

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. 11543
ORDER NO. R-10639

**APPLICATION OF PENROC OIL CORPORATION FOR A COOPERATIVE
LEASEHOLD WATERFLOOD PROJECT AND QUALIFICATION FOR THE
RECOVERED OIL TAX CREDIT PURSUANT TO THE "NEW MEXICO OIL
RECOVERY ACT", LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 30, 1996 at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 12th day of August, 1996 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) The applicant in this matter, Penroc Oil Corporation ("Penroc"), as the current operator of three certain State of New Mexico oil and gas leases in Sections 22 and 23, Township 10 South, Range 32 East, NMPM, Lea County, New Mexico: (a) the Harris State lease which, according to Division records, comprises the E/2 SW/4 and SE/4 of said Section 23; (b) the State "AD" lease which, according to Division records, comprises the E/2 of said Section 22 and the NE/4 of said Section 23; and, (c) the State "II" lease which, according to Division records, comprises the NW/4 and W/2 SW/4 of said Section 23, seeks authority to institute a cooperative leasehold waterflood project in the Mescalero-San Andres Pool within a portion of the three aforementioned leases comprising the following described 480 acres, more or less:

TOWNSHIP 10 SOUTH, RANGE 32 EAST, NMPM

Section 22: SE/4 NE/4 and SE/4

Section 23: SW/4 NW/4, SW/4, and W/2 NE/4.

(3) Penroc proposes to convert the following two wells located within the proposed project area into water injection wells and utilize the existing Mescalero-San Andres interval perforations in both wells:

(a) the State "AD" Well No. 2 (API No. 30-025-00024), located at a standard oil well location 3300 feet from the North line (1980 feet from the South line) and 660 feet from the East line (Unit I) of said Section 22, is a currently producing oil well with perforations from approximately 4,063 feet to 4,200 feet; and,

(b) the Harris State Well No. 4 (API No. 30-025-21394), located at a standard oil well location 990 feet from the South line and 2310 feet from the East line (Unit O) of said Section 23, is temporarily abandoned with perforations from approximately 4,176 feet to 4,260 feet.

(4) The applicant testified that cumulative primary oil recovery from the area encompassing the proposed project area has been in excess of 800,000 barrels.

(5) The Mescalero-San Andres oil production from the proposed project area can be considered to be in an advanced state of depletion and should therefore be properly classified as "stripper production".

(6) Based upon a geologic analysis of the project area and by analogy to its State "BN" Waterflood Project comprising the SW/4 of Section 14, Township 10 South, Range 32 East, NMPM, Lea County, New Mexico (approved by Division Order No. R-9353), Penroc testified that approximately 411,000 barrels of additional incremental oil production is expected to be recovered from the proposed project area by spending an estimated \$80,000.00 to convert the two wells and continuing to produce from the 8 currently producing wells.

(7) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil thereby preventing waste, exhibits sound engineering practices, is in the best interest of conservation, and will not impair correlative rights.

(8) The applicant submitted data on the proposed conversion of the two subject injection wells, water wells in the area, and all other wells (including plugged wells) which penetrate the zone of interest within the 1/2-mile "area-of-review" of the two subject 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.

(9) 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.

(10) Injection into each of the two wells should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set no higher than 100 feet above the top of the upper most 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.

(11) The injection wells or pressurization system for each well should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure at the wellhead to no more than 0.2 psi per foot of depth to the top most perforation.

(12) 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.

(13) 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.

(14) The subject application should be approved and the project should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(15) The applicant further requests that the subject waterflood project be approved by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(16) The evidence presented indicates that the subject waterflood project meets all the criteria for approval.

(17) The approved "project area" should be designated the "*State Harris-AD-II-23 Cooperative Leasehold Waterflood Project*" and is to comprise the 480 acres, more or less, as described above in Finding Paragraph No. (2).

(18) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(19) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(20) The injection authority granted herein for the proposed injection wells should terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Penroc Oil Corporation ("Penroc"), is hereby authorized to institute a waterflood project within portions of its Harris State, State "AD", and State "II" leases by converting the following two wells located in Township 10 South, Range 32 East, NMPM, Mescalero-San Andres Pool, Lea County, New Mexico into water injection wells and utilizing the existing perforated intervals in both wells:

(a) the State "AD" Well No. 2 (API No. 30-025-00024), located at a standard oil well location 3300 feet from the North line (1980 feet from the South line) and 660 feet from the East line (Unit I) of Section 22, is a currently producing oil well with perforations from approximately 4,063 feet to 4,200 feet; and,

(b) the Harris State Well No. 4 (API No. 30-025-21394), located at a standard oil well location 990 feet from the South line and 2310 feet from the East line (Unit O) of Section 23, is temporarily abandoned with perforations from approximately 4,176 feet to 4,260 feet.

(2) The waterflood project in the Mescalero-San Andres Pool is hereby designated the "*State Harris-AD-II-23 Cooperative Leasehold Waterflood Project*" and shall comprise the following described 480 acres, more or less, in Lea County, New Mexico:

TOWNSHIP 10 SOUTH, RANGE 32 EAST, NMPM

Section 22: SE/4 NE/4 and SE/4

Section 23: SW/4 NW/4, SW/4, and W/2 NE/4.

(3) Penroc, as operator, shall take all steps necessary to ensure that the injected water only enters and remains confined to 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.

(4) Injection shall be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(5) The Division Director shall have the authority to administratively authorize an increase in the injection pressure limitation placed upon any well upon a proper showing by the operator that such higher pressure will not result in the migration of the injected water from its respective interval or fracture the confining strata.

(6) Each injection well or respective pressurization system 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 810 psi. for the State "AD" Well No. 2 and 835 psi. for the Harris State Well No. 4.

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

(8) The applicant shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in either one of the

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 the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) 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.

(10) The operator of the State Harris-AD-II-23 Cooperative Leasehold Waterflood Project shall conduct injection operations in accordance with all applicable Division rules, regulations, and policies, including Division General Rules 701 through 708 and shall submit monthly progress reports in accordance with Division General Rules 706 and 1115.

IT IS FURTHER ORDERED THAT:

(11) The subject waterflood project is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(12) The approved "project area" shall be limited to that area described in Decretory Paragraph No. (2) above.

(13) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

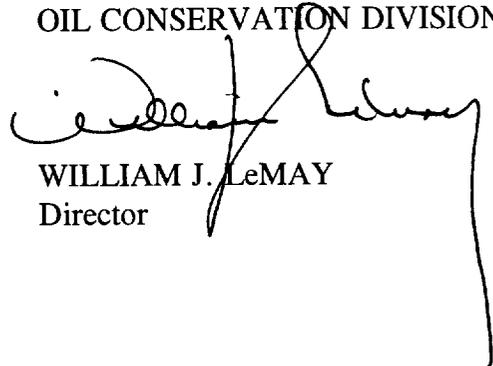
(14) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(15) The injection authority granted herein for the proposed injection wells shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(16) 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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