

Oil and Gas Report 5, 1974

A.L.P.

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. 5372
Order No. R-4934

APPLICATION OF AMOCO PRODUCTION
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 November 26, 1974, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1974, 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, Amoco Production Company, is the operator of the South Hobbs (Grayburg-San Andres) Unit Area, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, comprised as follows:

LEA COUNTY, NEW MEXICO
TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM
Section 33: SE/4 SE/4
Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM
Sections 3, 4, and 5: All
Section 6: N/2 and SE/4
Section 8: N/2 NW/4, NE/4, and N/2 SE/4
Section 9: N/2, N/2 SW/4, and SE/4
Section 10: All
Section 11: SW/4 SW/4
Section 14: W/2 NW/4
Section 15: All
Section 16: NE/4 NE/4

(3) That the applicant seeks authority to institute a pressure maintenance project in said unit area by the injection of water into the Grayburg and San Andres formations through 45 wells in the unit area.

(4) That the applicant further seeks the promulgation of special rules for said project, including the establishment of a project area and provision for the expansion of the project area, the placing of additional wells on water injection, and the transfer of allowables within the project area.

(5) That initially the project area should comprise only the following described lands in Township 19 South, Range 38 East, NMPM:

Sections 3 and 4: All
Section 5: N/2, SW/4, and E/2 SE/4
Section 6: NW/4, N/2 NE/4, and SE/4 NE/4
Section 8: E/2 NE/4 and N/2 SE/4
Section 9: N/2, N/2 SW/4, and SE/4
Section 10: All
Section 11: SW/4 SW/4
Section 14: W/2 NW/4
Section 15: All
Section 16: NE/4 NE/4

(6) That of the 45 wells requested by applicant as water injection wells, the following five are located on lands not qualified for participation in the unit at the time of hearing this case, and should not be authorized for water injection at this time:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Operator</u> <u>Name</u>	<u>Lease</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>Unit</u>	<u>Section</u>
Continental	State A	2	O	5
W. K. Byrom	Atlantic Bradley	5	G	6
W. K. Byrom	O. O. Bradley	1	I	6
W. K. Byrom	H. J. Orcutt	1	C	8
Skelly	Mexico U	2	G	8

(7) That the proposed pressure maintenance project and special rules therefor are in the interest of conservation, will result in the recovery of otherwise unrecoverable oil thus preventing waste, will not violate correlative rights, and should be approved, provided special precautions are taken to ensure the integrity of fresh water supplies in the area.

(8) That reasonable special precautions to ensure the integrity of fresh water supplies in the area include the running of cement bond logs on wells, conducting monthly casing leak surveys, and keeping injection pressures in the reservoir at or below 200 percent of the original reservoir pressure of 1525 psig.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to institute a pressure maintenance project in its South Hobbs (Grayburg-San Andres) Unit Area, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, said project to comprise:

TOWNSHIP 18 SOUTH, RANGE 38 EAST, NMPM
Section 33: SE/4 SE/4
Section 34: W/2

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM
Sections 3, 4, and 5: All
Section 6: N/2 and SE/4
Section 8: N/2 NW/4, NE/4, and N/2 SE/4
Section 9: N/2, N/2 SW/4, and SE/4
Section 10: All
Section 11: SW/4 SW/4
Section 14: W/2 NW/4
Section 15: All
Section 16: NE/4 NE/4

(2) That the applicant is hereby authorized to inject water into the Grayburg and San Andres formations through the following 40 wells in Township 19 South, Range 38 East, NMPM:

<u>Lease</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>Unit</u>	<u>Section</u>
Byers A	29	E	3
Byers	2	G	3
Capps	10	I	3
Capps	11	K	3
South Hobbs Unit	(to be drilled)	M	3
Capps	30	O	3
State A	33	E	4
Byers B	33	G	4
State A	10	I	4
State A	9	K	4
H. D. McKinley	3	M	4
State A	18	O	4
McKinley	29	E	5
H. D. McKinley	4	G	5
H. D. McKinley	5	I	5
State A	23	K	5
State A	21	M	5
O. B. Terry	1	A	8
State WHC	1	I	8
State A	5	A	9
State A	15	C	9
Terry TR 3	21	E	9
State A	20	G	9

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Terry TR1 RA A	11	I	9
Terry A	2	K	9
Terry TR 1 RA B	28	O	9
Thorp RA B	10	A	10
Thorp RA A	11	C	10
State A 1	30	E	10
Thorp RA C	30	G	10
Thorp	2	I	10
Terry TR 2	13	K	10
State A 1	29	M	10
Terry	3	P	10
State A 1	1	C	15
State A 1	3	E	15
Frank Selman	1	G	15
Frank Selman	2	I	15
Nordon Corp. Limited	1	N	15
State M 16	1	A	16

