



STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5900

April 5, 1994

KELLAHIN AND KELLAHIN
Attorneys at Law
P. O. Drawer 2265
Santa Fe, New Mexico 87504

RE: CASE NO. 10897
ORDER NO. R-10068-A

Dear Sir:

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

Sincerely,

A handwritten signature in cursive script that reads "Sally E. Martinez".
Sally E. Martinez
Administrative Secretary

cc: BLM - Carlsbad
Donna McDonald - OCD
David Abbey
Ernest Carroll



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March 9, 1994

KELLAHIN AND KELLAHIN
Attorneys at Law
P. O. Drawer 2265
Santa Fe, New Mexico 87504

RE: CASE NO. 10897
ORDER NO. R-10068

Dear Sir:

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

Sincerely,

Sally Martinez
Sally E. Martinez
Administrative Secretary

cc: BLM - Carlsbad
Rick Brown - OCD
Ernest Carroll
David Abbey
Donna McDonald - OCD

KELLAHIN AND KELLAHIN

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W. THOMAS KELLAHIN*

*NEW MEXICO BOARD OF LEGAL SPECIALIZATION
RECOGNIZED SPECIALIST IN THE AREA OF
NATURAL RESOURCES-OIL AND GAS LAW

JASON KELLAHIN (RETIRED 1991)

January 27, 1994

HAND DELIVERED

Mr. David R. Catanach
Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Re: NMOCD Case 10897
Application of Conoco Inc. for
Expansion of a Waterflood Project
and EOR credit, for expansion and
contraction of certain pools,
Lea County, New Mexico

Dear Mr. Catanach:

In accordance with your request to me at the hearing
of the referenced case held on January 20, 1994, please
find enclosed a proposed order for entry in this matter.

I have also enclosed a computer disk which contains
this draft order.

Very truly yours,


W. Thomas Kellahin

cc: Jerry Hoover
(Conoco-Midland)

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. 10897
Order No. R-_____

APPLICATION OF CONOCO INC. FOR APPROVAL
OF THE EXPANSION OF A WATERFLOOD PROJECT
AND TO QUALIFY SAID EXPANSION FOR THE
RECOVERED OIL TAX RATE PURSUANT TO THE
"NEW MEXICO ENHANCED OIL RECOVERY ACT,"
FOR EXPANSION AND CONTRACTIONS 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 ____ day of January, 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.

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(2) The Applicant, Conoco Inc., ("Conoco") seeks authority to expand a portion of its Warren Blinebry-Tubb Waterflood Project and to qualify said expansion for the recovered oil tax rate for enhanced oil recovery by the injection of water into the formations from the top of the Blinebry formation down to the base of the Tubb formation of the Warren Blinebry-Tubb Oil and Gas Pool, Lea County, New Mexico and for the expansion of said pool with the concomitant contraction of the Blinebry Oil and Gas Pool and the Warren Tubb Gas Pool, Lea County, New Mexico.

(3) Conoco is the current operator of the Warren Unit and the Warren Blinebry-Tubb Waterflood Project, Lea County, New Mexico which was approved by Division Order R-6906-B issued March 15, 1991.

(4) At the request of Conoco, by Order R-9467, issued March 15, 1991, the Division created the Warren Blinebry-Tubb Oil & Gas Pool out of portions of the Blinebry Oil & Gas Pool and the Warren Tubb Gas Pool in order to provide for the most efficient method of secondary recovery operations for the simultaneous recovery of hydrocarbons from the Blinebry and Tubb formations.

(5) Implementation of secondary recovery operations within this Warren Unit expansion area to the Warren Blinebry-Tubb Waterflood Project will occur in phases.

(6) The applicant presented both engineering and geologic evidence which demonstrated that the results of a pilot project and a first expansion area to the 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 at this point in time.

(7) Conoco seeks to expand the existing waterflood project to include the following additional acreage within the Warren Unit being 1280 acres, more or less, identified as the "Second Expansion Area" and described as:

Township 20 South Range 38 East, NMPM

Section 20: SE/4
Section 21: SW/4 and S/2SE/4
Section 28: All
Section 29: NE/4 and N/2SE/4

(8) The Second Expansion Area is within the Warren Unit and has been approved by the Bureau of Land Management. Adjustments in the Blinebry, Tubb, and Blinebry-Tubb Participating Areas of the Warren Unit, required by this waterflood and pool expansion, have also been approved by the Bureau of Land Management.

