

**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:**

**NOMENCLATURE
CASE NO. 10897
Order No. R-10068**

**APPLICATION OF CONOCO INC. FOR APPROVAL
OF THE EXPANSION OF A WATERFLOOD PROJECT,
TO QUALIFY SAID PROJECT FOR THE RECOVERED
OIL TAX RATE PURSUANT TO THE ENHANCED OIL
RECOVERY ACT, AND FOR THE EXPANSION AND
CONTRACTION OF CERTAIN POOLS, LEA COUNTY,
NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on January 20, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 8th day of March, 1994, 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) By Order No. R-6906-B dated March 15, 1991, the Division, upon application of Conoco Inc., effectively created the Conoco Warren Blinebry-Tubb Waterflood Project. This project was created for the purpose of conducting secondary recovery waterflood operations within the Blinebry and Tubb formations within a portion of the applicant's Warren Unit. This project currently comprises the S/2 S/2 of Section 22, all of Sections 26, 27, 33 and 34, and the N/2 N/2 of Section 35, Township 20 South, Range 38 East, NMPM, Lea County, New Mexico.

(3) By Order No. R-9467 dated March 15, 1991, the Division, upon application of Conoco Inc., created the Warren-Blinebry Tubb Oil and Gas Pool, contracted the Blinebry Oil and Gas Pool and the Warren-Tubb Gas Pool, and created the East Warren-Tubb Gas Pool. The creation of the Warren-Blinebry Tubb Oil and Gas Pool was for the purpose of allowing Conoco to conduct simultaneous waterflood operations within the Blinebry and Tubb formations within its Conoco Warren Blinebry-Tubb Waterflood Project (as described above). The current horizontal limits of the Warren-Blinebry Tubb Oil and Gas Pool coincide, with the exception of the N/2 NE/4 of Section 35, with the area contained within the Conoco Warren Blinebry-Tubb Waterflood Project.

(4) The applicant, Conoco Inc., seeks to expand its Conoco Warren Blinebry-Tubb Waterflood Project and the boundaries of the Warren-Blinebry Tubb Oil and Gas Pool to include the following described area:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 20: SE/4

Section 21: SW/4, S/2 SE/4

Section 28: All

Section 29: NE/4, N/2 SE/4

(5) The applicant further seeks authority to inject into the Blinebry and Tubb formations through the gross interval from approximately 5698 feet to 6746 feet in seventeen injection wells located within the "expansion area" and further described in Exhibit "A" attached hereto.

(6) The applicant further seeks to qualify the "expansion area" for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(7) The evidence presented indicates that the wells within the "expansion area" are in an advanced state of depletion and should properly be classified as "stripper wells".

(8) The applicant presented both geologic and engineering evidence which demonstrates that the results of secondary recovery operations conducted thus far within the Conoco Warren Blinebry- Tubb Waterflood Project support the establishment of a comprehensive plan for secondary oil recovery for the remainder of the Blinebry and Tubb hydrocarbon reserves within the Warren Unit.

(9) Secondary recovery operations within the "expansion area" will be conducted on an 80-acre five spot injection pattern, and will be implemented in four phases.

NOMENCLATURE

CASE NO. 10897

ORDER NO. R-10068

Page -3-

(10) The implementation of secondary recovery operations within the "expansion area" should result in the recovery of an additional 2.723 million barrels of oil from the Blinebry and Tubb formations. The capital cost for the project should be approximately \$5.6 million dollars.

(11) The proposed "expansion area", which is located within the applicant's Warren Unit, has been approved by the United States Bureau of Land Management (BLM). Adjustments in the Blinebry, Tubb and Blinebry-Tubb Participating Areas of the Warren Unit, required by the proposed waterflood and pool expansion, have also been approved by the BLM.

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

(13) The simultaneous waterflooding of both the Blinebry and Tubb formations within a single project represents the most economic and efficient method of recovering secondary oil reserves within the "expansion area".

(14) The proposed waterflood expansion should be approved.

(15) The boundaries of the Warren-Blinebry Tubb Oil and Gas Pool should be extended to include the following described acreage:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 20: SE/4

Section 21: SW/4, S/2 SE/4

Section 28: All

Section 29: NE/4, N/2 SE/4

(16) The boundaries of the Blinebry Oil and Gas Pool should be extended to include the following described acreage:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 21: S/2 N/2

NOMENCLATURE

CASE NO. 10897

ORDER NO. R-10068

Page -4-

(17) The boundaries of the Blinebry Oil and Gas Pool should be contracted by the deletion therefrom of the following described acreage:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 20: SE/4

Section 21: SW/4, S/2 SE/4

Section 28: All

Section 29: NE/4, N/2 SE/4

(18) The boundaries of the Warren-Tubb Gas Pool should be contracted by the deletion therefrom of the following described acreage:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 20: SE/4

Section 21: S/2

Section 28: All

Section 29: E/2

(19) The Warren-Blinebry Tubb Oil and Gas Pool "Expansion Area" approved herein should be subject to the Special Rules and Regulations for said pool as contained within Division Order No. R-9467.

