUIREMENTS

#	Terms and Conditions
14.	The permittee shall conduct the monitoring, reporting, and other requirements listed below.

	[20.6.2.3107 NMAC]
15.	<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"> American Public Health Association, Standard Methods for the Examination of Water and Wastewater (18th, 19th or current); U.S. Environmental Protection Agency, Methods for Chemical Analysis of Water and Waste; U.S. Geological Survey, Techniques for Water Resources Investigations of the U.S. Geological Survey; American Society for Testing and Materials, Annual Book of ASTM Standards, Part 31. Water; U.S. Geological Survey, et al., National Handbook of Recommended Methods for Water Data Acquisition; and/or Methods of Soil Analysis: Part 1. Physical and Mineralogical Methods, 1986 edition, Methods of Soil Analysis: Part 2. Microbiological and Biochemical Properties, 1994 edition, and Methods of Soil Analysis: Part 3. Chemical Methods, 1996 edition, published by the American Society of Agronomy. <p>[20.6.2.3107.B NMAC]</p>
16.	<p>The permittee shall submit quarterly monitoring reports to NMED by February 1st, May 1st, August 1st, and November 1st of each year. Quarterly monitoring shall be performed during the following quarters:</p> <ul style="list-style-type: none"> January 1st through March 31st (first quarter), due on May 1st; April 1st through June 30th (second quarter), due on August 1st; July 1st through September 30th (third quarter), due on November 1st; and October 1st through December 31st (fourth quarter), due on February 1st of the following year. <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>
17.	<p>Prior to discharging from the facility, the permittee shall install the following totalizing flow meter:</p> <ol style="list-style-type: none"> One meter installed on the transfer line from the parlor to the evaporative lagoon, or on an incoming line to the parlor that exclusively supplies all water used for washing purposes to measure the volume of wastewater discharged from the milking parlor to the evaporative lagoon system; <p>Confirmation of meter installation, type, calibration and locations shall be submitted to NMED within 60 days of completed installation. [20.6.2.3109 NMAC]</p>
18.	The permittee shall measure the monthly volume of wastewater discharged from the

	milking parlor to the evaporative lagoon using a totalizing flow meter. Monthly meter readings including units of measurement, calculations, and monthly discharge volumes for the previous quarterly 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]
19.	The permittee shall estimate the volume of stormwater applied on up to 120 acres of the stormwater land application area (Field 3) by keeping a manifest log of the tank loads of stormwater applied. The permittee shall create a manifest for each tank load of stormwater applied recording the following information: the date of application, the volume of stormwater, the location and number of acres on which the stormwater was applied, the crop under cultivation and the signature of the person applying the stormwater. Monthly estimated stormwater discharge volumes for the previous quarterly period and a quarterly log of the manifest records shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107.A(1) NMAC, 20.6.2.3109.H NMAC].
20.	<p>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.</p> <p>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]</p>
21.	<p>Prior to discharging from the facility, 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:</p> <ol style="list-style-type: none"> A map showing the proposed location of each monitoring well from the boundary of the source it is intended to monitor. 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; 45 feet due south of the leachfield; 30 feet southeast of the land application area 150 degrees from north. A statement describing the ground water flow direction beneath the facility and data supporting the determination. <p>[20.6.2.3107 NMAC]</p>
22.	Prior to discharging from the facility, the permittee shall install three new monitoring wells.