(9) Conoco proposes to subject the Second Expansion Area to a comprehensive waterflood plan the objective of which is to successfully recover an estimated additional 2,723,000 barrels of oil from the Blinebry and Tubb formations.

(10) Primary production from the Second Expansion Area is estimated to be 1,895 MBBL with current primary production at 140 BOPD under the current mode of operation.

(11) The remaining oil potential from these formations within the Second Expansion Area will not be recovered in the absence of waterflood operations on a project basis.

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(12) The Second Expansion Area will be developed on an 80-acre five spot waterflood injection pattern involving the following wells as shown on Exhibit "A":

(a) 14 injection wells and 16 producers being existing and new wells in the Second Expansion Area, and

(b) 3 existing producers within the previous First Expansion Area, Nos 36, 99 and 110, which must be approved for water injection and converted to injection wells to facilitate the continuity of injection patterns between the two expansion areas.

(13) Conoco seeks to expand its waterflood operations into the Second Expansion Area in accordance with Division Order R-9708, by means of an "expansion, extension or increase in size of the geologic area or adjacent geologic area that could reasonably be determined to represent a new or unique area of activity."

(14) The evidence presented indicated that the subject "Second Expansion" meets all the criteria for certification 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).

(15) The certified "project area" should initially comprise the area within the Warren Unit described as the "Second Expansion Area" and identified in Finding No. (4) above, provided, however, that the "project area" 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.

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(16) To be eligible for the EOR credit, the operator should advise the Division when water injection commences in the project area and request the Division certify such phases or area to the New Mexico Taxation and Revenue Department.

(17) The applicant should be required to meter or otherwise measure the production from the Second Expansion Area in order to be able to properly account for the volume of oil to which any enhanced oil tax credit might apply.

(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. 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 which are eligible for the credit.

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

(20) The Tubb formation within the Second Expansion Area is currently classified within a portion of the Warren Tubb Gas Pool. The Blinebry formation within the Second Expansion Area is currently classified within a portion of the Blinebry Oil & Gas Pool.

(21) In order to provide for the most efficient method of secondary recovery operations for the simultaneous recovery of hydrocarbons from the Blinebry

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and Tubb formations within the Second Expansion Area Conoco requests that the Warren Blinebry-Tubb Oil & Gas Pool be expanded to include the Second Expansion Area and the Warren Tubb Gas Pool and the Blinebry Oil & Gas Pool be concomitantly contracted.

(22) That the Warren Blinebry-Tubb Oil & Gas Pool should be expanded to include the following:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: SW/4 and S/2SE/4
Section 28: all
Section 29: NE/4 and N/2SE/4

(23) That the Blinebry Oil and Gas Pool should be amended so that the following acreage is deleted:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: SW/4 and S/2SE/4
Section 28: all
Section 29: NE/4 and N/2SE/4

and the following acreage is added:

Township 20 South, Range 38 East, NMPM

Section 21: S/2N/2

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(24) That the Warren Tubb Gas Pool should be contracted by deleting the following acreage:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: S/2
Section 28: All
Section 29: E/2

(25) The applicant has identified five wells, described on Exhibit "B" attached which are located within the "area of review" which may not be cemented in a manner adequate to confine the injected fluid to the proposed injection interval.

(26) Of the five potential "problem" wells identified on Exhibit "B," all of which are operated by Conoco Inc., four of these wells are injection wells and are equipped so that the applicant is able to monitor and detect within a reasonable period of time any mechanical failure in those four wells such that there is no immediate need to require remedial repair of those four wells.

(27) As to the Warren McKee No. 7 Well, which is the fifth potential "problem" well operated by Conoco Inc. and shown on Exhibit "B", prior to commencing injection operations within one-half mile of said well, the applicant should be required to demonstrate to the supervisor of the Division's Hobbs district office that the applicant has performed remedial cement operations in a manner acceptable to the Division.

(28) Prior to commencing injection operations into the proposed Injection 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 South East Monument Unit.

(29) The injection of water into each of the injection wells shown on Exhibit "A" should be accomplished through internally plastic-lined or fiberglass-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.

(30) 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 the mechanical integrity pressure tests in order that the same may be witnessed.

