

**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. 10516
Order No. R-9714**

**APPLICATION OF TEXACO EXPLORATION AND
PRODUCTION INC. FOR A WATERFLOOD PROJECT,
LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on July 23, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 3rd day of September, 1992, 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 and Production Inc. (Texaco), seeks authority to institute a waterflood project in its Vacuum Glorieta West Unit by the injection of water into the Glorieta and Paddock formations, Vacuum Glorieta Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from approximately 5,950 feet to 6,230 feet in one existing and fifty-nine wells to be drilled at orthodox and unorthodox locations as shown on Exhibit "A" attached hereto.

(3) By Order No. R-9710 issued in Case No. 10515 on August 25, 1992, the Division, upon application of Texaco, approved the Vacuum Glorieta West Unit which comprises some 2778.86 acres, more or less, in Townships 17 and 18 South, Ranges 34 and 35 East, NMPM, Lea County, New Mexico.

(4) The vast majority of wells located within the applicant's Vacuum Glorieta West Unit Area are in an advanced state of depletion and should properly be classified as "stripper wells".

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

(6) 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.

(7) The injection of water into each of the wells shown on Exhibit "A" should be accomplished through internally cement-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.

(8) 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.

(9) 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 1200 psi.

(10) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (9) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(11) 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.

(12) Prior to commencing injection operations into the proposed Vacuum Glorieta West Unit Well Nos. 21, 43, 69, 97, 109 and 110, the applicant should be required to submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement.

(13) 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.

(14) At the time of the hearing, the applicant requested that the subject waterflood 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).

(15) The evidence presented indicates that the subject waterflood meets all the criteria for certification.

(16) The certified "project area" should initially comprise the area approved for statutory unitization by Division Order No. R-9710, and described as follows, 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:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 24: SW/4, SW/4 NW/4, SW/4 SE/4

Section 25: All

Section 26: E/2 SE/4

Section 35: NE/4, N/2 SE/4, SE/4 SE/4

Section 36: All

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 30: Lots 1, 2, 3, 4 (W/2 W/2)

Section 31: Lots 1, 2, 3, 4 (W/2 W/2)

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM

Section 1: Lots 1, 2, 3, 4 (N/2 N/2), S/2 NE/4

Section 2: Lot 1 (NE/4 NE/4)

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 6: Lots 1, 2, 3, 4, 5, SE/4 NW/4, S/2 NE/4, (N/2)

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Texaco Exploration and Production Inc. (Texaco), is hereby authorized to institute a waterflood project in its Vacuum Glorieta West Unit by the injection of water into the Glorieta and Paddock formations, Vacuum-Glorieta Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from approximately 5,950 feet to 6,230 feet in one existing and fifty-nine wells to be drilled at orthodox and unorthodox locations as shown on Exhibit "A" attached hereto.

(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) Injection into the wells shown on Exhibit "A" shall be accomplished through cement-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.

(4) 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 1200 psi.

(5) 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.

(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 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.

(9) The subject waterflood is hereby designated the Vacuum Glorieta West Unit Waterflood Project and shall be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(10) 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.

(11) 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 from the outer boundary of the Vacuum Glorieta West Unit.

(12) Prior to commencing injection operations into the proposed Vacuum Glorieta West Unit Well Nos. 21, 43, 69, 97, 109 and 110, the applicant shall submit to the Santa Fe Office of the Division an executed copy of an Injection Lease-Line Agreement.

(13) The subject waterflood is a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(14) To be eligible for the EOR credit, the operator must advise the Division when injection operations will commence and request the Division certify the project to the Taxation and Revenue Department.

(15) The certified "project area" shall initially comprise the area approved for statutory unitization by Division Order No. R-9710, and described as follows, 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:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 24: SW/4, SW/4 NW/4, SW/4 SE/4
Section 25: All
Section 26: E/2 SE/4
Section 35: NE/4, N/2 SE/4, SE/4 SE/4
Section 36: All

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 30: Lots 1, 2, 3, 4 (W/2 W/2)
Section 31: Lots 1, 2, 3, 4 (W/2 W/2)

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM

Section 1: Lots 1, 2, 3, 4 (N/2 N/2), S/2 NE/4

Section 2: Lot 1 (NE/4 NE/4)

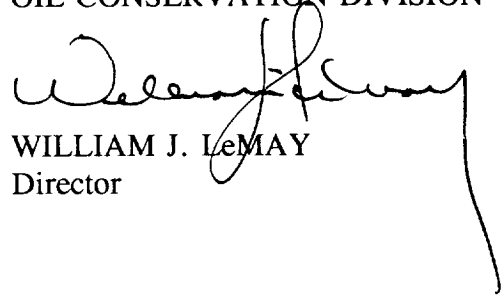
TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 6: Lots 1, 2, 3, 4, 5, SE/4 NW/4, S/2 NE/4, (N/2)

(16) Jurisdiction of this cause 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 hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LeMAY
Director