(3) That authority to inject water into the following described wells is hereby denied:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

<u>Operator</u> <u>Name</u>	<u>Lease</u> <u>Name</u>	<u>Well</u> <u>No.</u>	<u>Unit</u>	<u>Section</u>
Continental	State A	2	O	5
W. K. Byrom	Atlantic Bradley	5	G	6
W. K. Byrom	O. O. Bradley	1	I	6
W. K. Byrom	H. J. Orcutt	1	C	8
Skelly	Mexico U	2	G	8

(4) That Special Rules and Regulations governing the operation of the Amoco South Hobbs Grayburg-San Andres Pressure Maintenance Project, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
AMOCO SOUTH HOBBS GRAYBURG-SAN ANDRES
PRESSURE MAINTENANCE PROJECT

RULE 1. For the Amoco South Hobbs Grayburg-San Andres Pressure Maintenance Project, hereinafter referred to as the Project, the project area shall comprise the lands in Lea County, New Mexico, described as follows:

TOWNSHIP 19 SOUTH, RANGE 38 EAST, NMPM

Sections 3 and 4: All
Section 5: N/2, SW/4, and E/2 SE/4
Section 6: NW/4, N/2 NE/4, and SE/4 NE/4
Section 8: E/2 NE/4 and N/2 SE/4
Section 9: N/2, N/2 SW/4, and SE/4
Section 10: All
Section 11: SW/4 SW/4
Section 14: W/2 NW/4
Section 15: All
Section 16: NE/4 NE/4

RULE 2. The allowable for wells in the Project shall be determined as follows:

The allowable for wells in the Project, but not within the project area, shall be determined in accordance with the State-wide Rules and Regulations. The allowable for the project area 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 Hobbs Grayburg-San Andres 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 shall 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 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 basic allowable assigned to each producing well in the project area shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less, provided however, wells in the project area capable of producing more than top unit allowable may also receive transfer allowable. Each producing well shall be subject to the limiting gas-oil ratio (3,500 to 1) for the pool.

RULE 8. Each month the project operator shall 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 operated by him in the Project as well as the total Project allowable based upon the pool's depth bracket allowable and the market demand percentage in effect. 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 of the project operator's wells 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 accordance with these rules.

RULE 10. The project area may be expanded by the Secretary-Director of the Commission upon a showing to him that lands within the Project but not now within the project area have been committed to the South Hobbs (Grayburg-San Andres) Unit Area by ratification of the unit agreement or otherwise admitted.

RULE 11. The conversion of producing wells to injection and the drilling of additional wells for injection 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 shall include the following:

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

(2) A schematic drawing of the proposed injection wells which fully describes the casing, tubing, perforated interval, and depth showing that the injection of water will be confined to the Grayburg and San Andres formations.

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

The Secretary-Director may approve the proposed injection wells 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.

RULE 12. Water injection into each injection well in the Project shall be through internally coated tubing set in a packer located as near as is practicable to the uppermost perforation or, in the case of an open hole completion, to the

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casing shoe; the casing-tubing annulus of each of said wells shall be loaded with an inert fluid and equipped with a pressure gauge at the surface, to facilitate detection of leakage in the casing, tubing, or packer.

RULE 13. Prior to placing any well on injection, a cement bond log shall be run on said well; also at any time the rods and/or tubing are pulled from any producing well in the Project, a cement bond log shall be run on said well. Copies of all cement bond logs shall be sent to the Hobbs district office of the Commission. If any well is found to have an inadequate casing-cement bond, such measures as may be necessary to prevent leakage or migration of fluids within the wellbore shall be taken before placing the well on injection or restoring it to production.

RULE 14. A casing leak survey in a manner approved by the Commission, shall be conducted on all wells in the Project once each calendar month. This survey shall be taken in accordance with a schedule agreed upon by the operators and the Hobbs district office of the Commission. A Commission representative shall witness the casing leak survey at least every other calendar month. Results of all casing leak surveys shall be filed with the Hobbs and Santa Fe offices of the Commission.

RULE 15. Surface injection pressures at the well head of all injection wells in the Project shall be kept low enough so that the surface injection pressure plus the hydrostatic head of the fluid currently being injected does not exceed 200 percent of the original bottomhole pressure of the Hobbs Grayburg-San Andres Pool, 1525 psig.

(5) That the subject secondary recovery project is hereby approved and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

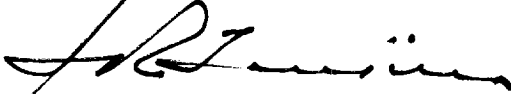
(6) That monthly progress reports of the project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member


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

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