

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION**

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

**CASE NO. 11019 (De Novo)  
Order No. R-10160-A**

**APPLICATION OF YATES PETROLEUM  
CORPORATION FOR AN UNORTHODOX OIL  
WELL LOCATION, EDDY COUNTY,  
NEW MEXICO.**

**ORDER OF THE COMMISSION**

**BY THE COMMISSION:**

This cause came on for hearing at 9:00 a.m. on September 22, 1994, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 21st day of October, 1994, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

**FINDS THAT:**

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

(2) The applicant, Yates Petroleum Corporation ("Yates"), seeks authorization to drill its Llama ALL Federal Well No. 1 ("Llama Well") at an unorthodox gas location 330 feet from the South line and 950 feet from the West line (Lot 4-Unit M) of Irregular Section 7, Township 22 South, Range 31 East, NMPM, Eddy County, New Mexico, to test the Undesignated Cabin Lake-Morrow Gas Pool, the Undesignated Cabin Lake-Atoka Gas Pool and other gas pools in the area.

(3) Lots 3 and 4, the E/2 and the SE/4 (S/2 equivalent) of said Section 7 are to be dedicated to the Llama Well to form a standard 319.81-acre gas proration and spacing unit.

(4) While Yates proposes to drill the Llama Well to a depth sufficient to test the Morrow formation, the primary objective is the "Apache" sand of the Atoka formation which is currently being produced by the Mitchell Energy Corporation's Apache "13" Federal Well No. 1 located 1330 feet from the North line and 333 feet from the East line of Section 13, Township 22 South, Range 30 East, NMPM, which is the Southwest diagonal offset to Yates' proposed Llama Well.

(5) Yates originally proposed and sought approval of an application to drill from the Bureau of Land Management at an orthodox location 660 feet from the South line and 1980 feet from the West line of Section 7. This location, and a second location 330 feet from the South line and 1980 feet from the West line were both denied by the Bureau of Land Management because of potential potash reserves underlying those locations. The Bureau of Land Management did, however, establish a drill island with dimensions 0 feet to 330 feet from the South line and 0 feet to 950 feet from the West line of Section 7. Yates' proposed location in the least unorthodox location within this island.

(6) At the Examiner hearing held on July 21, 1994, Mitchell Energy Corporation ("Mitchell") appeared in opposition to Yates and contended that Yates economically and efficiently could directionally drill the Llama Well from the unorthodox surface location to a standard bottomhole location in order to test for Atoka production but the Division Order did not require Yates to drill a directional well nor did it apply a production penalty as requested by Bass Enterprises Production Company ("Bass").

(7) On August 30, 1994, because of a lease expiry, Yates commenced the drilling of the Llama Well and at the time of the Commission hearing the well had been drilled into the Bone Springs formation at a depth of approximately 9,000 feet.

(8) Yates sought approval of the unorthodox location without a penalty and presented geologic and engineering evidence which showed:

- a. that the unorthodox well location was necessary because the proposed surface location will serve to avoid the "potash" restrictions imposed by the BLM as the surface/mineral agency for this particular spacing unit;
- b. that the location of "Apache" sand, as mapped by Yates, showed that the proposed unorthodox location was comparable in reservoir quality to any standard location in the SW/4 of Section 7;
- c. a geologic interpretation depicting the Atoka "Apache" sand as an elongated shaped reservoir oriented north and south with its axis to the east of the Apache "13" Federal Well No. 1 in Section 13 and centered over the Yates acreage in Section 7;

- d. a well calibrated computer generated reservoir simulation based upon Yates' geologic interpretation which predicted that a well at the proposed unorthodox location would recover an amount of total gas comparable to the amount which a well at a standard gas well location in the SW/4 of Section 7 might recover;
- e. that the unorthodox well location should not be penalized because Yates would not recover any more of the remaining gas in the Atoka "Apache" reservoir than it might recover at a standard location.