(31) 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.

(32) That approval of this application will prevent waste, result in the recovery of hydrocarbons which might not otherwise be recovered, protect correlative rights and promote the interests of conservation.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Conoco Inc., is hereby authorized to institute an expansion of its current Warren Blinebry-Tubb Waterflood Project in its Warren Unit by the injection of water into the Tubb and Blinebry formations in the Warren Blinebry-Tubb Oil and Gas Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from the top of the Blinebry formation down to the base of the Tubb formation being approximately 5,865 feet to 6,741 feet, respectively, as identified in the

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Conoco-Warren Unit Well No 37, Unit J. Section 27, T20S, R38E, in eleven existing and twenty-two wells to be drilled at orthodox and/or unorthodox locations as shown on Exhibit "A" attached hereto.

(2) The subject waterflood expansion is hereby designed "Second Expansion Area for the Warren Blinebry-Tubb Waterflood Project and shall be governed by the provisions of Rules Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(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 or abandoned wells.

(4) Injection into the wells shown on Exhibit "A" shall be accomplished through plastic lined or fiberglass-lined tubing installed in a packer set approximately 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 17 injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 2000 psi, provided that the supervisor of the Division's district office at Hobbs shall be notified of any injection pressure above 1000 psi in any well and may require a step-rate test to be conducted on such well.

(6) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of 2,000 psi 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 identified on Exhibit "A", the casing in each of said wells 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 commencing injection operations within one-half mile of the Warren McKee No. 7 Well identified on Exhibit "B", remedial cement operations shall be performed on the casing in said well in a manner acceptable to the Division.

(9) Prior to commencing injection operations into the proposed Injection 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.

(10) The operator shall give advance notification to the supervision or 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

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

(13) The applicant shall be required to obtain Division approval, subsequent to the entry of this order, to drill any injection well located at an unorthodox location closer than 330 feet to the outer boundary of the Warren Unit.

(14) The subject "Second Expansion" waterflood 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).

(15) The certified "project area" shall initially coincide with the Second Expansion Area of the Warren Unit, described in Finding (4) above, provided however, the "project area" 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.

(16) To be eligible for the EOR credit, the operator shall advise the Division when water injection commences within the project area, and at such time, request that Division certify such area to the New Mexico Taxation and Revenue Department.

(17) The applicant should be required to meter or otherwise measure the production from the Second Expansion Area in order to be able to properly account

CASE NO. 10897
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for the volume of oil to which any enhanced oil tax credit might apply.

(18) At such time as a positive production response occurs and within five years from the date off the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which applicant shall identify the area actually benefitting from enhanced recovery operations. 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 with are eligible for the credit.

(19) That the Warren Blinebry-Tubb Oil & Gas Pool is hereby expanded to include the following:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: SW/4 and S/2SE/4
Section 28: all
Section 29: NE/4 and N/2SE/4

(20) That the Blinebry Oil and Gas Pool is hereby amended to delete the following acreage:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: SW/4 and S/2SE/4
Section 28: all
Section 29: NE/4 and N/2SE/4

and to add the following acreage:

Township 20 South, Range 38 East, NMPM

Section 21: S/2N/2

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(21) That the Warren Tubb Gas Pool should be contracted by deleting the following acreage:

Township 20 South, Range 38 East, NMPM

Section 20: SE/4
Section 21: S/2
Section 28: All
Section 29: E/2

(22) Jurisdiction of this case is 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 designated above.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

SEAL

WARREN BLINEBRY-TUBB WATERFLOOD PROJECT
Township 20 South, Range 38 East, NMPM, Lea County, New Mexico

NEW INJECTION WELLS FROM SECOND EXPANSION AREA AND FROM FIRST EXPANSION AREA

WELL NO.	LOCATION	SECTION
78	1980' FSL & 660' FEL, Unit I	20
63	660' FSL & 1980' FEL, Unit O	20
61	660' FSL & 660' FWL, Unit M	21
120 *	660' FSL & 660' FEL, Unit P	21
36	660' FNL & 660' FWL, Unit D	27
110	2060' FSL & 660' FWL, Unit L	27
10	660' FNL & 2130' FEL, Unit B	28
114 *	660' FNL & 1980' FWL, Unit C	28
115 *	1980' FNL & 660' FWL, Unit E	28
111 *	2180' FNL & 660' FEL, Unit H	28
35	1880' FSL & 1980' FWL, Unit K	28
118 *	660' FSL & 660' FWL, Unit M	28
113 *	660' FSL & 1980' FWL, Unit O	28
51	660' FNL & 660' FEL, Unit A	29
121 *	1980' FNL & 1980' FEL, Unit G	29
86	1650' FSL & 890' FEL, Unit I	29
99	710' FNL & 660' FEL, Unit A	33