	<p>The permittee shall install:</p> <ul style="list-style-type: none"> • One monitoring well (MW-1) hydrologically upgradient of the entire facility; • One monitoring well (MW-2) 20 to 50 feet hydrologically downgradient of the evaporative wastewater lagoon; and • One monitoring well (MW-3) 20 to 50 feet hydrologically downgradient of the stormwater impoundment. <p>All monitoring well locations shall be approved by NMED prior to installation. The wells 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 60 days of well completion. [20.6.2.3107 NMAC]</p>
<p>23.</p>	<p>Prior to discharging from the facility, the permittee shall survey all wells approved by NMED for Discharge Permit monitoring purposes 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 60 days of survey completion. [20.6.2.3107 NMAC]</p>
<p>24.</p>	<p>Following installation of the new monitoring wells required by this Discharge Permit and prior to discharging from the facility, the permittee shall sample ground water in the new wells and analyze the samples for NO₃-N, TKN, Cl, and TDS. The permittee shall sample:</p> <ul style="list-style-type: none"> • MW-1, intended to be located hydrologically upgradient of the entire facility; • MW-2, intended to be located hydrologically downgradient of the evaporative wastewater lagoon; • MW-3, intended to be located hydrologically downgradient of the stormwater impoundment; and <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 each well shall be submitted to NMED within 60 days of the installation of the monitoring wells. [20.6.2.3107 NMAC]</p>
25.	<p>Within 60 days of the initial application of stormwater to the 120 acres of irrigated cropland in the stormwater land application area (Field 3), the permittee shall install one new monitoring well. The permittee shall install:</p> <ul style="list-style-type: none"> • One monitoring well (MW-4) 20 to 50 feet hydrologically downgradient of the stormwater land application area (Field 3). <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 60 days of well completion. [20.6.2.3107 NMAC]</p>
26.	<p>Within 90 days of the installation of MW-4, the permittee shall survey all wells approved by NMED for Discharge Permit monitoring purposes 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 60 days of survey completion. [20.6.2.3107 NMAC]</p>
27.	<p>Following installation of MW-4 required by this Discharge Permit, the permittee shall sample ground water in the new well and analyze the samples for NO₃-N, TKN, Cl, and TDS. The permittee shall sample:</p> <ul style="list-style-type: none"> • MW-4, intended to be located hydrologically downgradient of the stormwater land application area (Field 3). <p>Ground water sample collection, preservation, transport and analysis shall be performed according to the following procedure:</p> <ol style="list-style-type: none"> f) measure the depth-to-ground water from the top of well casing to the nearest hundredth of a foot; g) purge three well volumes of water from the well prior to sample collection; h) obtain samples from the well for analysis; i) properly prepare, preserve and transport samples; and j) 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 each well shall be submitted to NMED within 60 days of the installation of the monitoring wells. [20.6.2.3107 NMAC]</p>
28.	<p>The permittee shall perform quarterly ground water sampling in four monitoring wells and analyze the samples for NO₃-N, TKN, Cl and TDS. The permittee shall sample:</p> <ul style="list-style-type: none"> • MW-1, intended to be located hydrologically upgradient of the facility; • MW-2, intended to be located hydrologically downgradient of the evaporative wastewater lagoon; • MW-3, intended to be located hydrologically downgradient of the stormwater impoundment; and • MW-4, intended to be located hydrologically downgradient of the stormwater land application area (Field 3). <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 each well shall be submitted to NMED in the quarterly monitoring reports. [20.6.2.3107 NMAC]</p>
29.	<p>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]</p>
30.	<p>The permittee shall collect a wastewater sample from the evaporative lagoon on a semi-annual basis. Samples shall be analyzed for NO₃-N, TKN, Cl and TDS. Analytical results and a map showing the wastewater sampling location shall be submitted to NMED in the quarterly monitoring reports due on August 1st and February 1st. [20.6.2.3107 NMAC]</p>
31.	<p>The permittee shall collect stormwater samples on a semi-annual basis from the stormwater impoundment. The samples shall be collected as soon as possible after a storm event, prior to discharging to the stormwater land application area. The samples shall be analyzed for</p>

	NO ₃ -N, TKN, Cl and TDS. Analytical results, or a statement that stormwater runoff did not occur, shall be submitted to NMED in the quarterly monitoring reports due on August 1 st and February 1 st . [20.6.2.3107 NMAC]
32.	The permittee shall complete LADS which document the amount of nitrogen from stormwater and/or manure solids, applied to the stormwater land application area (Field 3). The LADS shall be completed for each crop grown associated with each field and shall reflect the nitrogen concentration from the semi-annual stormwater analyses and the estimated volumes of stormwater transferred for each month. The volume of stormwater used in the LADS calculations shall be the volume estimated from the tank load manifest log required by 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]
33.	<p>Prior to discharging from the facility, the permittee shall collect composite soil samples from Field 3 within the stormwater 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 stormwater. One surface composite soil sample (first-foot) and two sub-surface composite soil samples (second-foot and third-foot) shall be collected from Field 3. Composite soil samples shall be collected and analyzed according to the following procedure.</p> <ol style="list-style-type: none"> 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, NO₃-N, Cl, organic matter (OM), potassium (K), phosphorus (P), sodium (Na), calcium (Ca), magnesium (Mg), sulfate (SO₄), soil texture and determination of the sodium adsorption ratio (SAR). 6. Soil samples shall be analyzed in accordance with the analytical methodology required by this Discharge Permit. Soil pH, EC, Na, Ca, Mg and SO₄ shall be analyzed using a saturated paste extract. Soil P shall be analyzed using the Olsen sodium bicarbonate method. Soil NO₃-N shall be analyzed by a 2 molar KCl extract. <p>The permittee shall submit the analytical results and a map showing the sampling locations within Field 3 to NMED prior to discharging from the facility. [20.6.2.3107 NMAC]</p>

