



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



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April 23, 1992

Mr. Eluid L. Martinez
State Engineer
P.O. Box 25102
Santa Fe, New Mexico 87504-5102

Dear Mr. Martinez:

As you may know, the Oil Conservation Division of the Energy, Minerals and Natural Resources Department, has primacy in administering the Federal Underground Injection Control Program for the State of New Mexico. This program mandates that the Division, in reviewing applications for salt water disposal and secondary recovery injection wells, make a determination that such injection shall not pose a danger of contaminating underground sources of drinking water containing less than 10,000 parts per million total dissolved solids.

Recently, an application was filed by Anadarko Petroleum Company to utilize the Exxon Federal Well No. 3 located 660 feet from the North line and 1980 feet from the West line (Unit C) of Section 19, Township 19 South, Range 33 East, NMPM, Lea County, New Mexico, as a salt water disposal well, injection to occur into the Capitan Reef at a depth of approximately 3500 feet to 4300 feet. The produced water to be injected into this well originates from the Delaware formation at a depth of approximately 5492 feet to 6020 feet, and contains total dissolved solids of approximately 219,389 parts per million. Injection is proposed to average 1000 barrels of water per day.

Anadarko presented geologic and engineering evidence and testimony at a public hearing held in Santa Fe on February 6, 1992, which indicates that in the area of concern, the Capitan Reef contains water with total dissolved solids of 105,532 parts per million, as evidenced by a water analysis from Anadarko's Teas Yates Water Supply Well No. 1 located 1330 feet from the North and West lines (Unit F) of Section 14, Township 20 South, Range 33 East, NMPM, which is currently completed in the Capitan Reef at a depth of approximately 3660 feet to 3762 feet. Based upon the evidence presented, the Division can approve the proposed injection into the Capitan Reef.

The Division's concerns regarding the proposed injection are as follows:

- 1) The Division has historically not allowed injection into the Capitan Reef as per an agreement supposedly reached between Mr. Pete Porter, previous director of the Division and Mr. Steve Reynolds;
- 2) Allowing the proposed injection at the present time would set a precedent, and as a result, the Division would expect to see numerous similar applications filed due to the unique ability of the Capitan Reef to easily accept injected fluids;
- 3) The Division lacks reservoir modeling capability and hydrologic expertise to adequately predict whether or not injection into the Capitan Reef on a large scale will ultimately have a detrimental affect on those portions of the Capitan Reef containing good quality water such as that currently being used by the City of Carlsbad.

Members of my staff have been in preliminary contact with Mr. Paul Saavedra of your office. Thus far, they have been unable to locate any documentation regarding the agreement between Mr. Porter and Mr. Reynolds.

I feel that this is a very important issue because once injection into the Capitan Reef is allowed and the injection occurs, it would be very difficult to perform remediation should contamination occur. We are therefore seeking your assistance in making a hydrologic determination that large scale injection of produced salt water into the Capitan Reef will not have a detrimental affect, at some future time, on those portions of the Reef containing fresh water. A hydrologic study of this nature will provide the Division scientific data and evidence needed to make informed decisions on the effects of salt water injection into the Capitan Reef.

Any assistance you can provide the Division in this matter will be greatly appreciated. If my engineering or geologic staff can be of any assistance, please feel free to request such assistance.

Sincerely,


William J. LeMay
Division Director