S E A L

EXHIBIT "A"
DIVISION ORDER NO. R-9714
VACUUM GLORIETA WEST UNIT
APPROVED NEWLY DRILLED INJECTION WELLS

<u>LEASE NAME</u>	<u>LOCATION</u>	<u>ULSTR</u>	<u>VGWU WELL NO.</u>
Bridges State	1360' FSL & 1300' FWL	M-24-17S-34E	4
Bridges State	1209' FSL & 2582' FWL	N-24-17S-34E	5
Bridges State	73' FNL & 1411' FWL	C-25-17S-34E	9
Yucca State	100' FSL & 2628' FWL	O-24-17S-34E	10
Bridges State	246' FNL & 1554' FEL	B-25-17S-34E	11
Bridges State	1328' FNL & 1399' FWL	F-25-17S-34E	17
Bridges State	1651' FNL & 2543' FWL	F-25-17S-34E	18
Bridges State	1502' FNL & 1520' FEL	G-25-17S-34E	19
NM T State NCT-1	1541' FNL & 181' FEL	H-25-17S-34E	20
NM N State	1330' FNL & 1283' FWL	E-30-17S-35E	21
Bridges State	1171' FSL & 34' FEL	I-26-17S-34E	27
McAllister State	2304' FSL & 1127' FWL	L-25-17S-34E	28
McAllister State	2522' FSL & 2283' FWL	K-25-17S-34E	29
NM Q State	2305' FSL & 1391' FEL	J-25-17S-34E	30
Swiggart	2520' FSL & 128' FEL	I-25-17S-34E	31
McAllister State	2387' FSL & 51' FEL	M-25-17S-34E	38
McAllister State	1194' FSL & 1055' FWL	M-25-17S-34E	39
McAllister State	1570' FSL & 2404' FWL	K-25-17S-34E	40
NM Q State	1437' FSL & 1646' FEL	J-25-17S-34E	41
NM N State	1250' FSL & 8 FWL	M-30-17S-35E	42
NM N State	1453' FSL & 1247' FWL	L-30-17S-35E	43
State H-35	112' FNL & 1214' FEL	A-35-17S-34E	50
State H-35	24' FNL & 31' FEL	A-35-17S-34E	51
McAllister State	65' FSL & 1587' FWL	N-25-17S-34E	52
McAllister State	65' FSL & 2350' FWL	N-25-17S-34E	53
NM Q State	7' FSL & 1693' FEL	O-25-17S-34E	54
NM N State	177' FSL & 52' FWL	M-30-17S-35E	55
State H-35	1370' FNL & 1135' FEL	A-35-17S-34E	63
NM O State NCT-1	1484' FNL & 204' FWL	E-36-17S-34E	64
NM O State NCT-1	1472' FNL & 1492' FWL	F-36-17S-34E	65

<u>LEASE NAME</u>	<u>LOCATION</u>	<u>ULSTR</u>	<u>VGWU WELL NO.</u>
NM O State NCT-1	1690' FNL & 2577' FWL	F-36-17S-34E	66
NM O State NCT-1	1435' FNL & 1408' FEL	G-36-17S-34E	67
NM O State NCT-1	1491' FNL & 280' FEL	H-36-17S-34E	68
Santa Fe Battery 2	1502' FNL & 1203' FWL	E-31-17S-35E	69
State H-35	2569' FSL & 1326' FEL	H-35-17S-34E	77
NM O State NCT-1	2491' FNL & 127' FWL	E-36-17S-34E	78
State VB	2461' FSL & 1351' FWL	K-36-17S-34E	79
NM O State NCT-1	2552' FNL & 2504' FEL	G-36-17S-34E	80
NM O State NCT-1	2466' FSL & 1505' FEL	J-36-17S-34E	81
NM O State NCT-1	2576' FSL & 82' FEL	I-36-17S-34E	82
M.E. Hale	1459' FSL & 1148' FEL	I-35-17S-34E	91
State I	1451' FSL & 149' FWL	L-36-17S-34E	92
State VB	1723' FSL & 1575' FWL	K-36-17S-35E	93
NM O State NCT-1	1525' FSL & 2591' FEL	J-36-17S-34E	94
NM O State NCT-1	1519' FSL & 1548' FEL	J-36-17S-34E	95
NM O State NCT-1	142' FSL & 214' FEL	I-36-17S-34E	96
Santa Fe Battery 2	1419' FSL & 1225' FWL	L-31-17S-35E	97
NM O State NCT-1	361' FSL & 300' FWL	M-36-17S-34E	104
NM O State NCT-1	403' FSL & 1340' FWL	N-36-17S-34E	105
NM O State NCT-1	310' FSL & 2542' FEL	O-36-17S-34E	106
NM O State NCT-1	184' FSL & 1382' FEL	O-36-17S-34E	107
NM O State NCT-1	213' FSL & 301' FEL	P-36-17S-34E	108
Warn State AC 2	96' FNL & 2498' FWL	C-6-18S-35E	109
NM R State NCT-1	74' FNL & 56' FEL	A-6-18S-35E	110
NM L State	1102' FNL & 1575' FEL	B-1-18S-34E	120
NM L State	1014' FNL & 140' FEL	A-1-18S-34E	121
Warn State AC 2	1000' FNL & 1136' FWL	D-6-18S-35E	122
Warn State AC 2	1080' FNL & 2344' FWL	C-6-18S-35E	123
NM R State NCT-1	1020' FNL & 1419' FEL	B-6-18S-35E	124

EXISTING WELL TO BE CONVERTED TO INJECTION

Bridges State No. 113 1980' FNL & 830' FWL E-24-17S-34E 1