SECOND EXPANSION AREA PRODUCING WELLS

WELL NO.	LOCATION	SECTION
77	1980' FSL & 1980' FEL, Unit J	20
62	660' FSL & 660' FEL, Unit P	20
81	1780' FSL & 660' FWL, Unit L	21
43	660' FSL & 1980' FWL, Unit N	21
120 *	660' FSL & 660' FEL, Unit P	21
98	660' FNL & 660' FEL, Unit A	28
116 *	660' FNL & 660' FWL, Unit D	28
94	1840' FNL & 2020' FWL, Unit F	28
112 *	1980' FNL & 1980' FEL, Unit G	28
96	2130' FNL & 813' FEL, Unit H	28
8	1980' FSL & 1980' FEL, Unit I	28
117 *	1980' FSL & 660' FWL, Unit L	28
119 *	660' FSL & 1980' FWL, Unit N	28
95	660' FSL & 660' FEL, Unit P	28
50	660' FNL & 1650' FEL, Unit B	29
47	1650' FNL & 710' FEL, Unit G	29
52	2310' FSL & 330' FEL, Unit I	29

* Proposed Wells to be Drilled

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 5
CASE NO.: 10087
Submitted by: Conoco Inc.
Hearing Date: Jan 20, 1994

EXHIBIT A TO ORDER R-

**WELLS WITHIN 1/2 MILE WHICH PENETRATE ZONE OF INTEREST
WHICH DO NOT HAVE CEMENT TOPS ABOVE THE PROPOSED INJECTION INTERVAL**

Well and Operator	Unit	Location	Type	Interval	Casing Size	Casing Depth	No. Sx Cement	TOC Method	Spud Date	Compl. Date	TD/PBD	Pool Name
Warren McKee No. 28 Conoco, Inc.	J	1980' FSL, 2310' FEL Sec. 20-T20a-R38E	IWA	9020'-9138'	13-3/8" 9-5/8" 7"	265' 2998' 9217'	300 825 550	Circ. 1100' 5950'	09/07/61	12/19/61	9218'/9170'	Warren McKee
Samu McKee No. 62 Conoco, Inc.	K	1980' FSL, 1980' FEL Sec. 20-T20a-R38E	IWA	9067'-9176'	10-3/4" 7-5/8" 5-1/2"	255' 3999' 9236'	250 1000 310	Circ. 1500' 6160'	07/02/57	09/15/57	9250'/9186'	Warren McKee
Samu McKee No. 59 Conoco, Inc.	M	660' FSL, 660' FVL Sec. 20-T20a-R38E	IWA	9060'-9127'	10-3/4" 7-5/8" 5-1/2" 4" (hydraulic)	229' 3999' 9022' 9209'	250 2000 500 15	Circ. 1400' 5950'	05/05/57	07/17/57	9210'/9210'	Warren McKee
Warren McKee No. 7 Conoco, Inc.	B	660' FSL, 1980' FEL Sec. 29-T20a-R38E	ORP	8924'-9094'	10-3/4" 7-5/8" 5-1/2"	286' 2859' 9144'	225 940 207	Circ. 850' 5975'	2/52	5/52	9145'/9129'	Warren McKee
Samu McKee No. 60 Conoco, Inc.	E	1980' FSL, 990' FVL Sec. 29-T20a-R38E	IWA	8966'-9228'	10-3/4" 7-5/8" 5-1/2"	263' 3999' 9398'	250 2150 250	Circ. 800' 6300'	05/08/57	08/28/57	9400'/9151'	Warren McKee

Type of Well
ORP - Oil well produced by submersible pump.
IWA - Injection well active.

BEFORE AN EXAMINER OF THE
OIL CONSERVATION DIVISION

EXHIBIT NO. 20
CASE NO.: 10897
Submitted by: Conoco Inc.
Hearing Date: Jan 20, 1994