

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF CONTINENTAL OIL COMPANY FOR APPROVAL OF THE CAVE POOL UNIT AGREEMENT EMBRACING 1959.78 ACRES, MORE OR LESS, LOCATED IN TOWNSHIPS 16 AND 17 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, FOR PERMISSION TO INSTALL AND OPERATE A WATERFLOOD WITHIN THE BOUNDARIES OF SAID UNIT AREA: AND FURTHER, FOR PERMISSION TO PRODUCE THE UNIT WELLS INTO A CENTRAL TANK BATTERY

*Case 2703*

A P P L I C A T I O N

Comes now Applicant, Continental Oil Company, and respectfully requests approval of the Cave Pool Unit Agreement, permission to install and operate a waterflood within said Unit, and permission to produce the Unit wells into a central tank battery. The Cave Pool Unit Agreement embraces the following described acreage:

New Mexico Prime Meridian -

Township 16 South, Range 29 East -

Section 33: S/2 SE/4

Township 17 South, Range 29 East -

Section 3: SW/4 NW/4  
Section 4: All  
Section 5: E/2, E/2 SW/4 and SE/4 NW/4  
Section 7: N/2 NE/4  
Section 8: N/2, N/2 SW/4, SE/4 SW/4 and NW/4 SE/4  
Section 9: NW/4 NW/4, N/2 NE/4, SE/4 NE/4 and  
NE/4 SE/4

containing 1959.78 acres, more or less, in Eddy County, New Mexico, and in support thereof Applicant would show:

1. That the Cave Pool Unit Agreement is attached hereto and marked Exhibit I.
2. That approval of the Cave Pool Unit Agreement has been received from the United States Geological Survey, and the State Land Office.

DOCKET MAILED

Date \_\_\_\_\_

3. That the attached lease plat marked Exhibit II shows the Cave Pool Unit and surrounding area.

4. That production in the Cave Pool is at an advanced stage of depletion and that recovery by primary methods is at or near the economic limit.

5. That engineering investigations indicate that waterflooding the Cave Pool will be physically and economically feasible.

6. That all operators of producing properties in the Cave Pool have been given an opportunity to participate in the Cave Pool Unit.

7. That agreement between the operators in the Cave Pool has proceeded to the extent that a logical and systematic secondary recovery operation is assured.

8. That the formation to be unitized and waterflooded is the Premier sand section of the Grayburg formation which is specifically indicated on the Radioactivity logs of the Continental Oil Company State P-5 No. 1 and U-5 No. 1 wells attached hereto and marked Exhibit IIIa and IIIb, respectively.

9. That all proposed injection wells are or will be completed in such a manner that injected water will be confined to the Premier sand. The present status of all proposed injection wells is shown on the tabulation of injection well data attached hereto and marked Exhibit IV.

10. That Applicant proposes to inject a maximum of approximately 4,000 barrels of water per day into the 26 proposed injection wells on an 80 acre five-spot pattern. A maximum of approximately 3,000 barrels per day of said water will be purchased from an outside source. The remainder of water injected will be water produced from the Unit's producing wells.

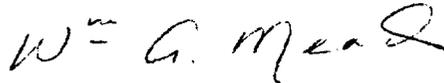
11. That the producing operations can be carried on more efficiently if all Unit wells are produced into a central tank battery.

12. That the proposed unitization and secondary recovery will result in the recovery of hydrocarbons which would not be recovered by primary methods and is therefore in the interest of conservation and prevention of waste.

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Wherefore, Applicant respectfully requests that this matter be set for hearing before the Commission's duly qualified Examiner and that upon hearing an order be entered approving the Cave Pool Unit Agreement, granting permission to install and operate a waterflood within the Unit Area and permitting the production of the Unit wells into a central tank battery as described herein above.

Respectfully submitted,

A handwritten signature in cursive script that reads "Wm. A. Mead".

Wm. A. Mead  
Division Superintendent  
of Production  
New Mexico Division

VTL-sg

Dec. 22, 1965

To: F. H. Hennighausen & Jim Wright  
From: Frank E. Irby  
Subject: Continental Oil Company

*File  
Cave 270-3*

On December 16, 1965, Mr. Vic Lyons, Continental Oil Company, Hobbs, New Mexico called me with regard to their waterflood project in Cave Pool which operates under Orders R-2385 and RA-2831 which amends the earlier order. The Commission's Order R-2831 required that the casing through which injection is to be made into the wells be tested to a pressure of 2000psi successfully. In the event of a casing failure, it was ordered by the Commission in this same Order that "injection shall be permitted in said wells only through tubing and packer."

Mr. Lyons stated that it is now the intention of Continental to increase their injection pressures in order to properly handle the flood operation and requested a statement as to the requirements of this office. I stated that if the casing would withstand a pressure test 300 psi in excess of the maximum anticipated injection pressure at the surface I would offer no objection to the continued injection down casing. I further told him that I wanted sufficient notice to either Mr. Fred Hennighausen or Mr. James I. Wright to enable them to have a witness present during the testing of the casing and that I would not approve his request unless the test was witnessed.

Mr. Lyons will probably contact you in the near future advising the date and time the test is to be performed. Please see that the operation is properly observed and report your observations to me as quickly as possible after the test is completed.

FIE/ma  
cc-Continental Oil Co.  
A. L. Porter, Jr.,

Yours truly,

Frank E. Irby

Case 2703

Heard 11-20-62

Rec. 11-21-62

1. Grant Contemont's request for a waterflood in this Case unit. The waterflood area shall consist of the Case unit area.
2. The injection wells <sup>(20)</sup> shall be those listed on their Ex. # IV + attached lists.
3. All injection well casing shall be tested to 2000# before injection is begun.
4. Wells in unit have ~~an~~ max producing ability of ~~to the~~ 31 B.O.P.D.
5. Grant authority to commingle all leases on the unit into one central tank battery which is to be located in the SE corner of the NW 1/4 Sec 4 sec. 5-175-29E.

Shaw A. W.