



KERR-McGEE CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

PLEASE REPLY TO

EXPLORATION AND PRODUCTION DIVISION
U. S. ONSHORE REGION
P. O. BOX 25861
OKLAHOMA CITY, OKLAHOMA 73125

April 1, 1989

PHONE

405 848-9750

Mr. Floyd O. Prando
Director, Oil & Gas Division
State of New Mexico
Commissioner of Public Lands
P. O. Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. LeMay, Director
State of New Mexico
Energy and Mineral Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

ENTERED IN FILE
CLEARANCE
Kerr-McGee Corp. 11
CASE NO. 9682+9683

Re: PLAN OF OPERATION 1989
Proposed K-M Chaveroo
San Andres Unit
Chaveroo San Andres Field
Chaves, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11A. of the Unit Agreement, Kerr-McGee Corporation, designated Unit Operator of the proposed K-M Chaveroo San Andres Unit, Chaves County, New Mexico, respectfully submits for your consideration and approval, this Plan of Operation for the secondary recovery of oil by waterflood on the subject unitized land.

- I. Proposed Plan of Operation 1989: Kerr-McGee hereby proposes that the K-M Chaveroo San Andres Unit ("the Unit"), consisting of 1,280.37 acres, as more particularly delineated on the map contained in Exhibit 1 attached hereto, be formed for the purpose of secondary recovery by the waterflood method. This proposed Unit currently consists of a total of nineteen (19) producing wells and one (1) salt water disposal well. Ultimately, it is planned that the Unit will consist of nine (9) injection wells, ten (10) producing wells, and one (1) salt water disposal well.

As presented on Exhibit 1 attached, Kerr-McGee plans to construct a water injection plant in the NW/4 of Section 2, Township 8 South, Range 33 East, to service the Unit area. This plant will be constructed in such a manner to provide approximately 3,150 barrels of water per day for ample injection capability. The planned location was chosen because of its proximity to existing roads and electrical service and its central location to the proposed injection wells. A series of individual and trunk injection lines will radiate to provide injection service to the individual injection wells.

Supplemental water will be purchased from the most economical source which is available in this area. The fresh water will be supplied from the Ogallala formation which is present at an approximate depth of 185 to 240 feet below the surface. This water, combined with the San Andres produced water, has been deemed compatible by chemical analysis and previous experience in this area of New Mexico. A water supply line will be constructed from a source in Sections 8 and 9, Township 7 South, Range 34 East to the K-M Chaveroo San Andres Unit.

- II. Operating Guidelines: Kerr-McGee plans to monitor all injection wells through injection rate and pressure checks. Approximately 90 to 120 days after the initiation of injection into any given well, a tracer survey will be run in order to measure injection profiles and to determine if water channeling is occurring. If water channeling or unacceptable injection profiles are observed, appropriate remedial work will be performed. As wells are converted to injection status, the annuli of each well will be filled with packer fluid containing corrosion inhibiting chemicals. The downhole integrity of each injection well will be determined by "pressuring up" the annulus of each well and maintaining a positive pressure of 300 psig for at least thirty (30) minutes. The procedure for conversion to injection status and all remedial and drilling operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and other regulatory agencies.
- III. Modification: Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions and to protect the interests of all parties to the Unit Agreement.

IV. State Lands: Exhibit 1a is a letter from Floyd O. Prando dated May 3, 1988 which reflects the State of New Mexico has ownership of the royalty in Section 1 and 2, T-8S, R-33E, Chaves County, New Mexico. This is the area that Kerr-McGee Corporation is proposing to implement a waterflood project for the secondary recovery of oil and gas.

Should you have any questions or comments, please contact the undersigned.

Respectfully submitted,

KERR-MCGEE CORPORATION

RJQ:lrg01

Exhibit 1: Map of proposed K-M Chaveroo San Andres Unit.

cc: Mr. Jerry E. Sexton
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 1980
Hobbs, New Mexico 88240-1980