

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. 10381*  
*ORDER NO. R-9582*

**APPLICATION OF YATES PETROLEUM  
CORPORATION FOR A PRESSURE MAINTENANCE  
PROJECT, LEA COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 5, 1991, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 13th day of September, 1991 the Division Director, having considered the testimony, the record and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

- (1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) At the time of the hearing MWJ Producing Company, an oil and gas operator within one mile of the subject pressure maintenance project, appeared at the hearing but offered no testimony.
- (3) The applicant, Yates Petroleum Corporation, seeks authority to institute a pressure maintenance project in its proposed Woodpecker "SY" State Lease comprising the N/2 of Section 21, Township 14 South, Range 33 East, NMPM, Lea County, New Mexico, by the injection of water into the Bough formation of the Saunders-Permo Upper Pennsylvanian Pool through the following four wells to be converted from producing oil wells to injection wells:

Well Number	Footage Location	Unit Letter	Perforated Injection Interval (feet)
1	660' FN & EL	A	9824 - 9932
4	660' FNL - 1980' FWL	C	9775 - 10061
5	1980' FN & EL	G	9782 - 9962
8	1980' FNL & 660' FWL	E	9817 - 9939

(4) Geological and engineering testimony indicates that the Bough formation to be utilized for injection consists of a fossiliferous limestone with vuggy porosity. The pool as a whole is an anticline structure. The production mechanism of the pool is from gas expansion with evidence of partial waterdrive.

(5) The secondary recovery operations proposed by the applicant should result in the additional recovery of approximately 130,728 stock tank barrels of oil, which represents a 12.2 percent increase over the estimated recovery of primary reserves within the same area, thereby preventing waste.

(6) Current production levels from the eight producing wells within the proposed unitized area are not in an advanced state of depletion and therefore cannot be classified as "stripper wells".

(7) Pursuant to General Rule 701.E, the proposed project should be classified as a pressure maintenance project and governed accordingly.

(8) The project allowable should be equal to top unit allowable for the Saunders-Permo Upper Pennsylvanian Pool times the number of developed (production or injection) proration units within the project area.

(9) The transfer of allowable between wells within the project area should be permitted.

(10) The applicant submitted data on the proposed injection wells, water wells in the area, and all other wells (including plugged wells) which penetrate the zone of interest within 1/2-mile of each of the proposed injection wells. This data shows that wells in the area are cased and plugged so as to protect fresh water and prevent fluid migration from the injection zone, and includes testimony indicating no evidence of open faults or any other hydrologic connection between the injection zone and the fresh water resources in the area.

(11) The operator should take all steps to ensure that the injected water enters only the proposed injection interval and is not permitted to escape into other formations or onto the surface from injection, production or plugged and abandoned wells.

(12) Injection into each well should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 100 feet above the uppermost perforation; the casing-tubing annulus in each well should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leaks in the casing, tubing or packer.

(13) The injection wells or pressurization system for each well should be so equipped as to limit injection pressure at the wellhead to no more than 1955 psi. Any additional increase in pressure on any of said wells should be permitted only after notice and hearing. Further, should it become necessary, the supervisor of the Hobbs District Office of the Division or the Director may order a decrease of the injection pressure on any of the above injection wells.

(14) Prior to commencing injection operations, the casing in each of the subject wells should be pressure tested throughout the interval, from the surface down to the proposed packer-setting depth, to assure integrity of such casing.

(15) The operator should give advance notice to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(16) Approval of the subject application is in the best interest of conservation and will not violate correlative rights; further the project should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Yates Petroleum Corporation, is hereby authorized to institute a pressure maintenance project on its Woodpecker "SY" State Lease by the injection of water into the Bough formation of the Saunders-Permo Upper Pennsylvanian Pool through the following four wells, which will be converted from producing oil wells to injection wells, all located in the N/2 of Section 21, Township 14 South, Range 33 East, NMPM, Lea County, New Mexico:

Well Number	Footage Location	Unit Letter	Perforated Injection Interval (feet)
1	660' FN & EL	A	9824 - 9932
4	660' FNL - 1980' FWL	C	9775 - 10061
5	1980' FN & EL	G	9782 - 9962
8	1980' FNL & 660' FWL	E	9817 - 9939

(2) The pressure maintenance project, hereby designated the Woodpecker "SY" State Lease Pressure Maintenance Project, shall be comprised of the following described area in Lea County, New Mexico:

TOWNSHIP 14 SOUTH, RANGE 33 EAST, NMPM  
Section 21: N/2

(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 Saunders-Permo Upper Pennsylvanian Pool times the number of proration units (producing or injection) within the project area.

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

(4) Injection into each well shall be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 100 feet above the uppermost perforation.

(5) The casing-tubing annulus in each injection well shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing or packer.

(6) Prior to commencing injection operations, the casing in each of the subject wells shall be pressure tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's Hobbs District Office.

(7) Each injection well or pressurization system for each well shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1955 psi.

(8) Any increase in the injection pressure on any of the said wells shall be permitted only after notice and hearing.

(9) The operator shall notify the supervisor of the Hobbs District Office of the Division in advance of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(10) The operator shall immediately notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing or packer, in either of said injection wells or the leakage of water or oil from any plugged and abandoned well within the project area and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(11) Should it become necessary, the supervisor of the Hobbs District Office of the Division or the Director may at any time order a decrease of the injection pressure on any of the subject injection wells.

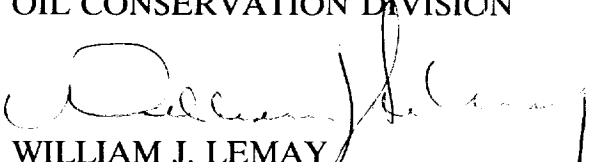
(12) Said pressure maintenance project shall be governed by the applicable provisions of Rules 701 through 708 of the Division Rules and Regulations.

(13) Monthly progress reports shall be submitted to the Division in accordance with Rules 706 and 1115.

(14) 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

  
WILLIAM J. LEMAY  
Director

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