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Oil Conservation Commission



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STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

November 9, 1966

Mr. Richard Morris
Seth, Montgomery, Federici & Andrews
Attorneys at Law
Post Office Box 2307
Santa Fe, New Mexico

Re: Case No. 3336
Order No. R-3005-A
Applicant:

SHELL OIL COMPANY

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

OTHER Mr. Thomas W. Lynch, Amerada Petroleum Corporation
Post Office Box 2040, Tulsa, Oklahoma

**EAST HIGHTOWER-UPPER PENNSYLVANIAN POOL
LEA COUNTY, NEW MEXICO
CASE NO. 3336
November 23, 1965**

This exhibit is submitted in support of the application of Shell Oil Company for special pool rules for the East Hightower-Upper Pennsylvanian Pool in Section 25, Township 12 South, Range 33 East, Lea County, New Mexico. The special rules sought include the establishment of 80-acre proration units and an allocation factor of 4.77 times the normal unit allowable.

History

Shell State "HT" No. 1, located in Unit P, Section 25, Township 12 South, Range 33 East, is the discovery well of the pool as designated by the Commission, pursuant to hearing on October 13, 1965, on Case No. 3319(e). The limits of the pool established at that time were the interval between 9750 feet and 10,010 feet. Shell is currently drilling the second well in the pool, State "HTA" No. 1, which is not yet complete. A drill stem test within the interval designated as the East Hightower-Upper Pennsylvanian pool - indicated that the well would be productive from this zone, but it has not been confirmed by production tests.

Geology

The Permo-Pennsylvanian zone is composed of alternating thin beds of carbonate and shale and occurs over a wide area of southeastern New Mexico. The East Hightower-Upper Pennsylvanian zone, as designated by the Commission, includes the upper seven members of this group which are productive in the general area. As a point of reference the third member of the group is the Bough "C", which produces at Inbe. The East Hightower-Upper Pennsylvanian pool is a domal structure (see Enclosures 1 and 2) with the limits of the pool being determined by porosity pinchouts.

Reservoir Data

The primary producing mechanism of the East Hightower-Upper Pennsylvanian pool is believed to be solution gas drive. A summary of the reservoir and fluid characteristics is presented in Enclosure 3, and a core analysis on a portion of the pay zone is presented as Enclosure 4. The Pennsylvanian pay zones in this field appear to be similar to that producing in the Inbe, Ranger Lake, Lane, South Lane, and North Bagley Pools, all of which have indicated by performance that one well will drain at least 80 acres. On the basis of this analogy it appears that one well should also drain 80 acres in the East Hightower-Upper Pennsylvanian pool.