

Entered April 6, 1984
JLR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE NO. 8061
Order No. R-4589-A

APPLICATION OF ARCO OIL AND GAS
COMPANY FOR A TERTIARY OIL RECOVERY
PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8 a.m. on February 1, 1984, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 6th day of April, 1984, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, ARCO Oil and Gas Company, a division of Atlantic Richfield Company, seeks an amendment to Division Order No. R-4589, to include the injection of polymer augmented water in its previously authorized waterflood project in the Seven Rivers-Queen Unit, for conversion of existing injection wells to polymer augmented water injection wells, and for the approval of the Seven Rivers-Queen Unit Polymer Augmented Waterflood Project ("Project") as a "qualified tertiary recovery project" under the "Crude Oil Windfall Profit Tax Act of 1980" and I.R.C. §4993(c).

(3) That said Seven Rivers-Queen Unit Area lies within the South Eunice Seven Rivers-Queen Pool, Lea County, New Mexico.

(4) That primary production began from said oil pool in 1956 and developed on 40-acre spacing, with waterflooding being initiated in the pool in 1974.

(5) That the ARCO Oil and Gas Company Seven Rivers-Queen Unit Waterflood Project consisting of approximately 2262 acres was approved by said Division Order No. R-4589 on July 13, 1973.

(6) That, pursuant to I.R.C. §4993(d)(5)(A)(i), the New Mexico Oil Conservation Division has been designated by the Governor of the State of New Mexico as the appropriate agency to approve "qualified tertiary recovery projects" in New Mexico for purposes of the "Crude Oil Windfall Profit Tax Act of 1980" and I.R.C. §4993(c).

(7) That the applicant now seeks approval for the injection of polymer augmented water into at least twelve (12) and as many as fourteen (14) project wells and the approval of the Seven Rivers-Queen Unit Polymer Augmented Waterflood Project as meeting the requirements of Subparagraphs (A), (B), and (C) of §4993(c)(2) of the Internal Revenue Code as a "qualified tertiary recovery project."

(8) That the Project Area for the Project lies wholly within said Seven Rivers-Queen Unit Pressure Maintenance Project in the Seven Rivers-Queen Unit Area and consists of the following described acreage:

Lea County, New Mexico

TOWNSHIP 22 SOUTH, RANGE 36 EAST, NMPM

Section 27: All

Section 34: All

Section 35: W/2

TOWNSHIP 23 SOUTH, RANGE 36 EAST, NMPM

Section 2: N/2

Section 3: N/2

containing approximately 2262 acres.

(9) That the Project will affect the entire Seven Rivers-Queen Unit and, accordingly, the unit boundaries are an adequate delineation of the Project Area.

(10) That the tertiary oil recovery method used in the Project is a polymer-augmented waterflood method which is a recognized "tertiary recovery method" as that term is defined in I.R.C. §4993(d)(1) by reference to section 212.78(c) of the "June 1979 energy regulations," as that term is defined in I.R.C. §4996(b)(8).

(11) That the injection of polymers under the Project in the Seven Rivers-Queen Unit first occurred in August, 1982.

(12) That the injection of polymers under the Project in the Seven Rivers-Queen Unit began after May, 1979, as required by I.R.C. §4993(c)(2).

(13) That past production from the Seven Rivers-Queen Unit Area underlying the Project Area is approximately 4,660,000 barrels of oil as of January 1, 1984. Future recovery from the Project Area without the proposed tertiary recovery project is estimated to be 1,389,000 barrels of oil. With the proposed tertiary project that recovery is expected to increase to 1,629,000 barrels of oil. This 240,000 barrel increase represents an increase in estimated recoverable reserves of 17 percent, a more than insignificant increase.

(14) That the Seven Rivers-Queen Unit Area presently contains 30 active producing wells and 28 active water injection wells. Twelve water injection wells in the Project Area will be used for polymer injection and the 30 currently producing wells in the Project Area will continue to be utilized for production.

(15) That the Project will be implemented in accordance with sound engineering principles.

(16) That the project expense for the Project is approximately \$600,000.

(17) That the Project meets all requirements of Subparagraphs (A), (B), and (C) of §4993(c)(2) of the Internal Revenue Code as a "qualified tertiary recovery project."

(18) That injection of polymers under the Project shall be subject to a pressure limitation to be determined based upon step rate tests conducted under the direction of the supervisor of the Division's district office at Hobbs.

(19) That to assure injection within said project without endangerment of underground sources of drinking water, the applicant should consult with the supervisor of the Division's district office at Hobbs to:

- (a) formulate an inspection plan to facilitate detection of injection well failure and/or out-of-zone injection fluid;

-4-

Case No. 8061

Order No. R-4589-A

(b) repair any injection wellbore showing evidence of fluid channeling or failure of tubular goods or packers; and

(c) assure that all injection is through tubing under a packer.

(20) That the approval of this application will prevent waste, protect correlative rights, and promote conservation.

IT IS THEREFORE ORDERED:

(1) That the ARCO Oil and Gas Company Seven Rivers-Queen Unit Polymer Augmented Waterflood Project, South Eunice Seven Rivers-Queen Pool, Lea County, New Mexico, is hereby approved as a "qualified tertiary recovery project" under the "Crude Oil Windfall Profit Tax Act of 1980" and I.R.C. §4993(c).

(2) That the applicant, ARCO Oil and Gas Company, is hereby authorized to inject polymer augmented water into at least twelve wells or as many as fourteen wells within the Project Area described below, and that Division Order No. R-4589, dated July 13, 1973, is hereby amended to allow the injection of said polymer augmented water.

<u>Unit Well No.</u>	<u>Unit</u>	<u>Section</u>	<u>Township South</u>	<u>Range East</u>
1	A	27	22	36
3	C	27	22	36
5	E	27	22	36
9	I	27	22	36
21	C	34	22	36
25	G	34	22	36
37	O	34	22	36
17	C	35	22	36
27	E	35	22	36
41	A	2	23	36
55	G	2	23	36
45	A	3	23	36
49	E	3	23	36
51	G	3	23	36

(3) That the injection wells herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to a pressure to be determined in cooperation with the supervisor of the Division's district office at Hobbs.

-5-

Case No. 8061

Order No. R-4589-A

(4) That the operator shall immediately notify the supervisor of the New Mexico Oil Conservation Division's Hobbs district office of the failure of the tubing, packer, or casing in the injection wells within the Project Area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

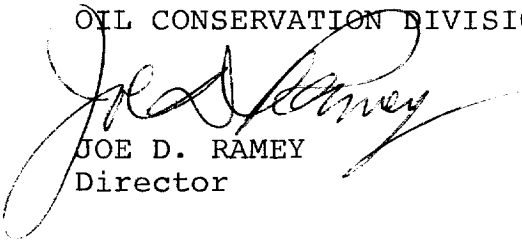
(5) That to assure injection within said project without endangerment of underground sources of drinking water, the applicant shall consult with the supervisor of the Division's district office at Hobbs to:

- (a) formulate an inspection plan to facilitate detection of injection well failure and/or out-of-zone injection fluid;
- (b) repair any injection wellbore showing evidence of fluid channeling or failure of tubular goods or packers; and
- (c) assure that all injection is through tubing under a packer.

(6) That 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


JOE D. RAMEY
Director

S E A L

fd/