

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3509
Order No. R-3181

APPLICATION OF PHILLIPS PETROLEUM
COMPANY FOR A PRESSURE MAINTENANCE
PROJECT, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 4, 1967,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 18th day of January, 1967, the Commission, a
quorum being present, 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 Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Phillips Petroleum Company, seeks
authority to institute a pressure maintenance project in its
Vacuum Abo Unit Area, Vacuum-Abo Reef Pool, Lea County, New
Mexico, by the injection of gas into the Abo Reef formation
through the following wells in Lea County, New Mexico:

Shell Oil Company State "T" Well No. 6,
located 330 feet from the South line and
660 feet from the East line of Section 33,
Township 17 South, Range 35 East, NMPM, and

Standard of Texas Vac Edge Unit Well No. 11,
located 1650 feet from the North line and
1980 feet from the West line of Section 4,
Township 18 South, Range 35 East, NMPM.

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(3) That initially the project area should comprise only the following-described area:

LEA COUNTY, NEW MEXICO

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 33: SW/4 SW/4, E/2 SW/4, and SE/4

Section 34: SW/4

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 3: N/2 NW/4 and SW/4 NW/4

Section 4: N/2, N/2 S/2, and S/2 SW/4

Section 5: NE/4 NE/4, S/2 NE/4, and SE/4

(4) That a pressure maintenance project comprising the above-described area is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

(5) That the applicant further seeks the promulgation of special rules and regulations governing said pressure maintenance project, and the establishment of an administrative procedure whereby said project may be expanded for good cause shown and whereby additional wells in the project area may be converted to gas injection.

(6) That special rules and regulations for the operation of the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project should be promulgated and, for operational convenience, such rules should provide certain flexibility in authorizing the production of the project allowable from any well or wells in the project in any proportion, provided that no well in the project area which directly or diagonally offsets a well outside the Vacuum Abo Unit Area producing from the same common source of supply should be allowed to produce in excess of top unit allowable for the Vacuum-Abo Reef Pool until such time as the well has experienced a substantial response to gas injection. When such a response has occurred, the well should be permitted to produce up to two times top unit allowable for the Vacuum-Abo Reef Pool. Production of such well at a higher rate should be authorized only after notice and hearing.

IT IS THEREFORE ORDERED:

(1) That the applicant, Phillips Petroleum Company, is hereby authorized to institute a pressure maintenance project in its Vacuum Abo Unit Area, Vacuum-Abo Reef Pool, Lea County, New Mexico,

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to be designated as the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project, by the injection of gas into the Abo Reef formation through the following-described wells in Lea County, New Mexico:

Shell Oil Company State "T" Well No. 6,
located 330 feet from the South line and
660 feet from the East line of Section 33,
Township 17 South, Range 35 East, NMPM, and

Standard of Texas Vac Edge Unit Well No. 11,
located 1650 feet from the North line and
1980 feet from the West line of Section 4,
Township 18 South, Range 35 East, NMPM.

(2) That Special Rules and Regulations governing the operation of the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project, Lea County, New Mexico, are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
PHILLIPS PETROLEUM COMPANY
VACUUM ABO PRESSURE MAINTENANCE PROJECT**

RULE 1. The project area of the Phillips Petroleum Company Vacuum Abo Pressure Maintenance Project, hereinafter referred to as the Project, shall comprise the area described as follows:

LEA COUNTY, NEW MEXICO

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 33: SW/4 SW/4, E/2 SW/4, and SE/4

Section 34: SW/4

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 3: N/2 NW/4 and SW/4 NW/4

Section 4: N/2, N/2 S/2, and S/2 SW/4

Section 5: NE/4 NE/4, S/2 NE/4, and SE/4

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables.

for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3, which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

RULE 5. The allowable assigned to any injection well on a 40-acre proration unit shall be top unit allowable for the Vacuum-Abo Reef Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the Vacuum-Abo Reef Pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the Vacuum-Abo Reef Pool, whichever is less, provided that any producing well in the project area which directly or diagonally offsets a well outside the Vacuum Abo Unit Area producing from the same common source of supply shall not produce in excess of top unit allowable for the pool until such time as the well receives a substantial response to gas injection. When such a response has occurred, the well shall be permitted to produce up to two times top unit allowable for the pool. Production of such well at a higher rate shall be authorized only after notice and hearing. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the Vacuum-Abo Reef Pool, except that any well or wells within

the project area producing with a gas-oil ratio in excess of 2,000 cubic feet of gas per barrel of oil may be produced on a "net" gas-oil ratio basis, which net gas-oil ratio shall be determined by applying credit for daily average gas injected, if any, into the Vacuum-Abo Reef Pool within the project area to such high gas-oil ratio well; The daily adjusted oil allowable for any well receiving gas injection credit shall be determined in accordance with the following formula:

$$A_{adj} = \frac{TUA \times F_a \times 2,000}{\frac{P_g - I_g}{P_o}}$$

where:

- A_{adj} = the well's daily adjusted allowable
- TUA = top unit allowable for the pool
- F_a = the well's acreage factor
- P_g = average daily volume of gas produced by the well during the preceding month, cubic feet
- I_g = the well's allocated share of the daily average gas injected during the preceding month, cubic feet
- P_o = average daily volume of oil produced by the well during the preceding month, barrels

In no event shall the amount of injected gas being credited to a well be such as to cause the net gas-oil ratio, $\frac{P_g - I_g}{P_o}$, to be less than 2,000 cubic feet of gas per barrel of oil produced.

RULE 8. Each month the project operator shall, within three days after the normal unit allowable for Southeast New Mexico has been established, submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total Project allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in any proportion except that no well in the Project which directly or diagonally offsets a well outside the Project producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. The conversion of producing wells to injection, the drilling of additional wells for injection, and expansion of the project area shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional injection wells shall include the following:

(1) A plat showing the location of proposed injection well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection well which fully describes the casing, tubing, perforated interval, and depth showing that the injection or gas will be confined to the Abo Reef formation.

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

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

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

RULE 11. That the subject pressure maintenance project shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations insofar as said rules are not inconsistent with the rules prescribed by this order.

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(3) That allowables to all wells in the Vacuum Abo Unit Area but outside the limits of the Vacuum Abo Pressure Maintenance Project Area as defined herein shall be assigned and produced in accordance with the applicable Commission Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

GUYTON B. HAYS, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

esr/

CERTIFICATE OF APPROVAL

COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
VACUUM ABO UNIT, LEA COUNTY, NEW MEXICO
GAS PRESSURE MAINTENANCE

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated December 1, 1965, which said Agreement has been executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement, the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, and 7-11-48, New Mexico Statutes Annotated, 1953 Compilation, I, the undersigned Commissioner of Public Lands of the State of New Mexico, do hereby consent to and approve the said Agreement, however, such consent and approval being limited and restricted to such lands within the Unit Area, which are effectively committed to the Unit Agreement as of this date, and, further, that leases insofar as the lands covered thereby committed to this Unit Agreement shall be and the same are hereby amended to conform with the terms of such Unit Agreement, and said leases shall remain in full force and effect in accordance with the terms and conditions of said Agreement. This approval is subject to all of the provisions and requirements of the afore-said statutes.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 20th day of January, 1967.


COMMISSIONER OF PUBLIC LANDS
of the State of New Mexico