(9) Bass sought to have the unorthodox location penalized and presented geologic and engineering evidence which showed:

- a. a geologic interpretation depicting the Atoka "Apache" sand as an elongated shaped reservoir oriented north and south but with its axis to the West of the Apache "13" Federal Well No. 1 in Section 13 centered over the Bass acreage in Section 12;
- b. a computer generated reservoir simulation based upon the Bass geologic interpretation which showed that a well at the proposed unorthodox location would recover a significant amount of its total gas production by draining Bass' adjoining spacing unit.
- c. that the Yates well would either be a dry hole or an edge well which might be capable of commercial production from only 1 or 2 feet of highly porous and permeable "Apache" sand pay.

(10) The Commission finds that:

- a. While both Bass and Yates petroleum engineering witnesses each agreed on the estimated original total gas in place in the Atoka reservoir, each simulation was based upon a substantially different geologic description of the shape, location and orientation of the reservoir.
- b. Data is insufficient to draw scientifically valid conclusions as to the location of the Atoka "Apache" sand axis and that whether the axis trends east or west of the Apache "13" Federal No. 1 in Section 13 is a matter of geologic speculation.

- c. the probability is that the Yates Llama Well will not enjoy a competitive advantage over the proposed Bass Well which would be an orthodox location in Unit "O" of Section 12 and the Mitchell Apache "13" Federal Well No. 1 in Section 13 because:
  - (1) if Yates drills a marginal well it would not have adequate permeability to effectively drain offsetting acreage.
  - (2) if Yates drills a commercial well it would probably have in excess of 2 feet of pay which would validate the Yates interpretation.
  - (3) only if Yates drills a well with approximately 2 feet or less of pay and is a commercial producer similar in productive quality to the Mitchell Apache "13" Federal No. 1 in Section 13 would the Bass interpretation be validated.
- d. Both the Mitchell Apache 13 Well No. 1 and the Yates Llama ALL Federal Well No. 1 are 330 feet from the WIPP site boundary. Both could be expected to produce significant volumes of gas reserves from beneath the WIPP site. The Mitchell well, also unorthodox, is located in a drill island authorized by the Bureau of Land Management.
- e. No penalty should be imposed on the Yates well at this time because the probability is that Yates will either drill a marginal well incapable of draining offset acreage or that Yates will drill a commercial well with more than 2 feet of pay which will validate their interpretation.

(11) For purposes of offset drainage and protecting correlative rights and considering the depth and cost of the Yates Llama ALL Federal Well No. 1 and the productive capacity of the Mitchell Apache 13 Federal No. 1, a commercial gas well completed in the "Apache" sand is defined as a well capable of producing 4 million cubic of gas per day or more into a pipeline.

(12) The application of Yates to drill an unorthodox location should be approved because the Bureau of Land Management requirements for potash protection constitutes topographical condition and a valid basis for approval as outlined in OCD General Rule 104F.

(13) Approval of the application without penalty at this time will allow Yates to recover reserves underlying their lease without damage to correlative rights. Approval should therefore be granted.

**IT IS THEREFORE ORDERED THAT:**

(1) Yates Petroleum Corporation is hereby authorized to drill the Llama ALL Federal Well No. 1 at an unorthodox gas well location 330 feet from the South line and 950 feet from the West line (Lot 4-Unit M) of Irregular Section 7, Township 22 South, Range 31 East, NMPM, Eddy County, New Mexico.

(2) No penalty shall be imposed upon the production of said well at this time.

(3) If the "Apache" sand pay in said well is two (2) feet or less in thickness and said well is capable of producing in excess of four (4) million cubic feet of gas per day into a pipeline then Bass may apply to the Commission to reopen this case for the sole purpose of proposing an appropriate production penalty for said well.

(4) Lots 3 and 4, the E/2 SW/4 and the SE/4 (S/2 equivalent) of said Section 7 shall be dedicated to the well to form a 319.81-acre gas spacing and proration unit.

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

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

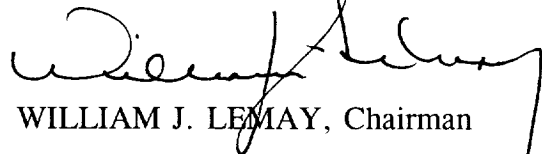
STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



GARY CARLSON, Member



WILLIAM W. WEISS, Member



WILLIAM J. LEMAY, Chairman

S E A L