

Filed April 10, 1984  
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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 7994  
Order No. R-7519

APPLICATION OF PHILLIPS PETROLEUM  
COMPANY FOR TWO WATERFLOOD PROJECTS,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on November 9, 1983, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 30th 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, Phillips Petroleum Company, seeks authority to institute a waterflood project on its Mexco "A" Lease, described below, by the injection of water into the Grayburg-San Andres formations through its existing Mexco "A" Well No. 2 located 1980 feet from the South line and 659 feet from the East line of Section 2, Township 17 South, Range 32 East, NMPM, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico:

MEXCO "A" LEASE

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM

Section 1: All

Section 2: NE/4, N/2 NW/4, SE/4 NW/4, and N/2 SE/4

(3) That the applicant also seeks authority to institute a waterflood project on its Wyatt "A" Federal Lease, described below, by the injection of water into the Grayburg-San Andres formations through its existing Wyatt "A" Federal Well No. 4

located 1650 feet from the North and West lines of Section 33, Township 17 South, Range 33 East, NMPM, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico:

WYATT "A" FEDERAL LEASE

TOWNSHIP 17 SOUTH, RANGE 33 EAST, NMPM  
Section 33: NE/4 NW/4, S/2 NW/4, and SW/4 NE/4

(4) That the Maljamar Grayburg-San Andres producing wells in the proposed Mexco "A" Waterflood Project Area, as described in Finding Paragraph No. (2) above, are in an advanced state of depletion and should properly be classified as "stripper" wells.

(5) That the proposed Mexco "A" Waterflood Project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(6) That the operator of the proposed Mexco "A" Waterflood Project Area 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) That the following described previously abandoned wells are located within one-half mile of said Mexco "A" Well No. 2:

<u>WELL NAME AND NO.</u>	<u>LOCATION</u>	<u>SECTION</u>
Ryder Scott Management Co. Phillips Lexco State Well No. 2	1980' FS & WL	2
Ryder Scott Management Co. Cockburn Trimble Well No. 1	660' FN & EL	11

all in Township 17 South, Range 32 East, NMPM, Lea County, New Mexico.

(8) That prior to commencement of injection into said Mexco "A" Well No. 2, the operator should demonstrate that the wells described in Finding Paragraph No. (7) above have either been re-plugged or have been previously plugged and abandoned in such a manner as to ensure that they do not provide an avenue of escape for waters from the proposed injection zone and in accordance with a program that is satisfactory to the supervisor of the Division's district office at Hobbs.

(9) That the injection of water into the aforesaid Mexco "A" Well No. 2 should be accomplished through 2 3/8-inch internally plastic lined tubing installed in a packer set at approximately 4050 feet, with injection into the open hole interval from approximately 4119 feet to 4423 feet; that the casing-tubing annulus should be filled with an inert fluid and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(10) That at the time of the hearing the applicant presented evidence demonstrating that said Mexco "A" Well No. 2 could inject water at a wellhead pressure of not more than 1300 psi, which is above the Division's standard 0.2 psi per foot of depth surface pressure limitation, into the injection interval without fracturing the confining strata.

(11) That the subject Mexco "A" Well No. 2 or its injection pressurization system should be so equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1300 psi.

(12) That the Maljamar Grayburg-San Andres producing wells in the proposed Wyatt "A" Federal Waterflood Project area, as described in Finding Paragraph No. (3) above, are not in an advanced state of depletion and may not properly be classified as "stripper" wells.

(13) That although the proposed Wyatt "A" Federal project does not fit the definition of a waterflood project contained in Rule 701 F.1 of the Division Rules and Regulations, it does fit the definition of a pressure maintenance project contained in Rule 701 E.1 of the Division Rules and Regulations.

(14) That the proposed Wyatt "A" Federal project should be classified as a pressure maintenance project and, in accordance with Rule 701 E., project rules, including the allowable formula, promulgated therefor.

(15) That the proposed Wyatt "A" Federal pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste, and will not impair correlative rights.

(16) That the initial Wyatt "A" Federal Pressure Maintenance Project Area should comprise all lands described in Finding Paragraph No. (3) above.

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(17) That the Wyatt "A" Federal project area should be expanded upon completion of additional injection wells or producing wells in the Grayburg-San Andres formation which may be shown to be affected by the injection program.

