

**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. 12849
ORDER NO. R-11744-A**

APPLICATION OF APACHE CORPORATION TO AMEND ORDER NO. R-11744, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on April 18, 2002, at Santa Fe, New Mexico, before Examiner William V. Jones.

NOW, on this 3rd day of June, 2002, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

- (1) Due public notice has been given, and the Division has jurisdiction of this case and of the subject matter.
- (2) By Order No. R-11744 issued in Case No. 12785 on March 11, 2002, the Division authorized Apache Corporation to institute a waterflood project on its Grizzell Lease by the injection of water into the Grayburg formation, Penrose Skelly (Grayburg) Pool, Lea County, New Mexico, within its Grizzell Well No. 11 (API No. 30-025-24972) located 1300 feet from the South line and 1139 feet from the East line (Unit P) of Section 8, Township 22 South, Range 37 East, NMPM.
- (3) The applicant, Apache Corporation ("Apache"), seeks to amend Order No. R-11744 to qualify its Grizzell Penrose Skelly Waterflood Project as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5).
- (4) The evidence presented indicates that:

- a. The project should result in an increase in the amount of crude oil that may be ultimately recovered from the project area;
- b. The project area has been so depleted that it is prudent to apply enhanced recovery techniques to maximize the ultimate recovery of crude oil; and
- c. The project is economically and technically feasible, and the application has not been prematurely filed.

Accordingly, the proposed pressure maintenance project meets all criteria for approval under the Enhanced Oil Recovery Act and Rule 30.

- (5) The application should be approved.

IT IS THEREFORE ORDERED THAT:

- (1) The application of Apache Corporation to amend Division Order No. R-11744 is hereby approved.

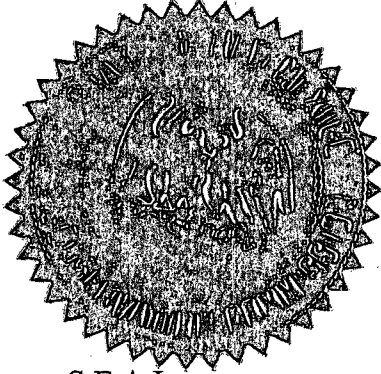
- (2) The Grizzell Penrose Skelly Waterflood Project, which currently comprises the SE/4 of Section 8, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico, is hereby qualified as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (NMSA 1978 Sections 7-29A-1 through 7-29A-5).

- (3) To be eligible for the EOR tax rate, the operator shall advise the Division of the date and time water injection commences within the waterflood project. At that time the Division will certify the project to the New Mexico Taxation and Revenue Department.

- (4) At such time as a positive production response occurs and within five years from the date the project was certified to the New Mexico Taxation and Revenue Department, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area benefiting from enhanced recovery operations and the specific wells eligible for the EOR tax rate. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those wells that are eligible for the EOR tax rate.

(5) 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 hereinabove designated.



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in cursive script that reads "Lori Wrotenbery".

LORI WROTENBERY
Director

**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. 12785
ORDER NO. R-11744**

**APPLICATION OF APACHE CORPORATION FOR APPROVAL OF A
WATERFLOOD PROJECT, LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on January 10, 2002, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 11th day of March, 2002, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given, and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Apache Corporation ("Apache"), seeks authority to institute a waterflood project within the Penrose Skelly (Grayburg) Pool comprising the SE/4 of Section 8, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico, on its Grizzell Lease by the injection of water into the Grayburg formation within its Grizzell Well No. 11 (API No. 30-025-24972) located 1300 feet from the South line and 1139 feet from the East line (Unit P) of Section 8, through the perforated interval from approximately 3,624 feet to 3,680 feet.

(3) Apache presented testimony to the effect that the proposed waterflood project area comprises a single fee lease, and that the interest ownership within the project area is uniform throughout.

(4) Apache presented geologic evidence that demonstrates:

(a) the proposed waterflood project is located within the Penrose Skelly (Grayburg) Pool;

- (b) injection into the Grizzell No. 11 will be confined to the Upper Grayburg formation, being the same interval that is being produced in four producing wells within the project area; and
 - (c) the Upper Grayburg interval is laterally continuous throughout the proposed project area.
- (5) Apache presented engineering evidence that demonstrates:
 - (a) it will initially utilize four producing wells and one injection well within the waterflood project. The producing wells are the Grizzell Wells No. 1, 2, 3 and 4, located respectively in Units J, I, P, and O of Section 8;
 - (b) the producing wells within the proposed project area are in an advanced state of depletion within the Penrose Skelly (Grayburg) Pool;
 - (c) the original oil in place underlying the SE/4 of Section 8 is calculated to be approximately 2.4 million barrels. To date, the wells in the project area have produced, by primary means, approximately 414,000 barrels of oil;
 - (d) an additional 100,000 barrels of oil may be recovered from the proposed project area by the initiation of waterflood operations; and
 - (e) project costs to implement waterflood operations within the proposed project area are estimated to be approximately \$240,000.
- (6) Approval of the proposed waterflood project should result in the recovery of additional hydrocarbons from the Grayburg formation of the Penrose Skelly (Grayburg) Pool that may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.
- (7) The proposed waterflood project should be approved and the project should be governed by Division Rules No. 701 through 708.

IT IS THEREFORE ORDERED THAT:

(1) Apache Corporation is hereby authorized to institute a waterflood project within the Penrose Skelly (Grayburg) Pool on its Grizzell Lease comprising the SE/4 of Section 8, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico, by the injection of water into the Grayburg formation within its Grizzell Well No. 11 (API No. 30-025-24972) located 1300 feet from the South line and 1139 feet from the East line (Unit P) of Section 8, through the perforated interval from approximately 3,624 feet to 3,680 feet.

(2) The operator 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 shall be accomplished through 2 3/8 inch internally plastic-lined tubing installed in a packer set at approximately 3,524 feet. 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 well or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 725 psi.

(5) The Division Director may 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, the casing 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 notice to the Supervisor of the Division's Hobbs District Office of the date and time injection equipment will be installed and the mechanical integrity pressure test will be conducted on the Grizzell No. 11, so these operations may be witnessed.

(8) The operator shall immediately notify the Supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer in the injection well or the leakage of water, oil or gas from or around any producing or plugged and abandoned well within the project area, and shall take all steps as may be timely and necessary to correct such failure or leakage.


(9) The project is hereby designated the Grizzell Penrose Skelly Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rules No. 701 through 708, and shall submit monthly progress reports in accordance with Division Rules No. 706 and 1115.

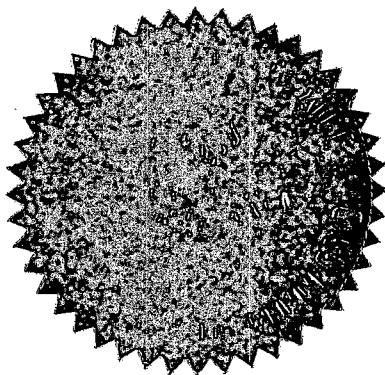
(10) The injection authority granted herein for the Grizzell No. 11 shall terminate one year after the date of this order if the operator has not commenced injection operations into the well; provided, however, the Division, upon written request by the operator, may grant an extension for good cause.

(11) Jurisdiction 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


LORI WROTENBERY
Director



SEAL