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. 10554
Order No. R-9747

APPLICATION OF ARCO OIL AND GAS COMPANY FOR APPROVAL OF 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 September 17, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 23rd day of October, 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) Division Case Nos. 10552, 10553 and 10554 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, ARCO Oil and Gas Company (ARCO), seeks authority to institute a waterflood project in its South Justis Unit by the injection of water into the Blinebry and Tubb/Drinkard formations, Justis Blinebry-Tubb-Drinkard Pool, Lea County, New Mexico, through the gross perforated and/or open hole interval from approximately 5,100 feet to a depth of 6,100 feet in ninety-eight (98) existing or newly drilled injection wells as shown on Exhibit "A" attached hereto.

(4) The applicant's South Justis Unit Area comprises some 5360 acres in all or portions of Sections 11 through 14, 23 through 26, 35 and 36, Township 25 South, Range 37 East, and portions of Sections 19, 30 and 31, Township 25 South, Range 38 East, and portions of Section 1, Township 26 South, Range 37 East, NMPM, Lea County, New Mexico.

(5) The wells located within the applicant's South Justis Unit Area are in an advanced state of depletion and are only capable of marginal production.

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

(7) 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.

(8) 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.

(9) 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.

(10) 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 1020 psi.

(11) The applicant presented information regarding the proposed location of each of the proposed injection wells it intends to drill within the South Justis Unit Area.

(12) The applicant testified that subsequent to the entry of this order, it may be necessary, due to surface considerations, to relocate newly drilled injection or production wells within the unit area.

(13) The applicant requested an administrative procedure whereby the supervisor of the Division's Hobbs District Office may approve the relocation of any proposed injection or producing wells to orthodox or unorthodox locations within the unit area.

(14) The supervisor of the Division's Hobbs District Office should be authorized to approve the relocation of any proposed injection and/or producing well to orthodox locations within the unit area.

(15) The Division Director, pursuant to the provisions and requirements of Division Rule No. 104, should have the authority to approve the relocation of injection and/or producing wells within the unit area to unorthodox locations.

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

(17) 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.

(18) 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.

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

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

(21) The applicant proposes to phase the institution of the waterflood project within two distinct areas of the South Justis Unit Area. Phase I is to be implemented approximately mid-1993 and Phase II should be implemented by the first quarter of 1994.

(22) The certified "project area" should initially comprise the area approved for statutory unitization by Division Order No. R-9746, and described as follows, provided however, the Phase I and Phase II areas within the project may be independently certified by the Division to the New Mexico Taxation and Revenue Department.

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM

Section 11:	N/2, SE/4, E/2 SW/4
Section 12:	W/2, W/2 SE/4
Section 13:	All
Section 14:	E/2, E/2 W/2
Section 23:	E/2, E/2 NW/4, NE/4 SW/4
Sections 24 and 25:	All
Section 26:	NE/4, N/2 SE/4, SE/4 SE/4
Section 35:	E/2 NE/4
Section 36:	All

TOWNSHIP 25 SOUTH, RANGE 38 EAST, NMPM

Section 19:	W/2 W/2
Section 30:	W/2 W/2
Section 31:	W/2 W/2

TOWNSHIP 26 SOUTH, RANGE 37 EAST, NMPM

Section 1:	N/2 NE/4

(23) To be eligible for the EOR credit, the operator should advise the Division when water injection commences into Phase I and Phase II of the project and at such time(s), request the Division certify Phase I and II to the New Mexico Taxation and Revenue Department.

(24) The Phase I and II areas within the project and/or the producing wells within such areas 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.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, ARCO Oil and Gas Company, is hereby authorized to institute a waterflood project in its South Justis Unit Area (described in Finding No. (22) above), by the injection of water into the Blinebry, Tubb and Drinkard formations, Justis Blinebry-Tubb-Drinkard Pool, through the gross perforated and/or open hole interval from approximately 5,100 feet to a depth of 6,100 feet in ninety-eight (98) existing or newly drilled injection wells 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 plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation or casing shoe; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(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 1020 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 shown on Exhibit "A", 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 supervisor of the Division's Hobbs District Office shall be authorized to approve the relocation of any proposed injection and/or producing well to orthodox locations within the unit area.

(10) The Division Director, pursuant to the provisions and requirements of Division Rule No. 104, shall have the authority to approve the relocation of injection and/or producing wells within the unit area to unorthodox locations.

(11) The subject waterflood project is hereby designated the South Justis Unit Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

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

(13) The certified "project area" shall initially comprise the area approved for statutory unitization by Division Order No. R-9746, and described as follows, provided however, the Phase I and Phase II areas within the project may be independently certified by the Division to the New Mexico Taxation and Revenue Department.