(20) 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.

(21) 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 or casing shoe; 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.

(22) 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.

(23) 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 1140 psi.

(24) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (23) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(25) There are five wells within the "Area of Review", as described on Exhibit "B" attached hereto, which are not adequately cemented so as to confine the injected fluid to the proposed injection interval.

(26) Prior to commencing injection operations into any of the injection wells located within one-half mile of the wells shown on Exhibit "B", the applicant shall perform remedial cement operations on those wells shown on Exhibit "B" in order to assure that these wellbores will not serve as a conduit for migration of injected fluid from the injection zone.

(27) Prior to commencing injection operations into the Warren Unit Well Nos. 63, 78 and 121, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with the Southeast Monument Unit.

(28) 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, the conductance of any remedial cement operations, and of the mechanical integrity pressure tests in order that the same may be witnessed.

(29) The subject waterflood should be governed by the provisions of Division Order No. R-6906-B and Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(30) At the time of the hearing, the applicant requested that the subject waterflood "expansion area" be certified by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(31) The evidence presented indicates that the subject waterflood "expansion area" meets all the criteria for certification.

(32) Implementation of secondary recovery operations within the Conoco Warren Blinbry-Tubb Waterflood Project "Expansion Area" will occur in four phases.

NOMENCLATURE

CASE NO. 10897

ORDER NO. R-10068

Page -6-

(33) The certified "project area" should initially comprise the area within the Conoco Warren Blinebry-Tubb Waterflood Project "Expansion Area", described in Finding No. (4) above, provided however, the "project area" and/or the producing wells eligible for the recovered oil tax rate may be contracted and reduced dependent upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

(34) To be eligible for the EOR credit, the operator should advise the Division when water injection commences within Phase I, II, III and IV and at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

(35) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(36) The applicant should be required to meter or otherwise separately measure the production from the "expansion area" in order to be able to properly account for the volume of oil to which any enhanced oil tax credit might apply.

IT IS THEREFORE ORDERED THAT:

(1) The application of Conoco Inc. to expand its Conoco Warren Blinebry-Tubb Waterflood Project to include the following described "expansion area" is hereby approved:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM

Section 20: SE/4

Section 21: SW/4, S/2 SE/4

Section 28: All

Section 29: NE/4, N/2 SE/4

(2) The applicant is further authorized to inject water into the Blinebry and Tubb formations through the gross interval from approximately 5698 feet to 6746 feet in seventeen injection wells located within the "expansion area" and further described in Exhibit "A" attached hereto.

(3) 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.

(4) Injection into the wells shown on Exhibit "A" shall be accomplished through plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation or casing shoe; 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.

(5) The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1140 psi.

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

(7) 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.

(8) Prior to initiating injection operations within one-half mile of any of the wells shown on Exhibit "B", the applicant shall perform remedial cement operations on the wells shown on Exhibit "B" in order to assure that these wellbores do not serve as a conduit for migration of injected fluid from the injection interval, and in a manner acceptable to the Division.

(9) Prior to commencing injection operations into the Warren Unit Well Nos. 63, 78 and 121, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement with the Southeast Monument Unit.

(10) 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, the conductance of remedial cement operations, and of the mechanical integrity pressure tests, in order that the same may be witnessed.

(11) The applicant shall immediately notify the supervisor of the Hobbs District Office of the Division 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, or the leakage of water or oil from 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.

(12) The subject waterflood shall be governed by the provisions of Division Order No. R-6906-B and Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(13) The Warren-Blinbry Tubb Oil and Gas Pool "Expansion Area" approved herein shall be subject to the Special Rules and Regulations for said pool as contained within Division Order No. R-9467.

(14) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rule Nos. 706 and 1115 of the Division Rules and Regulations.

