

STATE OF NEW MEXICO

ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

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

CASE NO. 11421

APPLICATION OF YATES PETROLEUM
CORPORATION FOR THE PROMULGATION
OF SPECIAL POOL RULES AND REGULATIONS
FOR THE SOUTH PECOS SLOPE-ABO GAS POOL,
CHAVES COUNTY, NEW MEXICO.

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Oil Conservation Division

**YATES PETROLEUM CORPORATION'S
PROPOSED ORDER OF THE DIVISION**

BY THE DIVISION

This cause came on for hearing at 8:15 a.m. on November 2, 1995, at Roswell, New Mexico, before Examiner Michael E. Stogner.

NOW, on this ____ day of February, 1996, the Division Director, having considered the testimony, 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) By Order No. R-9976 issued in Case No. 10793 on September 24, 1993, the Division, upon application of Yates Petroleum Corporation ("Yates"), approved a pilot infill drilling program within portions of the Pecos Slope-Abo Gas Pool, Chaves County, New

Case No. 11421

Order No. R-_____

Page 2

Mexico, for the purpose of allowing the applicant the opportunity to gather data to determine if infill drilling is necessary to effectively and efficiently drain the Abo formation.

(3) This Order was amended by Order No. R-9976-A issued in Case Nos. 10981 and 11004 on July 26, 1994, upon application of Yates, to expand its pilot infill drilling program to within the Pecos Slope-Abo Gas Pool and to approve unorthodox locations for certain specific pilot project infill wells.

(4) Order No. R-9976 as amended by Order No. R-9976-A authorized Yates implement a pilot infill drilling program in the Pecos Slope-Abo Gas Pool:

- (a) consisting of 26 wells at orthodox and unorthodox locations in Townships 5, 6 and 7 South, Ranges 25 and 26 East;
- (b) authorizing production from both wells within each of the proration units at unrestricted rates for a temporary period of two years; and
- (c) requiring Yates to appear in August 1995 at an Examiner hearing to present the results of the pilot infill drilling program and make recommendations to the Division, if applicable, for amendments to the rules which govern the Pecos Slope-Abo Gas Pool.

5. Case Nos. 10793 and 10981 were reopened at the August 24, 1995 Examiner hearing, and the hearing was continued on several occasions until November 2, 1995.

6. Tide West Oil Company ("Tide West") and Great Western Drilling Company (Great Western") appeared through their attorney at the November 2, 1995 hearing but did not present evidence. At the conclusion of Yates' presentation, Tide West and Great Western requested certain information from Yates and a 60-day continuance to determine what position to take on this application. The continuance was granted and the data requested by Tide West and Great Western was provided for their analysis. When the case was reopened on January 11, 1996, Tide West and Great Western elected not to present evidence but instead have only submitted an unsworn statement which is not supported by the evidence in the record.

Case No. 11421

Order No. R-_____

Page 3

7. In Case 11421, the applicant, Yates Petroleum Corporation, seeks the adoption of special rules and regulations for the South Pecos Slope-Abo Gas Pool, Chaves County, New Mexico, authorizing the drilling of an optional additional gas well ("infill well") within each standard 160-acre spacing unit.

8. In Case 11422, the applicant, Yates Petroleum Corporation, seeks the adoption of special rules and regulations for the West Pecos Slope-Abo Gas Pool, Chaves County, New Mexico, authorizing the drilling of an optional additional gas well ("infill well") within each standard 160-acre spacing unit.

9. Each pool is currently developed pursuant to statewide rules which provide for single well 160-acre spacing units comprised of a governmental quarter section with wells located no closer than 660 feet to the outer boundary of the quarter section.

10. Inasmuch as the subject matter of Case Nos. 10793, 10981, 11004, 11421 and 11422 are related, the cases were consolidated for the purposes of hearing with a separate Order entered for each pool.

11. The South Pecos Slope-Abo Gas Pool is contiguous with and a geologic extension of the Pecos Slope-Abo Gas Pool. There is no geologic reason to separate the two pools.

12. The Abo formation in the Pecos Slope-Abo Gas Pool and South Pecos Slope-Abo Gas Pool is a fluival clastic wedge deposit comprised of channel sands which are stacked vertically of varying lateral continuity.

13. The pilot infill drilling program in the Pecos Slope-Abo Pool was implemented by Yates in two phases. Phase I consisted of the drilling of the six infill wells approved by Division Order No. R-9976 and Phase II consisted of nine additional infill wells drilled pursuant to Division Order R-9976-A.

14. The location of each of the fifteen pilot infill well locations drilled by Yates was selected based on:

- (a) sand thickness from isopach maps and log cross sections;

- (b) cumulative production from iso-cum maps which identified areas of good cumulative production; and
- (c) distance from existing well drainage areas as shown by bubble maps.

15. The fifteen wells drilled in this pilot infill drilling program were located throughout a five Township area that is representative of the Abo formation throughout this portion of Southeastern, New Mexico.

16. The geologic information obtained from the Pecos Slope-Abo pilot project establishes:

- (a) the Abo formation is comprised of channel sands which are vertically stacked with varying lateral continuity;
- (b) the individual producing stingers are not continuous from well to well;
- (c) there is partial communication between wells as shown by the aggregate bottomhole pressure data obtained from offsetting wells;
- (d) infill wells encounter new reserves that will not be recovered by existing wells.