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM

Section 11:	N/2, SE/4, E/2 SW/4
Section 12:	W/2, W/2 SE/4
Section 13:	All
Section 14:	E/2, E/2 W/2
Section 23:	E/2, E/2 NW/4, NE/4 SW/4
Sections 24 and 25:	All
Section 26:	NE/4, N/2 SE/4, SE/4 SE/4
Section 35:	E/2 NE/4
Section 36:	All

TOWNSHIP 25 SOUTH, RANGE 38 EAST, NMPM

Section 19:	W/2 W/2
Section 30:	W/2 W/2
Section 31:	W/2 W/2

TOWNSHIP 26 SOUTH, RANGE 37 EAST, NMPM

Section 1:	N/2 NE/4

(14) To be eligible for the EOR credit, the operator shall advise the Division when water injection commences into Phase I and Phase II of the project and at such time(s), request the Division certify Phase I and II to the New Mexico Taxation and Revenue Department.

(15) The Phase I and II areas within the project and/or the producing wells within such areas 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) 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"
APPROVED INJECTION WELLS
CASE NO. 10554
ORDER NO. R-9747

Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract B #110	990' FNL & 1650' FWL	C	11-25S-37E
SJU Tract B #140	990' FSL & 2310' FWL	N	11-25S-37E
SJU Tract B #150	330' FNL & 2310' FWL	C	14-25S-37E
SJU Tract C #120	1500' FNL & 1550' FEL	G	11-25-37E
SJU Tract C #130	2500' FSL & 1650' FEL	J	11-25S-37E
SJU Tract C #140	1200' FSL & 1450' FEL	O	11-25S-37E
SJU Tract C #150	200' FNL & 1450' FEL	B	14-25S-37E
SJU Tract C #160	1500' FNL & 2250' FEL	G	14-25S-37E
SJU Tract C #170	2450' FSL & 2250' FEL	J	14-25S-37E
SJU Tract C #180	1000' FSL & 2350' FEL	O	14-25S-37E
SJU Tract C #190	100' FNL & 2350' FEL	B	23-25S-37E
SJU Tract C #200	1200' FNL & 2350' FEL	G	23-25S-37E
SJU Tract C #202	2500' FNL & 2350' FEL	G	23-25S-37E
SJU Tract D #120	1500' FNL & 50' FEL	H	11-25S-37E
SJU Tract D #130	2600' FSL & 330' FEL	I	11-25S-37E
SJU Tract D #140	1300' FSL & 330' FEL	P	11-25S-37E
SJU Tract D #150	100' FNL & 100' FEL	A	14-25S-37E
SJU Tract D #160	1700' FNL & 1100' FEL	H	14-25S-37E
SJU Tract D #170	2250' FSL & 1050' FEL	I	14-25S-37E

EXHIBIT "A"
APPROVED INJECTION WELLS
CASE NO. 10554
ORDER NO. R-9747

Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract D #180	1050' FSL & 1050' FEL	P	14-25S-37E
SJU Tract D #190	200' FNL & 1100' FEL	A	23-25S-37E
SJU Tract D #200	1450' FNL & 1000' FEL	H	23-25S-37E
SJU Tract D #210	2500' FSL & 900' FEL	I	23-25S-37E
SJU Tract D #212	1400' FSL & 1050' FEL	I	23-25S-37E
SJU Tract D #220	200' FSL & 1150' FEL	P	23-25S-37E
SJU Tract D #230	1150' FNL & 950' FEL	A	26-25S-37E
SJU Tract D #240	2200' FNL & 1000' FEL	H	26-25S-37E
SJU Tract E #130	2500' FSL & 1200' FWL	L	12-25S-37E
SJU Tract E #132	1300' FSL & 1150' FWL	L	12-25S-37E
SJU Tract E #150	200' FNL & 1200' FWL	D	13-25S-37E
SJU Tract E #160	1500' FNL & 100' FWL	E	13-25S-37E
SJU Tract E #162	1650' FNL & 1150' FWL	E	13-25S-37E
SJU Tract E #170	2300' FSL & 230' FWL	L	13-25S-37E
SJU Tract E #180	1050' FSL & 400' FWL	M	13-25S-37E
SJU Tract E #190	200' FNL & 250' FWL	D	24-25S-37E
SJU Tract E #192	1350' FNL & 200' FWL	D	24-25S-37E
SJU Tract E #200	2500' FNL & 1250' FWL	E	25-25S-37E
SJU Tract E #210	2500' FSL & 150' FWL	L	24-25S-37E

