

**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. 10401  
Order No. R-9616**

**APPLICATION OF TEXACO EXPLORATION  
& PRODUCTION, INC. FOR A SECONDARY  
RECOVERY PROJECT, LEA COUNTY,  
NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on October 17 and November 21, 1991, at Santa Fe, New Mexico, before Examiners David R. Catanach and Michael E. Stogner, respectively.

NOW, on this 4th day of December, 1991, 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) The applicant, Texaco Exploration & Production, Inc. (Texaco), seeks approval to institute either a pressure maintenance or waterflood pilot project, whichever is deemed applicable pursuant to Division General Rule No. 701 on its New Mexico State "AT" and New Mexico State "AN" Leases which comprise all or portions of Sections 10, 15 and 22, Township 14 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Saunders-Permo Upper Pennsylvanian Pool,

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through the gross perforated interval from approximately 9521 feet to 9974 feet in four existing wells (shown on Exhibit "A" attached hereto) located within said Sections 15 and 22.

(3) The New Mexico State "AT" and New Mexico State "AN" Leases comprise some 1,440 acres consisting of the following described area:

NEW MEXICO STATE "AT" LEASE  
TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM  
Section 10: S/2 S/2  
Section 15: All

NEW MEXICO STATE "AN" LEASE  
TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM  
Section 22: All

(4) According to applicant's evidence, the above-described leases are both operated by Texaco and the ownership among the leases including working and royalty interest is common.

(5) The wells within the proposed project area are in an advanced state of depletion and should properly be classified as "stripper wells".

(6) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(7) According to evidence presented, the principal producing interval within the Saunders-Permo Upper Pennsylvanian Pool occurs from a depth of approximately 9757 feet to 9974 feet.

(8) There may be additional intervals within the subject pool heretofore untested, which may contain marginal amounts of hydrocarbons.

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(9) The applicant requested that it be allowed to perforate additional intervals in its producing or injection wells within the Saunders-Permo Upper Pennsylvanian Pool if it is determined that such zones may contribute production or may benefit from waterflood operations.

(10) Approval of applicant's request should result in the recovery of additional hydrocarbons which would otherwise not be produced.

(11) The applicant should take all 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, production, or plugged and abandoned wells.

(12) The injection of water into each of the wells shown on Exhibit "A" should be accomplished through internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(13) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the top injection perforation, as shown on Exhibit "A".

(14) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (13) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(15) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

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(16) The operator should give advance notification to the supervisor of the Hobbs district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests, in order that the same may be witnessed.

(17) The application should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(18) The Division Director should have the authority to administratively expand the subject pilot waterflood project within the boundaries of the New Mexico State "AT" and "AN" Leases by the drilling of additional production or injection wells upon a demonstration by the applicant that such expansion is in the best interest of conservation, prevention of waste and protection of correlative rights.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Texaco Exploration & Production, Inc., is hereby authorized to institute a pilot waterflood project on its New Mexico State "AT" and "AN" Leases, as described below, by the injection of water into the Saunders-Permo Upper Pennsylvanian Pool, through the gross perforated interval from approximately 9521 feet to 9974 feet in four existing wells (shown on Exhibit "A" attached hereto) located within said Sections 15 and 22, Township 14 South, Range 33 East, NMPM, Lea County, New Mexico:

**NEW MEXICO STATE "AT" LEASE  
TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM**

Section 10: S/2 S/2

Section 15: All

**NEW MEXICO STATE "AN" LEASE  
TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM**

Section 22: All

(2) The applicant shall take all 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, production, or plugged and abandoned wells.

(3) The injection of water into each of the wells shown on Exhibit "A" shall be accomplished through internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) The injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 0.2 psi per foot of depth to the top injection perforation, as shown on Exhibit "A".

(5) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(6) Prior to commencing injection operations into the wells shown on Exhibit "A", the casing in each well shall be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(7) The operator shall give advance notification to the supervisor of the Hobbs district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests, in order that the same may be witnessed.

(8) The operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer in any of the 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 and shall take such steps as may be timely and necessary to correct such failure or leakage.

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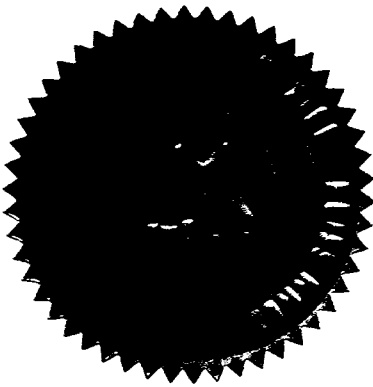
(9) The subject pilot waterflood project is hereby designated the New Mexico State "AT" and "AN" Waterflood Project and shall be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(10) The Division Director shall have the authority to administratively expand the subject pilot waterflood project within the boundaries of the New Mexico State "AT" and "AN" Leases by the drilling of additional production or injection wells upon a demonstration by the applicant that such expansion is in the best interest of conservation, prevention of waste and protection of correlative rights.

(11) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

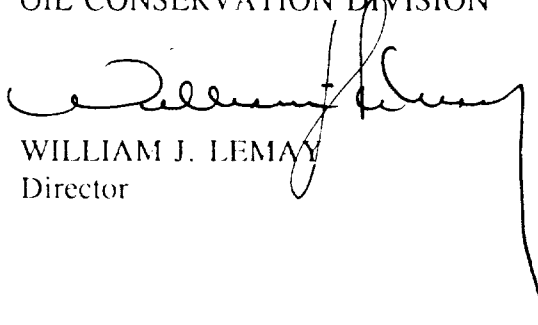
(12) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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



**S E A L**

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
WILLIAM J. LEMAY  
Director

*EXHIBIT "A"*  
DIVISION ORDER NO. R-9616  
N.M. STATE "AT"-"AN" WATERFLOOD PROJECT  
APPROVED INJECTION WELLS

<i>Well Number</i>	<i>Location</i>	<i>Unit</i>	<i>S-T-R</i>	<i>Injection Perforations</i>	<i>Packer Depth</i>	<i>Tubing Size</i>	<i>Injection Pressure</i>
NM "AT" State No. 4	1980' FSL. & 660' FEL	I	15-14S-33E	9521' - 9974'	9421'	2 3/8"	1904 PSIG
NM "AT" State No. 10	1650' FSL. & 2305' FWL	K	15-14S-33E	9762' - 9935'	9662'	2 3/8"	1952 PSIG
NM "AN" State No. 9	660' FNL. & 1980' FWL	C	22-14S-33E	9765' - 9885'	9665'	2 3/8"	1953 PSIG
NM "AN" State No. 7	660' FNL. & 660' FEL	A	22-14S-33E	9757' - 9936'	9657'	2 3/8"	1951 PSIG