34.	<p>Beginning the year following the initial soil sampling required by this Discharge Permit, the permittee shall collect annual soil samples from each field (within the land application area) that has received or is actively receiving 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 stormwater, the permittee shall collect soil samples immediately before initial stormwater application and annually thereafter. Once a field has received stormwater 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 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.</p> <ol style="list-style-type: none"> 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, NO₃-N, Cl, OM, K, P, Na, Ca, Mg, and SAR. 6. Sub-surface soil samples shall be analyzed for EC, NO₃-N, and Cl. 7. Soil samples shall be analyzed in accordance with the analytical methodology required by this Discharge Permit. Soil pH, EC, Na, Ca, and Mg shall be analyzed using a saturated paste extract. Soil P shall be analyzed using the Olsen sodium bicarbonate method. Soil NO₃-N shall be analyzed by a 2 molar KCl extract. <p>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]</p>
35.	<p>The permittee shall keep a log of all additional fertilizer applied to each field in the stormwater land application area (Field 3). 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]</p>

CONTINGENCY PLAN

#	Terms and Conditions
36.	<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</p>

	<p>Permit, upon closure of the facility or during post-closure monitoring, the permittee shall:</p> <ol style="list-style-type: none"> 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. <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 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>
37.	<p>In the event that analytical results of ground water sampling from the monitoring well (MW-3) located hydrologically downgradient of the stormwater impoundment verify the exceedance of one or more of the ground water standards of Section 20.6.2.3103 NMAC, the permittee shall within 90 days of the date of verification submit to NMED, construction plans and specifications, and supporting design calculations for a synthetically lined stormwater impoundment(s) for the collection and management of stormwater runoff certified by a licensed New Mexico professional engineer. The plans shall demonstrate that the stormwater impoundment(s) is designed at a minimum to contain stormwater runoff and direct precipitation generated from a 25-year, 24-hour storm event. [20.6.2.3109 NMAC]</p>
38.	<p>Within one year from the date of verification of the exceedance of a ground water standard(s) of Section 20.6.2.3103 NMAC in MW-3 the permittee shall install a synthetically lined stormwater impoundment(s) to replace the existing stormwater impoundment. The stormwater impoundment(s) shall be constructed in accordance with the construction plans and specifications as required by the contingency plan in this Discharge Permit and the attachment titled <i>Ground Water Discharge Permit Conditions for Synthetically Lined Lagoons - Liner Material and Site Preparation</i>, Revision 0.0, May 2007. The permittee shall notify NMED at least five working days prior to stormwater impoundment construction to allow NMED personnel to be on-site for inspection. Record drawings and final specifications for the stormwater impoundment(s) and impoundment liner(s), and final 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 stormwater impoundment(s) and liner(s), as well as final capacity calculations. [20.6.2.3109 NMAC]</p>
39.	<p>In the event that a minimum of two feet of freeboard cannot be maintained in the evaporative wastewater lagoon at all times, the permittee shall submit a corrective action</p>

	<p>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>
40.	<p>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 <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 60 days of well completion.</p> <p>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 <i>Ground Water Discharge Permit Monitoring Well Construction and Abandonment Conditions</i>, 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]</p>
41.	<p>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 <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 60 days of well completion. [20.6.2.3107 NMAC]</p>
42.	<p>In the event that LADS show that the amount of nitrogen applied to the stormwater land application area (Field 3) 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>
43.	<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</p>

	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]
44.	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
45.	<p>Upon closure of the facility, the permittee shall perform the following closure measures:</p> <ol style="list-style-type: none"> 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 stormwater land application area (Field 3) or transfer offsite for proper application. c) Empty lagoons and impoundments of all wastewater, stormwater and manure solids. d) Perforate or remove the lagoon liner(s) and re-grade the lagoon(s) with clean fill to blend with surface topography and prevent ponding. e) Perforate or remove the stormwater impoundment liner(s) and re-grade the impoundment(s) 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(s) 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
46.	<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; 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. <p>[20.6.2.3107.A NMAC]</p>
47.	<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. [20.6.2.3107.A NMAC]</p>
48.	<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>
49.	<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. [20.6.2.3107.A NMAC]</p>
50.	<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. [20.6.2.3107.A NMAC]</p>

51.	<p>INSPECTION and ENTRY - The permittee shall allow the Secretary or an authorized representative, upon the presentation of credentials, to:</p> <ul style="list-style-type: none"> 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. <p>[20.6.2.3107.D NMAC, 74-6-9(B) & (E) WQA]</p>
52.	<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>
53.	<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 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]</p>
54.	<p>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]</p>
55.	<p>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]</p>
56.	<p>PLANS and SPECIFICATIONS - The permittee shall file plans and specifications with</p>

	<p>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]</p>
57.	<p>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]</p>
58.	<p>CRIMINAL PENALTIES – Any person who knowingly violates or knowingly causes or allows another person to:</p> <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. <p>[74-6-10.2(A-F) WQA]</p>
59.	<p>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]</p>
60.	<p>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]</p>
61.	<p>TRANSFER of DISCHARGE PERMIT - Prior to the transfer of any ownership, control, or</p>

	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]
62.	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 seven years from its effective date or five years from the date the discharge commences, whichever occurs first. 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]
63.	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