NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

1190 St. Francis Drive
P.O. Box 26110, Santa Fe, NM 87502
Phone (505) 827-2918 Fax (505) 827-2965
www.nmenv.state.nm.us

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

August 15, 2008

Walter Bradley
Southwest Area Council
Dairy Farmers of America
3500 William D. Tate Ave., Suite 100
Grapevine, TX 76051-8734

RE: Dairy Industry Group and New Mexico Environment Department Meetings

Dear Mr. Bradley:

The New Mexico Environment Department (NMED) was pleased to meet with you and the Dairy Industry Group during the last nine months to address industry concerns over permit requirements for dairies. The NMED and Dairy Industry Group meetings were held in Clovis and Albuquerque, New Mexico on November 29, 2007, May 13, 2008, June 2, 2008 and June 24, 2008. The discussions focused on the following topics which were identified by the industry: soil sampling, livestock grazing, ground water monitoring wells, qualifications of persons submitting monitoring plans, wastewater infrastructure, lagoon/impoundment surveys, scaled site maps, and monitoring reporting frequency. This letter summaries the outcome of our joint meetings.

Soil sampling of land application areas

During the meetings, extensive discussion focused on soil sampling. NMED previously required soil samples to be collected between the months of March and May each year. This timeframe accounts for nitrogen accumulation, from wastewater and/or stormwater, applied through the winter months. The Dairy Industry Group stated that it is not logistically possible to collect and analyze soil samples in a timely manner in order to use this data for spring nutrient management planning. NMED believes that to properly assess nitrogen accumulation, soil sampling should be conducted prior to spring planting. However, NMED agreed to change the soil sampling conditions to allow for an extended sampling period between December 1 and May 31 to address industry concerns.

EXHIBIT
WO-3

NMED cautions that soil sampling is intended as an initial indication of whether nitrogen overloading is occurring in the land application area. With the extended sampling timeframe (between December 1 and May 31), nitrogen accumulation during the winter months may not be adequately captured. Ultimately, the permittee is still required to comply with the ground water quality standards as set forth in Section 20.6.2.3103 NMAC of the Water Quality Control Commission Regulations.

Additional changes to the soil sampling permit conditions that NMED agrees to modify include the timing for analyzing for specific constituents as follows:

1. For the initial soil sampling event following the effective date of the 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 and/or stormwater. One surface composite soil sample (1st-foot) and two sub-surface composite soil samples (2nd and 3rd-foot) shall be collected from each field.

   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, NO_3-N, Cl, organic matter (OM), potassium (K), phosphorus (P), sodium (Na), calcium (Ca), magnesium (Mg), bicarbonate (HCO_3), sulfate (SO_4), soil texture and determination of the sodium adsorption ratio (SAR).

2. Following the first year, subsequent annual soil sampling shall be conducted that includes a reduced set of constituents:

   Surface (1st-foot) samples shall be analyzed for:
   - pH, EC, NO_3-N, Cl, OM, K, P, Na, Ca, Mg, and determination of the SAR.

   Sub-surface (2nd and 3rd-foot) samples shall be analyzed for:
   - EC, NO_3-N, and Cl

Discussion also centered on annual soil sampling for permitted fields actively receiving wastewater versus permitted fields not actively receiving wastewater. NMED agreed that following the initial soil sampling event, annual soil samples are to be collected and analyzed from each field and/or management unit within the permitted land application area that has received or is actively receiving wastewater and/or stormwater during the term of the current permit. Fields that do not receive wastewater during the term of the permit would only need to be sampled during the first year of the permit.

Livestock grazing on land application areas

The Dairy Industry Group requested that livestock grazing be allowed to be used for nitrogen removal from land application areas during winter months. NMED believes it is difficult to quantify nitrogen removal through grazing. However, NMED agreed, with reservations about the effectiveness of this proposal, to consider this practice if submitted for review as part of an overall comprehensive nutrient management plan for land application areas. In order to be approved, the proposal must adequately demonstrate that nitrogen removal can be quantified with reasonable certainty.

Ground water monitoring wells

The discussions regarding monitoring wells centered on the ground water monitoring network design and monitoring well construction including appropriate screen lengths and annular space sealing as follows:

1. NMED agreed with the Dairy Industry Group that the ground water monitoring network design shall be based on monitoring source areas for the entire facility for which the Discharge Permit has been approved.

2. NMED requires ground water monitoring downgradient of all potential sources of contamination including wastewater lagoons, stormwater impoundments, and fields within the land application area. The Dairy Industry Group requested a reduced number of monitoring wells near land application areas with multiple fields. NMED will consider these requests on a case by case basis, based on site-specific information and proposals submitted to NMED during the permit development period (new or renewed permits). In appropriate circumstances, monitoring wells can be shared facility wells located at suitable locations.