(15) The Conoco Warren Blinbry-Tubb Waterflood Project "Expansion Area" is hereby certified as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(16) The certified "project area" shall initially coincide with the Conoco Warren Blinbry-Tubb Waterflood Project "Expansion Area", described in Finding No. (4) above, provided however, the "project area" and/or the producing wells eligible for the recovered oil tax rate may be contracted and reduced dependent upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

(17) To be eligible for the EOR credit, the operator shall advise the Division when water injection commences within Phase I, II, III, and IV and at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

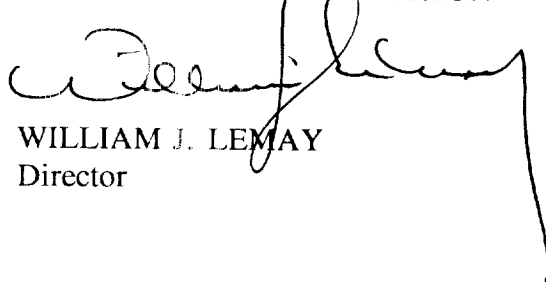
(18) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(19) The applicant shall meter or otherwise separately measure the production from the "expansion area" in order to be able to properly account for the volume of oil to which any enhanced oil tax credit might apply.

(20) Jurisdiction of this cause 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.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
Director

S E A L

EXHIBIT "A"
CASE NO. 10897
ORDER NO. R-10068
Conoco Warren Blinebry Tubb Waterflood Project
Approved Injection Wells - Expansion Area

Well Name	Well No.	Location	Unit	S-T-R	Injection Perforations	Packer Depth	Tubing Size	Injection Pressure (PSIG)
Warren Unit	10	660' FNL & 2310' FEL	B	28-20S-38E	5805' - 6628'	5705'	2 3/8"	1140
Warren Unit	35	1880' FSL & 1980' FWL	K	28-20S-38E	5745' - 6604'	5645'	2 3/8"	1140
Warren Unit	36	660' FNL & 660' FWL	D	27-20S-38E	5956' - 6727'	5856'	2 3/8"	1140
Warren Unit	51	660' FNL & 660' FEL	A	29-20S-38E	5815' - 6695'	5715'	2 3/8"	1140
Warren Unit	61	660' FSL & 660' FWL	M	21-20S-38E	5854' - 6729'	5754'	2 3/8"	1140
Warren Unit	63	660' FSL & 1980' FEL	O	20-20S-38E	5789' - 6667'	5689'	2 3/8"	1140
Warren Unit	78	1980' FSL & 660' FEL	I	20-20S-38E	5828' - 6713'	5728'	2 3/8"	1140
Warren Unit	86	1650' FSL & 890' FEL	I	29-20S-38E	5838' - 6743'	5738'	2 3/8"	1140
Warren Unit	99	710' FNL & 660' FEL	A	33-20S-38E	5698' - 6593'	5598'	2 3/8"	1140
Warren Unit	110	2060' FSL & 660' FWL	L	27-20S-38E	5753' - 6608'	5653'	2 3/8"	1140
Warren Unit	111	2180' FNL & 660' FEL	H	28-20S-38E	5787' - 6627'	5687'	2 3/8"	1140
Warren Unit	113	660' FSL & 1980' FEL	O	28-20S-38E	5745' - 6620'	5645'	2 3/8"	1140
Warren Unit	114	660' FNL - 1980' FWL	C	28 20S 38E	5775' - 6635'	5675'	2 3/8"	1140
Warren Unit	115	1930' FNL & 660' FWL	E	28-20S-38E	5772' - 6637'	5672'	2 3/8"	1140
Warren Unit	118	660' FSL & 660' FWL	M	28-20S-38E	5801' - 6676'	5701'	2 3/8"	1140
Warren Unit	120	1980' FNL & 1650' FEL	G	29-20S-38E	5813' - 6718'	5713'	2 3/8"	1140
Warren Unit	121	660' FSL & 660' FEL	P	21-20S-38E	5926' - 6746'	5826'	2 3/8"	1140

NOMENCLATURE
CASE NO. 10897
ORDER NO. R-10068

EXHIBIT "B"
DIVISION ORDER NO. R-10068
CASE NUMBER-10897
CONOCO WARREN BLINEBRY-TUBB
WATERFLOOD PROJECT EXPANSION AREA
"AREA OF REVIEW" PROBLEM WELLS

<u>OPERATOR & WELL</u>	<u>WELL LOCATION</u>
Conoco Inc. Warren McKee No. 28	Unit J, 20-20S-38E
Conoco Inc. SEMU Mckee No. 62	Unit K, 20-20S-38E
Conoco Inc. SEMU McKee No. 59	Unit M, 20-20S-38E
Conoco Inc. Warren McKee No. 7	Unit B, 29-20S-38E
Conoco Inc. SEMU McKee No. 60	Unit E, 29-20S-38E