

**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. 10549
Order No. R-9741**

**APPLICATION OF GREENHILL PETROLEUM
CORPORATION FOR WATERFLOOD EXPANSION,
LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 17, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 13th day of October, 1992, 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) By Order No. R-3124 issued in Case No. 3467 on September 30, 1966, the Division authorized Skelly Oil Company to institute a waterflood project in the Lovington Paddock Unit located in portions of Townships 16 and 17 South, Ranges 36 and 37 East, NMPM, Lea County, New Mexico, by the injection of water into the Paddock formation, Lovington-Paddock Pool.

(3) The applicant, Greenhill Petroleum Corporation, successor operator of the Lovington Paddock Unit, seeks authority to expand its Lovington Paddock Unit Waterflood Project by converting its Lovington Paddock Unit Well Nos. 9 and 10, located, respectively, 660 feet from the South line and 1980 feet from the West line (Unit N) of Section 30 and 660 feet from the North line and 2440 feet from the East line (Unit B) of Section 31, both in Township 16 South, Range 37 East, NMPM, from producing oil wells to water injection wells.

(4) The applicant originally sought administrative approval of the proposed waterflood expansion; however, the subject application was docketed for hearing as a result of an objection received by the Division from R. J. Nelson, an offset operator to the Lovington Paddock Unit.

(5) Mr. Nelson did not appear at the hearing in opposition to the application.

(6) Approval of the application will allow the applicant to complete an efficient production and injection pattern within the Lovington Paddock Unit Waterflood Project.

(7) The proposed waterflood expansion should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(8) The application should be approved.

(9) The applicant 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.

(10) The injection of water into the Lovington Paddock Unit Well Nos. 9 and 10 should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations or casing shoe; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(11) Prior to commencing injection operations into the Lovington Paddock Unit Well Nos. 9 and 10, the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth to assure the integrity of such casing.

(12) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1221 psi.

(13) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(14) The operator should give advance notification 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 tests in order that the same may be witnessed.

(15) The operator should immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing, or packer in the subject wells and should take such steps as may be timely and necessary to correct such failure or leakage.

(16) The subject wells should be governed by all provisions contained within Division Order No. R-3124 and Rules 702 through 706 of the Division Rules and Regulations.

(17) The injection authority granted herein 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, Greenhill Petroleum Corporation, is hereby authorized to expand its Lovington Paddock Unit Waterflood Project by converting its Lovington Paddock Unit Well Nos. 9 and 10, located, respectively, 660 feet from the South line and 1980 feet from the West line (Unit N) of Section 30 and 660 feet from the North line and 2440 feet from the East line (Unit B) of Section 31, both in Township 16 South, Range 37 East, NMPM, from producing oil wells to water injection wells within the Lovington-Paddock Pool.

(2) The applicant shall 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.

(3) The injection of water into the Lovington Paddock Unit Well Nos. 9 and 10 shall be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforations or casing shoe; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) Prior to commencing injection operations into the Lovington Paddock Unit Well Nos. 9 and 10, the casing in each 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.

(5) The injection wells or pressurization system shall be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 1221 psi.

(6) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(7) The operator shall give advance notification 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 tests in order that the same may be witnessed.

(8) The operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing, or packer in the subject wells and shall take such steps as may be timely and necessary to correct such failure or leakage.

(9) The subject wells shall be governed by all provisions contained within Division Order No. R-3124 and Rules 702 through 706 of the Division Rules and Regulations.

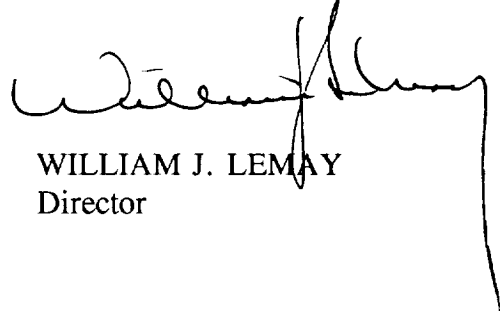
(10) The injection authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause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

(11) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

CASE NO. 10549
Order No. R-9741
Page -5-

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', with a long vertical line extending downwards from the end of the signature.

WILLIAM J. LEMAY
Director

S E A L