

Entered March 21, 1978  
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BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE NO. 6161  
Order No. R-5675

APPLICATION OF TENNECO OIL COMPANY FOR  
TWO WATERFLOOD PROJECTS AND AN ADMINISTRATIVE  
PROCEDURE, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 22, 1978, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 21st day of March, 1978, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Tenneco Oil Company, seeks authority to institute a waterflood project on its Leonard Federal Lease by the injection of water into the Queen formation through one well in Unit O of Section 11, and on its Leonard Brothers Lease through two wells, in Units I and M, respectively, of Section 14, all in Township 26 South, Range 37 East, Leonard-Queen Pool, Lea County, New Mexico.

(3) That wells within the proposed project areas experience rapid declines in production rates and require the institution of secondary recovery for continued production.

(4) That the proposed waterflood projects should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That injection into any well authorized under the terms of this order should be through internally coated tubing set in a packer to be located within approximately 100 feet of the uppermost perforation or, in the case of an open-hole completion, the casing shoe.

(6) That the casing-tubing annulus in each injection well should be filled with an inert fluid, and that a pressure gauge or approved leak detection device should be attached to the annulus or the annulus should be left open in order to determine leakage in the casing, tubing, or packer.

(7) That the injection wells or system should be equipped with a pressure limiting switch or other acceptable device which will limit the surface injection pressure to no more than 680 pounds unless the Secretary-Director of the Commission should administratively authorize a higher pressure.

(8) That there are five wells, as set out on Exhibit A to this order, which are located within or immediately adjacent to the boundaries of the proposed projects which may or may not be plugged in such a manner that will assure that they will not serve as channels for injected water to migrate from the Queen formation to other formations or to the surface.

(9) That to prevent migration of injected water from the Queen formation, formation injection pressure at wells within one half mile of any well identified on said Exhibit A should be limited to hydrostatic pressure until such time as the wells on said Exhibit A have been replugged or it shall otherwise be demonstrated to the satisfaction of the Secretary-Director of the Commission that the same will not serve as avenues of escape for such waters.

(10) That the wells within the project should be equipped to facilitate periodic testing of the annular space between strings of production and surface casing.

(11) That the operator should take all other steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, producing, or plugged and abandoned wells.

(12) That approval of the subject application should result in the recovery of additional volumes of oil from the proposed projects, thereby preventing waste.

(13) That the applicant further seeks the establishment of an administrative procedure for the addition of injection wells and the conversion of existing wells to injection at both orthodox and unorthodox locations without further notice and hearing.

(14) That the establishment of such an administrative procedure would permit the more efficient operation of the proposed project.

(15) That any injection well authorized by such an administrative procedure should be subject to all of the requirements and limitations contained in this order.

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(16) That the application for waterflood projects and an administrative procedure should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Tenneco Oil Company, is hereby authorized to institute a waterflood project on its Leonard Federal Lease by the injection of water into the Queen formation through its Leonard Federal Well No. 6 in Unit O of Section 11, and to institute another waterflood project on its Leonard Brothers Lease by the injection of water into the Queen formation through its Leonard Brothers Well No. 2 and Well No. 7, located in Units I and M, respectively, of Section 13, all in Township 26 South, Range 37 East, Leonard-Queen Pool, Lea County, New Mexico.

(2) That injection into any well on either of said leases shall be through internally coated tubing installed in a packer to be located within approximately 100 feet of the uppermost perforation or, in the case of an open-hole completion, the casing shoe.

(3) That the casing-tubing annulus in each injection well shall be filled with an inert fluid and a pressure gauge or approved leak detection device shall be attached to the annulus or the annulus allowed to remain open in order to determine leakage in the casing, tubing, or packer.

(4) That the injection wells or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the surface injection pressure to no more than 680 pounds.

(5) That the Secretary-Director of the Commission may administratively authorize a pressure limitation in excess of that set out in Order No. (4) above upon a showing by the operator that such higher pressure will not result in fracturing of the confining strata.

(6) That the applicant shall not inject water into the Queen formation through any well located within one half mile of any of the five wells identified on Exhibit A attached hereto and by reference made a part hereof, at a pressure greater than hydrostatic until such well has been replugged or it has been shown to the satisfaction of the Secretary-Director of the Commission that such well will not serve as an avenue of escape for waters injected into the Queen formation, and he has authorized a higher than hydrostatic pressure.

(7) That the wells within the project area shall be equipped with risers or in another acceptable manner such as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(8) That the operator shall immediately notify the supervisor of the Commission district office at Hobbs of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the project area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(9) That the subject waterflood projects are hereby designated the Tenneco Oil Company Leonard Federal Waterflood Project and Leonard Brothers Waterflood Project, respectively, and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(10) That monthly progress reports of the waterflood projects herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1115 of the Commission Rules and Regulations.

(11) The Secretary-Director of the Commission is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of applicant's Leonard Federal and Leonard Brothers Leases in Sections 11, 12, 13, and 14, Township 26 South, Range 37 East, NMPM, as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 330 feet to any lease line nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

- (a) A plat showing the location of the proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.
- (b) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, depth, and a demonstration that any proposed injection well will meet construction, pressure and monitoring provisions of Orders Nos. (2), (3), (4), (6), and (7) of this Order or the equivalent.
- (c) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

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The Secretary-Director of the Commission may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

(12) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

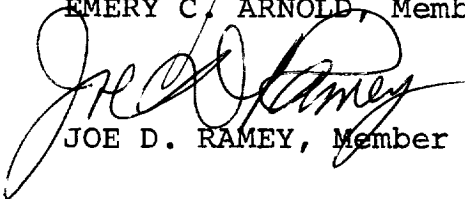
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman



EMERY C. ARNOLD, Member



JOE D. RAMEY, Member & Secretary

S E A L

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Operator Name	Lease	Well				
		No.	Ut.	Sec.	Twp.	Rge.
Ralph Lowe	Self	2	E	7	26S	38E
Stanolind Oil Co.	Leonard Oil Co.	2	A	12	26S	37E
Midwest Refining Co.	Farnsworth	19	M	12	26S	37E
Tenneco Oil Co.	Leonard Bro.	14	B	14	26S	37E
Midwest Refining Co.	Farnsworth	19	M	14	26S	37E

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Exhibit A