(18) That the project allowable should be equal to top unit allowable for the Maljamar Grayburg-San Andres Pool times the number of developed (production or injection) proration units within the project area.

(19) That the transfer of allowable between wells within the Wyatt "A" Federal project area should be permitted.

(20) That the operator of the Wyatt "A" Federal Pressure Maintenance Project Area 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.

(21) That the previously abandoned James P. Dunigan Cockburn Federal Well No. 1 located 990 feet from the North line and 380 feet from the West line of Section 33, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, is located within one-half mile of the applicant's Wyatt "A" Federal Well No. 4, described in Finding Paragraph No. (3) above.

(22) That the following described Corbin Abo producing wells are also located within one-half mile of said Wyatt "A" Federal Well No. 4:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>
Energy Reserves Group, Inc. Denius Federal Well No. 2	1980' FS & EL
Energy Reserves Group, Inc. Denius Federal Well No. 3	1980' FS & WL
Phillips Petroleum Company Eilliams Well No. 2	2310' FNL - 1981' FEL
Phillips Petroleum Company Eilliams Well No. 4	2310' FNL - 1977' FWL
Phillips Petroleum Company Eilliams Well No. 6	2311' FNL - 659' FWL

all in Section 33, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico.

(23) That prior to commencement of injection into said Wyatt "A" Federal Well No. 4, the operator should demonstrate that the James P. Dunigan Federal Well No. 1, described in Finding Paragraph No. (21) above, has either been re-plugged or has been previously plugged and abandoned in such a manner as to ensure that it does not provide an avenue of escape for waters from the proposed injection zone and in accordance with a program that is satisfactory to the supervisor of the Division's district office at Hobbs; and the operator should also demonstrate that all of the wells described in Finding Paragraph No. (22) above have adequate cement across and above the injection interval or have been re-cemented through such interval all in accordance with a program to be approved by the supervisor of the Division's district office at Hobbs.

(24) That the injection of water into the aforesaid Wyatt "A" Federal Well No. 4 should be accomplished through 2 3/8-inch internally plastic lined tubing installed in a packer set at approximately 4250 feet, with injection into the perforated interval from approximately 4465 feet to 4750 feet; that the casing-tubing annulus should be filled with an inert fluid and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(25) That the subject Wyatt "A" Federal Well No. 4 or its injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 893 psi, but the Division Director should have authority to increase said pressure limitation, should circumstances warrant.

(26) That the subject application should be approved and the projects should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a waterflood project on its Mexco "A" Lease, described below, by the injection of water into the Grayburg-San Andres formations through its existing Mexco "A" Well No. 2 located 1980 feet from the South line and 659 feet from the East line of Section 2, Township 17 South, Range 32 East, NMPM, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico:

MEXCO "A" LEASE

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM

Section 1: All

Section 2: NE/4, N/2 NW/4, SE/4 NW/4, and N/2 SE/4

(2) That injection into said Mexco "A" Well No. 2 shall be through 2 3/8-inch internally plastic lined tubing installed in a packer set at approximately 4050 feet, with injection into the open hole interval from approximately 4119 feet to 4423 feet; that the casing-tubing annulus shall be filled with an inert fluid and that a pressure gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(3) That the subject Mexco "A" Well No. 2 or its injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 1300 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(4) That injection into said Mexco "A" Well No. 2 shall not commence until the Ryder Scott Management Company Phillips Lexco State Well No. 2 located 1980 feet from the South and West lines of Section 2 and the Ryder Scott Management Company Cockburn Trimble Well No. 1 located 660 feet from the North and East lines of Section 11, both wells in Township 17 South, Range 32 East, NMPM, Lea County, New Mexico, have either been re-plugged or are shown to have been adequately plugged and abandoned in a manner that is satisfactory to the supervisor of the Division's district office at Hobbs.

(5) That the subject waterflood project is hereby designated the Phillips Maljamar Mexco "A" Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations and that monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(6) That the applicant is also authorized to institute a pressure maintenance project in the Maljamar Grayburg-San Andres Pool by the injection of water into the perforated interval between 4465 feet and 4750 feet in its existing Wyatt "A" Federal Well No. 4 located 1650 feet from the North and West lines of Section 33, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico.

