

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 8916
Order No. R-8255

APPLICATION OF YATES DRILLING COMPANY
FOR WATERFLOOD EXPANSION, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 12, 1986, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 8th day of July, 1986, the Division Director, having considered the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Yates Drilling Company, seeks authority to expand its Yates Artesia Metex Unit Waterflood Project, authorized by Division Order No. R-4609, dated August 13, 1973, by converting its Artesia Metex Unit Well No. 35 located 1650 feet from the North line and 330 feet from the East line (Unit H) of Section 26, Township 18 South, Range 27 East, Artesia Queen Grayburg-San Andres Pool, Eddy County, New Mexico, from a producing well to an injection well.

(3) The proposed waterflood expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(4) The applicant currently operates two producing wells within the Artesia Metex Unit Waterflood Project that are located within one half mile of the proposed injection well and that may not be completed in a manner that will confine the injected fluids in the waterflood interval.

(5) The wells, referred to above, identified as the Artesia Metex Unit Wells Nos. 27 and 44, located respectively 990 feet from the North and West lines of Section 25 and 1650 feet from the South line and 330 feet from the East line of Section 25, Township 18 South, Range 27 East, both have surface casing set at approximately 500 feet, but neither has production casing and are open hole completed down to approximately 2040 feet.

(6) The applicant also operates three other previously approved injection wells that are located closer to the above described producing wells than is the proposed injection well.

(7) To date, the applicant has not encountered any waterflow or out of zone water problems within the wellbores of their AMU Wells Nos. 27 or 44.

(8) In order to ensure that vertical migration of fluid will not occur within the wellbores of the AMU Wells Nos. 27 and 44, the applicant should be required to maintain these wells at pumped off conditions at all times and the wells should not be allowed to be shut in for a period exceeding seven days.

(9) In order to ensure long term protection from fluid migration the applicant should not be allowed to temporarily abandon the AMU Wells Nos. 27 and 44 unless the waterflood interval in both wells has been effectively isolated from any zones up hole.

(10) At the time of the hearing the applicant requested an exception to the maximum allowable injection pressure gradient of .2 psi/ft to allow injection into the proposed well at approximately 1200 psi.

(11) The evidence presented indicated that the average injection pressure within the waterflood unit was 1200 psi.

(12) The applicant presented no evidence as to what the fracture pressure is within the Grayburg formation underlying the waterflood project.

(13) In the absence of any fracture pressure data, the applicant should be required to inject into said proposed well at a pressure not exceeding 0.2 psi/ft of depth to the upper perforation or 372 psi.

(14) The Division Director should have the authority to approve an increase in injection pressure upon a proper showing by the applicant that said pressure increase will not result in the fracturing of the Grayburg formation.

(15) The casing tubing annulus in the well should be located with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

(16) Prior to commencing injection operations into said well, the casing should be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

(17) The subject application should be approved and the well should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Yates Drilling Company, is hereby authorized to expand its Artesia Metex Unit Waterflood Project by converting to water injection the Artesia Metex Unit Well No. 35 located 1650 feet from the North line and 330 feet from the East line (Unit H) of Section 26, Township 18 South, Range 27 East, Artesia Queen Grayburg San Andres Pool, Eddy County, New Mexico.

(2) Injection into said well shall be through 2 3/8-inch internally coated tubing set in a packer located at approximately 1800 feet, with injection into the perforated interval from 1858 feet to 1939 feet.

(3) The casing-tubing annulus shall be filled with an inert fluid and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(4) Prior to commencing injection operations, the casing in the subject well shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's district office at Artesia.

(5) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 372 psi.

(6) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Grayburg formation.

(7) The operator shall notify the supervisor of the Artesia district office of the Division in advance of the mechanical integrity pressure test in order that the same may be witnessed.

(8) The operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

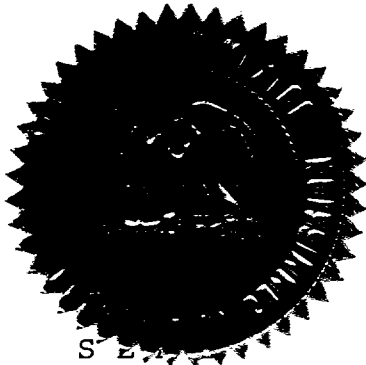
(9) In order to ensure that vertical migration of fluid will not occur within the wellbores of the applicant's Artesia Metex Unit Wells Nos. 27 and 44, located respectively 990 feet from the North and West lines of Section 25 and 1650 feet from the South line and 330 feet from the East line of Section 25, both in Township 18 South, Range 27 East, the applicant shall maintain these wells at pumped off conditions at all times and these wells shall not be allowed to be shut in for a period exceeding seven days.

(10) Further, the applicant shall not be allowed to temporarily abandon its AMU Wells Nos. 27 and 44 unless the waterflood interval within the wellbores has been effectively isolated from any zones up hole.

(11) The subject wells shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(12) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

R. L. Stamets
R. L. STAMETS,
acting Director