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APPROVED INJECTION WELLS
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Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract E #212	1350' FSL & 250' FWL	L	24-25S-37E
SJU Tract E #220	10' FSL & 300' FWL	M	24-25S-37E
SJU Tract E #222	1300' FSL & 1250' FWL	M	24-25S-37E
SJU Tract E #230	1100' FNL & 250' FWL	D	25-25S-37E
SJU Tract E #240	2250' FNL & 300' FWL	E	25-25S-37E
SJU Tract E #250	1700' FSL & 300' FWL	L	25-25S-37E
SJU Tract E #260	250' FSL & 230' FWL	M	25-25S-37E
SJU Tract E #270	1100' FNL & 300' FWL	D	36-25S-37E
SJU Tract F #120	1450' FNL & 1350' FWL	F	12-25S-37E
SJU Tract F #150	100' FNL & 2420' FWL	C	13-25S-37E
SJU Tract F #160	1650' FNL & 2500' FWL	F	13-25S-37E
SJU Tract F #170	2150' FSL & 1400' FWL	K	13-25S-37E
SJU Tract F #180	1150' FSL & 1480' FWL	N	13-25S-37E
SJU Tract F #182	1150' FSL & 2550' FWL	N	13-25S-37E
SJU Tract F #190	10' FNL & 1450' FWL	C	24-25S-37E
SJU Tract F #192	1200' FNL & 1450' FWL	C	24-25S-37E
SJU Tract F #194	1200' FNL & 2480' FWL	C	24-25S-37E
SJU Tract F #200	2350' FNL & 2350' FWL	F	24-25S-37E
SJU Tract F #210	1350' FSL & 2400' FWL	K	24-25S-37E

EXHIBIT "A"
APPROVED INJECTION WELLS
CASE NO. 10554
ORDER NO. R-9747

Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract F #220	200' FSL & 1350' FWL	N	24-25S-37E
SJU Tract F #230	990' FNL & 1650' FWL	C	25-25S-37E
SJU Tract F #240	2500' FNL & 1500' FWL	F	25-25S-37E
SJU Tract F #250	1650' FSL & 1650' FWL	K	25-25S-37E
SJU Tract F #260	100' FSL & 1500' FWL	N	25-25S-37E
SJU Tract F #270	1280' FNL & 1400' FWL	C	36-25S-37E
SJU Tract F #272	1300' FNL & 2600' FWL	C	36-25S-37E
SJU Tract F #280	2450' FNL & 1450' FWL	F	36-25S-37E
SJU Tract F #282	2550' FNL & 2580' FWL	F	36-25S-37E
SJU Tract F #290	1500' FSL & 1400' FWL	K	36-25S-37E
SJU Tract G #170	2250' FSL & 2550' FEL	J	13-25S-37E
SJU Tract G #172	2300' FSL & 1450' FEL	J	13-25S-37E
SJU Tract G #180	1150' FSL & 1450' FEL	O	13-25S-37E
SJU Tract G #182	50' FSL & 2600' FEL	O	13-25S-37E
SJU Tract G #184	50' FSL & 1450' FEL	O	13-25S-37E
SJU Tract G #190	1300' FNL & 1350' FEL	B	24-25S-37E
SJU Tract G #200	2630' FNL & 1450' FEL	G	24-25S-37E
SJU Tract G #210	1450' FSL & 1450' FEL	J	24-25S-37E
SJU Tract G #220	120' FSL & 2550' FEL	O	24-25S-37E

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APPROVED INJECTION WELLS
CASE NO. 10554
ORDER NO. R-9747

Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract G #222	150' FSL & 1450' FEL	O	24-25S-37E
SJU Tract G #230	990' FNL & 2308' FEL	B	25-25S-37E
SJU Tract G #240	2250' FNL & 2450' FEL	G	25-25S-37E
SJU Tract G #250	1500' FSL & 2310' FEL	J	25-25S-37E
SJU Tract G #260	330' FSL & 2350' FEL	O	25-25S-37E
SJU Tract G #262	150' FSL & 1350' FEL	O	25-25S-37E
SJU Tract G #270	1100' FNL & 1350' FEL	B	36-25S-37E
SJU Tract G #280	2500' FNL & 1350' FEL	G	36-25S-37E
SJU Tract G #290	1450' FSL & 2610' FEL	J	36-25S-37E
SJU Tract G #292	1500' FSL & 1350' FEL	J	36-25S-37E
SJU Tract H #200	2600' FNL 7 100' FEL	H	24-25S-37E
SJU Tract H #210	1400' FSL & 330' FEL	I	24-25S-37E
SJU Tract H #220	330' FSL & 330' FEL	P	24-25S-37E
SJU Tract H #230	990' FNL & 990' FEL	A	25-25S-37E
SJU Tract H #232	1100' FNL & 150' FEL	A	25-25S-37E
SJU Tract H #240	2310' FNL & 990' FEL	H	25-25S-37E
SJU Tract H #242	2310' FNL & 150' FEL	H	25-25S-37E
SJU Tract H #250	1650' FSL & 330' FEL	I	25-25S-37E
SJU Tract H #260	330' FSL & 660' FEL	P	25-25S-37E

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Well Name	*Location*	*Unit*	*S-T-R*
SJU Tract H # 270	1100' FNL & 150' FEL	A	36-25S-37E
SJU Tract H #280	2500' FNL & 150' FEL	H	36-25S-37E
SJU Tract I #260	330' FSL & 330' FEL	M	30-25S-38E

Lea County, New Mexico