17. The engineering results of the Pecos Slope-Abo pilot infill drilling program are:

- (a) of the fifteen infill wells which were drilled in the pilot project area, ten were successful wells, three were marginal wells and two were dry holes;
- (b) Bottomhole Pressures:
 - (1) The pilot project wells produce from multiple zones in the Abo formation;

- (2) Because the bottomhole pressures obtained from each well is an aggregate pressure from all zones producing into the wellbore, no pilot infill well encountered the original reservoir pressure for the Abo formation of 1,125 psia;
 - (3) Twelve of the fifteen pilot infill wells encountered higher bottomhole pressures than offsetting wells;
 - (4) The average pilot infill well bottomhole pressure is almost 800 psia; and
 - (5) The average pressure of offsetting wells is less than 300 psia.
- (c) Production Rates:
- (1) The production rate for the average pilot infill wells is approximately 750 MCFD; and
 - (2) The production rate for the average offsetting well is less than 100 MCFD.
- (d) Reserves:
- (1) The average pilot project infill well (including the three marginal wells and the two dry holes) will recover 544 MMCF;
 - (2) The average successful pilot project infill well will recover almost 800 MMCF; and
 - (3) The average remaining reserves in each offset well is less than 200 MMCF.

18. The fifteen pilot infill wells will produce 8 BCF of reserves that would otherwise be left in the ground.

19. Existing geological and engineering technology enables infill locations to be selected that will enable the remaining reserves in the Abo formation to be produced.

20. Since there is no geologic reason to separate the South Pecos Slope-Abo Gas Pool and the Pecos Slope-Abo Gas Pool, the results of the Pecos Slope-Abo Gas Pool Pilot Infill Drilling Program can be extrapolated to and apply equally well to the South Pecos Slope-Abo Gas Pool.

21. Infill wells in the South Pecos Slope-Abo Gas Pool will encounter substantial new reserves that will not be recovered by existing wells thereby preventing waste.

22. Approval of infill drilling in the South Pecos Slope-Abo Gas Pool will afford each owner in the pool the opportunity to produce without waste its just and fair share of the reserves in the pool thereby protecting correlative rights.

23. Each operator in the South Pecos Slope-Abo Gas Pool will have the opportunity to drill an infill well on each 160-acre spacing unit in the pool.

24. Variations in the geological characteristics of the Abo formation will dictate if infill wells should be drilled on a spacing unit and where on the spacing unit the well should be located.

25. Infill development of the South Pecos Slope-Abo Gas Pool will result in the drilling of wells which are necessary to produce the remaining reserves in the Abo formation.

26. There is sufficient market for all gas produced from this pool and, therefore, prorationing of this pool is not required to assure each operator in the pool access to market.

27. Artificial allowable restrictions on production from this pool, at this time, could damage the economics of proposed infill development so that necessary wells would not be drilled.

28. If infill development results in the impairment of correlative rights at a later date, the Division on its own motion or on the application of any operator in the pool, can call a hearing to determine whether prorationing would serve to protect correlative rights in this pool.

Case No. 11421

Order No. R-_____

Page 7

29. Infill drilling of an optional infill well on each 160-acre spacing unit in the South Pecos Slope-Abo Gas Pool will prevent the waste of natural gas, will not impair the correlative rights of operators in this pool and should be approved.

IT IS THEREFORE ORDERED THAT:

(1) Permanent Special Rules and Regulations for the South Pecos Slope-Abo Gas Pool, Chaves County, New Mexico, as previously defined and described, are hereby promulgated to permit the optional drilling of a second well on each proration unit as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE SOUTH PECOS SLOPE-ABO GAS POOL**

Rule 1. Each well completed in the South Pecos Slope-Abo Gas Pool or in the Abo formation within one mile thereof, and not nearer to or within the limits of another designated Abo gas pool, shall be spaced, drilled, operated and produced in accordance with the Special Rules and Regulations hereinafter set forth.

Rule 2. The initial well and the infill well, in the event a second well is drilled on any spacing unit, shall be located on a standard unit containing 160-acres, more or less, consisting of the NE/4, SE/4, SW/4 or NW/4 of a governmental quarter section.

Rule 3. The Director of the Division may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit comprising a single governmental quarter section and the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Lands Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30-days after the Director has received the application.

Rule 4. The initial well and the infill well, in the event a second well is drilled on any spacing unit, may be located at any location on the spacing unit provided neither well

Case No. 11421

Order No. R-_____

Page 8

shall be located closer than 660 feet to any outer boundary of a governmental quarter section or lot nor closer than 330 feet to any quarter-quarter section or subdivision inner boundary.

The plats (Form C-102) accompanying the Application for Permit to Drill (OCD Form C-101 or Federal Form 9-331-C) for the second well on a spacing unit shall have outlined thereon the boundaries of the unit and shall show the location of the first well on the unit as well as the proposed new well.

Rule 5. The Director may grant an exception to the requirements of Rule 4 without hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Director has received the application.

(3) 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

WILLIAM J. LeMAY
Director

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