3. The Dairy Industry Group proposed that monitoring wells be constructed with long well screens that fully penetrate the aquifer. Upon review of published peer-reviewed literature, NMED has concluded that monitoring wells constructed with long well screens (i.e., greater than 15 feet in length) are problematic for monitoring of contaminant releases because they may cause sample dilution (resulting in underreporting of actual contaminant concentrations in ground water) or allow shallow contaminant plumes to migrate to deeper, previously unaffected portions of an aquifer. In general, NMED will continue to require that monitoring wells be constructed with 20 feet of screen, with no

more than 15 feet of screen positioned below the water table. In cases where site-specific ground water monitoring data indicates that the water table is currently dropping at a rate greater than two feet per year, NMED will consider requests to install monitoring wells with screen lengths greater than 20 feet.

4. Concerns were expressed by the Dairy Industry Group regarding the potential for monitoring wells to serve as conduits for the movement of contaminants to ground water. While NMED believes their current monitoring well construction guidance addresses this issue, published peer-reviewed literature indicates that placement of bentonite grout, cement grout, or bentonite-cement grout in the annular space around monitoring well casing more effectively seals the annular space and prevents the migration of contaminants to ground water via the monitoring well borehole. NMED agrees to amend its monitoring well construction condition to require that newly-installed monitoring wells be constructed with grout-sealed annular spaces.

Qualifications of the person submitting monitoring plans

The Dairy Industry Group proposed that monitoring plans submitted to NMED shall be prepared by a competent person. Demonstration of competency shall be provided with each comprehensive monitoring plan and each competent person shall seal or affirm the adequacy of the contents therein. A "competent person" shall mean:

a. for ground water hydrology and vadose zone monitoring, a competent person shall mean geologist or hydrogeologist with other state registration or professional certifications; and
b. for agronomic rates, nutrient management plans and vadose zone monitoring systems, only, an agricultural scientist or professional with NRCS (Technical Service Provider with CNMP) or state registration or professional certification (CCA, CPAg, CPSS, CNMP).

NMED agreed that monitoring plans submitted to the agency should be prepared by a competent person but that NMED lacked the statutory or regulatory authority to require this. However, NMED agreed to modify its discharge permit guidance to recommend that plans be prepared by such a person.

Wastewater infrastructure for the land application area

The Dairy Industry Group indicated that, at times a facility may include more acreage in their Discharge Permit than they intend to actively apply wastewater and/or stormwater to throughout the permit term. This allows the facility to use the acreage in the event that it is needed.

For fields not intended to receive active wastewater and/or stormwater discharges, NMED agreed that infrastructure shall be installed and NMED notified prior to discharging to these fields rather than requiring that infrastructure be installed to all fields at the start of the permit term.

Wastewater lagoon and stormwater impoundment surveys

NMED agreed to remove permit language requiring that capacity calculations from the survey of pre-existing wastewater lagoons and stormwater impoundments be certified by a licensed New Mexico registered professional engineer. In lieu of the requirement for the involvement of a professional engineer, the survey and capacity calculations of pre-existing lagoons and impoundments shall be done by a licensed New Mexico professional surveyor.

Scaled facility maps

NMED requires scaled maps for each facility but agreed to remove language requiring that facility map be prepared by a licensed New Mexico professional surveyor. 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) will instead be required to be included with all scaled maps.

Monitoring reporting frequency

At the request of the Dairy Industry Group, NMED agreed to allow submittal of annual monitoring reports. Actual soil, ground water and other monitoring activities will continue to be conducted as required by the Discharge Permit (quarterly, semi-annually, etc.). However, the data shall be submitted in an annual monitoring report rather than four quarterly reports submitted to NMED in a given year. Consideration of the annual monitoring report requirement will be assessed during the permit development period (new or renewed permits). NMED reserves the right to require more frequent reports based upon the compliance history of a facility.

NMED appreciates the time and effort that the Dairy Industry Group expended in working with us as well as the cooperative nature of the discussions. NMED hopes that the outcome of these issues has been satisfactory to the Dairy Industry Group. NMED looks forward to continuing discussions with the Dairy Industry Group as needed. I would especially like to thank you for your help in organizing and facilitating these discussions.

If you have any questions, please feel free to contact me at (505) 827-2919.

Sincerely,

William C. Olson, Chief
Ground Water Quality Bureau

cc: Ron Curry, Secretary
Jon Goldstein, Deputy Secretary

Marcy Leavitt, Director, Water and Waste Management Division
Sharon Lombardi, Executive Director, Dairy Producers of New Mexico, PO Box 6299, Roswell, NM 88202-6299
George Schuman, NMED-GWQB