(7) That the injection of water into said Wyatt "A" Federal Well No. 4 shall be accomplished through 2 3/8-inch internally plastic lined tubing installed in a packer set at approximately 4250 feet; that the casing-tubing annulus should be filled with an inert fluid and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(8) That said Wyatt "A" Federal Well No. 4 herein authorized and/or the injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 893 psi, provided however, the Division Director may authorize a higher surface injection pressure upon satisfactory showing that such pressure will not result in fracturing of the confining strata.

(9) That injection into said Wyatt "A" Federal Well No. 4 shall not commence until the James P. Dunigan Cockburn Federal Well No. 1 located 990 feet from the North line and 380 feet from the West line of Section 33, Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, has either been re-plugged or is shown to have been adequately plugged and abandoned in a manner that is satisfactory to the supervisor of the Division's district office at Hobbs; nor until the following described Corbin Abo producing wells have either been shown to have adequate cement across and above the proposed injection interval or have been re-cemented across such interval in a manner that is satisfactory to the supervisor of the Division's district office at Hobbs:

<u>WELL NAME AND NO.</u>	<u>FOOTAGE LOCATION</u>
Energy Reserves Group, Inc. Denius Federal Well No. 2	1980' FS & EL
Energy Reserves Group, Inc. Denius Federal Well No. 3	1980' FS & WL
Phillips Petroleum Company Eilliams Well No. 2	2310' FNL - 1981' FEL
Phillips Petroleum Company Eilliams Well No. 4	2310' FNL - 1977' FWL
Phillips Petroleum Company Eilliams Well No. 6	2311' FNL - 659' FWL

all in said Section 33.

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(10) That the subject pressure maintenance project is hereby designated the Phillips Maljamar Wyatt "A" Federal Pressure Maintenance Project and shall be governed by Special Rules by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(11) That Special Rules and Regulations governing the operation of the Phillips Maljamar Wyatt "A" Federal Pressure Maintenance Project are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
PHILLIPS MALJAMAR WYATT "A" FEDERAL  
PRESSURE MAINTENANCE PROJECT

Rule 1. That the initial project area shall comprise the following described lands in Lea County, New Mexico:

TOWNSHIP 17 SOUTH, RANGE 33 EAST, NMPM  
Section 33: NE/4 NW/4, S/2 NW/4, and SW/4 NE/4

Rule 2. That the project area may be expanded administratively by the Division Director upon completion of additional injection wells or production wells, provided it can be shown that such production wells are affected by the injection of water into the Grayburg-San Andres formations.

Rule 3. The allowable for the project area shall be any amount up to and including a volume equal to the top unit allowable for the Maljamar Grayburg-San Andres Pool times the number of proration units in the project area.

Rule 4. The allowable assigned to the project area may be produced from any well or wells within the project area in any proportion.

Rule 5. The Division Director is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of the project area as may be necessary to complete an efficient production and injection pattern, provided said wells are drilled no closer than 330 feet to the outer boundary of the lease on which they are located nor closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Division, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:



(a) A plat identifying the project area and the individual wells contained therein and showing the location of the proposed well, all wells within the unit area, and offset operators.

(b) A schematic drawing of any proposed injection well which fully describes the casing, tubing, packer, monitoring equipment, perforated interval, and depth.

(c) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification.

(d) Such other applicable requirements as may be contained in Rule 701 of the Division Rules and Regulations.

The Division Director may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Director may grant immediate approval, provided waivers of objection are received from all offset operators.

IT IS FURTHER ORDERED:

(12) That the pressure maintenance project herein authorized shall be governed by the provisions of Rules 702 through 708 of the Division Rules and Regulations.

(13) That the operator shall notify the Supervisor of the Hobbs district office of the Division of the date and time of the installation of injection equipment on either the subject Mexco "A" Well No. 2, as described in Ordering Paragraph No. (1) above, or Wyatt "A" Federal Well No. 4, as described in Ordering Paragraph No. (6) above.

(14) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing or packer in any of said 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 either project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

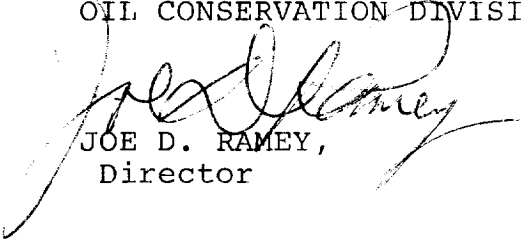
(15) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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DONE at Santa Fe, New Mexico, on the day and year  
hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY,  
Director

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