



BILL RICHARDSON  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Ground Water Quality Bureau*

*Harold Runnels Building*

*1190 St. Francis Drive, P.O. Box 26110*

*Santa Fe, New Mexico 87502-6110*

*Telephone (505) 827-2918*

*Fax (505) 827-2965*

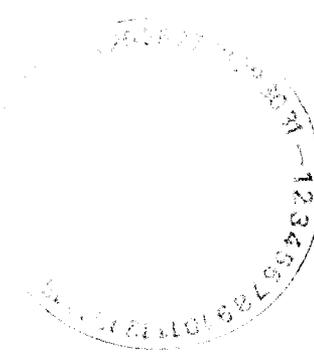


RON CURRY  
SECRETARY

DERRITH WATCHMAN-MOORE  
DEPUTY SECRETARY

November 24, 2003

Lieutenant Colonel John C. Bower  
Commander  
Department of the Air Force  
27<sup>th</sup> Civil Engineer Squadron (ACC)  
Cannon Air Force Base  
506 N DL Ingram Blvd  
Cannon AFB, NM 88103-5003



**RE: Monitoring Well P; Cannon Air Force Base, DP-873**

Dear Lt. Col. Bower:

The New Mexico Environment Department (NMED) Ground Water Quality Bureau (GWQB) has reviewed the most recent monitoring report dated November 12, 2003 submitted by Cannon Air Force Base (AFB). The report noted that a ground water sample could not be obtained from Monitoring Well P due to no ground water present within the screened portion of the well. During a telephone conversation with John Rebman of Cannon AFB staff on November 19, 2003, the NMED GWQB agreed to allow Cannon AFB to check water levels in Monitoring Well P during the January to March 2004 quarter to determine the well recovers prior to Cannon AFB replacing Monitoring Well P with a new monitoring well.

Additionally, the NMED GWQB has reviewed ground water sampling data analyses submitted by Cannon AFB in previous monitoring reports, as well as sample analyses from the playa lake located east of the sludge basins submitted by Cannon AFB. Ground water within Monitoring Well P has, over the year, shown increasing nitrate levels, with the last sampling event on July 8, 2003 showing nitrate levels having reached 28.2 mg/l. The ground water standard for nitrate is 10 milligrams per liter (mg/l) [20.6.2.3103 NMAC]. Monthly playa lake sampling data for nitrogen compounds (Total Kjeldahl Nitrogen, and nitrate as nitrogen) submitted by Cannon AFB have shown concentrations of nitrogen compounds in the lake below 10 mg/l from November 1998 to the present, and above 10 mg/l prior to November 1998.

NMED is also aware that Cannon AFB is performing corrective actions under the Hazardous Waste Bureau (HWB) with respect to the sludge basins, which Cannon AFB believes might be

the source of the nitrate contamination in Monitoring Well P. With the monitoring wells around the sludge basins not showing nitrate contamination, NMED questions whether the basins are the source. The NMED GWQB in discussions with the HWB has also determined that the HWB is not addressing the nitrate contamination in Monitoring Well P, therefore Cannon AFB must submit a corrective action plan to the NMED GWQB per Condition 2 of the Contingency Plan in Cannon AFB's Discharge Permit, DP-873 issued December 22, 2000. The corrective action plan must include a site investigation to define the source, nature and extent of ground water contamination and a proposed abatement option.

In order to define the source(s) of the nitrate contamination in Monitoring Well P, the NMED GWQB requests the site investigation include one year of quarterly potentiometric maps to show ground water flow direction and gradient beneath Cannon AFB. The site investigation should address areas found to be upgradient of Monitoring Well P. The NMED GWQB requests the potentiometric maps be created using Monitoring Wells E, F, G, H, N, O, and P using the following procedure:

- 1) Survey Monitoring Wells E, F, G, H, N, O, and P to a common permanent benchmark.
- 2) Survey data must include northing, easting, and elevation to the nearest hundredth of a foot.
- 3) Measure depth to water to the nearest hundredth of a foot in all surveyed wells, and use this data to determine ground water flow direction and gradient.
- 4) Submit the data and potentiometric maps to NMED on a quarterly basis.

During previous telephone discussions with John Rebman of Cannon AFB staff and Christina Kelso of NMED staff, Mr. Rebman had discussed the possibility that runoff manure contaminants from the dairy east of Cannon AFB might flow into the playa lake during storm events. The NMED GWQB recommends the site investigation also include sampling the playa lake before and after storm events to determine if levels of nitrogen compounds increases in the lake after a storm event.

Finally, if Cannon AFB determines, and the NMED GWQB agrees, that the sole source of the ground water nitrate contamination in Monitoring Well P is the sludge basins, Cannon AFB may propose a period of monitoring after the sludge basins have been permanently closed in order to determine if the closure of the basins results in a decreasing nitrate concentration in Monitoring Well P.

If you have any questions regarding this letter, please contact me at (505) 827-2782.

Sincerely,



Christina Kelso  
Environmental Scientist  
Ground Water Pollution Prevention Section

Lt. Col. John C. Bower, DP-8  
November 24, 2003  
Page 3 of 3

cc: John Rebman, Department of the Air Force, 27<sup>th</sup> Civil Engineer Squadron (ACC),  
Cannon Air Force Base, 506 N DL Ingram Blvd, Cannon AFB, NM 88103-5003

Glenn Von Gonten, NMED Hazardous Waste Bureau, P.O. Box 26110, Santa Fe, NM  
87505-6303

Randy Vander Dussen, Owner, Rajen Dairy, 948 CR O, Clovis, NM 88101

Pamela Homer, NMED GWQB