

**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. 11194
Order No. R-10448**

**APPLICATION OF GILLESPIE-CROW INC.
FOR APPROVAL OF A PRESSURE MAINTENANCE
PROJECT AND QUALIFICATION FOR THE
RECOVERED OIL TAX RATE PURSUANT TO
THE "NEW MEXICO ENHANCED 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 June 15, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 29th day of August, 1995, 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) Division Case Nos. 11194 and 11195 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Gillespie-Crow, Inc., seeks authority to institute a pressure maintenance project within its West Lovington Strawn Unit Area (being the subject of Division Case No. 11195) comprising the following described area in Lea County, New Mexico, by the injection of gas into the Strawn formation, West Lovington-Strawn Pool, through the perforated interval from approximately 11,424 feet to 11,434 feet in its Speight Fee Well No. 1 located 660 feet from the North line and 2310 feet from the West line (Unit C) of Section 1, Township 16 South, Range 35 East, NMPM:

TOWNSHIP 15 SOUTH, RANGE 35 EAST, NMPM

Section 33: All
Section 34: W/2

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM

Section 1: Lots 1 through 8

TOWNSHIP 16 SOUTH, RANGE 36 EAST, NMPM

Section 6: Lots 3 through 5

(4) The West Lovington-Strawn Pool was created by Division Order No. R-9722 on September 23, 1992. The pool was discovered by the Charles B. Gillespie, Jr. Hamilton Federal Well No. 1 located in Unit O of Section 33, Township 15 South, Range 35 East, NMPM.

(5) The West Lovington-Strawn Pool is nearly fully developed with eleven producing wells, all of which are operated by Gillespie-Crow, Inc.

(6) The engineering evidence presented by the applicant indicates that:

- a) the West Lovington-Strawn Pool is a solution gas-drive reservoir whose pressure has declined to the point that the reservoir is rapidly approaching critical gas saturation;
- b) additional decline in reservoir pressure will result in the release of additional gas from solution which will be mobile and will flow into wellbores. As this occurs, producing gas-oil ratios will rapidly increase, oil producing rates will decrease and the reservoir energy will rapidly dissipate. The premature dissipation of reservoir energy will result in reduced ultimate oil recoveries from the West Lovington-Strawn Pool; and,
- c) the applicant proposes to inject gas into a single well at the highest portion of the Strawn structure. As a result of this injection, a gas cap will be created and the depletion of reservoir energy will be slowed, thereby resulting in the recovery of additional oil from the reservoir.

(7) Applicant testified that the proposed pressure maintenance project should result in the recovery of an additional 1.6-2.3 million barrels of oil from the project area which may otherwise not be recovered, thereby preventing waste.

(8) Initial capital investment to initiate the proposed pressure maintenance project is projected to be approximately \$50,000.

(9) Testimony indicates that due to the nature of the reservoir, a single injection well located as proposed will enable the applicant to efficiently carry on the proposed pressure maintenance project.

(10) The proposed pressure maintenance project should be approved.

(11) The applicant submitted data on the proposed injection well, water wells in the area, and all other wells which penetrate the zone of interest within 1/2-mile of the proposed injection well. 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.

(12) The operator should take all steps necessary to ensure that the injected gas 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.

(13) The injection of gas into the proposed injection well should be accomplished through 2 7/8 inch tubing installed in a packer set at approximately 11,275 feet; 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.

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

(15) The injection well 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 2700 psi.

(16) 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.

(17) 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 test in order that the same may be witnessed.

(18) The proposed pressure maintenance project should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(19) The project allowable should be equal to top unit allowable for the West Lovington-Strawn Pool (445 barrels of oil per day) times the number of developed (production or injection) proration units within the project area. Unless additional producing or injection wells are drilled within the project area, the allowable should be established at 4,895 barrels of oil per day.

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

(21) The applicant further requested that the subject pressure maintenance 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).

(22) The evidence presented indicates that the subject pressure maintenance project meets all the criteria for approval.

(23) The approved "project area" should initially comprise the entire West Lovington Strawn Unit Area as described in Finding No. (3) above.

(24) 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.

(25) 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.

(26) The injection authority granted herein for the proposed injection well should terminate one year after the effective date of this order if the operator has not commenced injection operations into the well, 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, Gillespie-Crow, Inc., is hereby authorized to institute a pressure maintenance project within its West Lovington Strawn Unit Area comprising the following described area in Lea County, New Mexico, by the injection of gas into the Strawn formation, West Lovington-Strawn Pool, through the perforated interval from approximately 11,424 feet to 11,434 feet in its Speight Fee Well No. 1 located 660 feet from the North line and 2310 feet from the West line (Unit C) of Section 1, Township 16 South, Range 35 East, NMPM:

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(2) The operator shall take all steps necessary to ensure that the injected gas 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) Injection shall be accomplished through 2 7/8 inch tubing installed in a packer set at approximately 11,275 feet; the casing-tubing annulus shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(4) The injection well or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 2700 psi.

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

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

(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 test 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 injection well, the leakage of water, oil or gas from or around any producing well, or the leakage of water, oil or gas 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) The subject pressure maintenance project is hereby designated the West Lovington Strawn Unit Pressure Maintenance Project, and the operators shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

(10) The subject pressure maintenance 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).

(11) The approved "project area" shall initially comprise the entire West Lovington Strawn Unit Area as described in Finding No. (3) above.

(12) 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.

(13) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the operator 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.

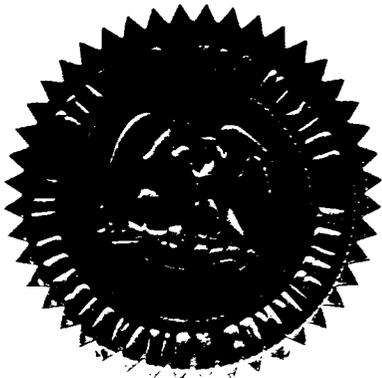
(14) The project allowable shall be equal to top unit allowable for the West Lovington-Strawn Pool (445 barrels of oil per day) times the number of developed (production or injection) proration units within the project area. Unless additional producing or injection wells are drilled within the project area, the allowable shall be established at 4,895 barrels of oil per day.

(15) The transfer of allowable between wells within the project area shall be permitted.

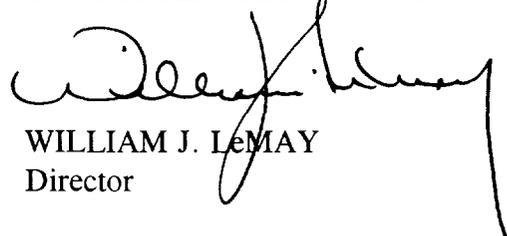
(16) The injection authority granted herein for the proposed injection well shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the well, provided however, the Division, upon written request by the operator, may grant an extension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

(17) 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