

**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. 9880  
Order No. R-9141**

**APPLICATION OF MERRION OIL & GAS  
CORPORATION FOR A WATERFLOOD PROJECT,  
MCKINLEY COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on March 7, and 21, 1990, at Santa Fe, New Mexico, before Examiners David R. Catanach and Michael E. Stogner, respectively.

NOW, on this 2nd day of April, 1990, 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-9090, dated December 21, 1989, the Division, upon the application of Merrion Oil & Gas Corporation, approved the Papers Wash Cooperative Unit, said unit consisting of 400 acres, more or less, and comprising the W/2 of Section 15 and the NE/4 SE/4 and SE/4 NE/4 of Section 16, Township 19 North, Range 5 West, NMPM, McKinley County, New Mexico.

(3) The applicant, Merrion Oil & Gas Corporation, seeks authority to institute a waterflood project within its Papers Wash Cooperative Unit as described above, by the injection of water into the Papers Wash-Entrada Oil Pool through the perforated interval from approximately 5142 feet to 5148 feet in its Navajo Allotted "15" Well No. 3 located 2310 feet from the South line and 2000 feet from the West line (Unit K) of Section 15, Township 19 North, Range 5 West, NMPM, McKinley County, New Mexico.

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**(4) The wells in the proposed project area are in an advanced state of depletion and should therefore be properly classified as "stripper wells".**

**(5) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.**

**(6) The evidence presented indicates that the native water within the Entrada formation in this area contains less than 10,000 milligrams per liter (mg/l) of total dissolved solids, and as such, is defined as fresh water in accordance with Division Rules and Regulations.**

**(7) In addition to the re-injection of produced Entrada water into the above-described Navajo Allotted "15" Well No. 3, the applicant proposes to also inject produced Mesaverde water originating from its Little Blue Federal Well No. 1 located in Unit E of said Section 15.**

**(8) According to evidence presented, the Mesaverde water originating from the Little Blue Federal Well No. 1 also contains less than 10,000 milligrams per liter (mg/l) of total dissolved solids.**

**(9) The applicant should be allowed to inject Mesaverde produced water as long as the concentration of total dissolved solids within said water remains less than 10,000 milligrams per liter (mg/l).**

**(10) The applicant should be required to conduct a water analysis on the Mesaverde water obtained from the Little Blue Federal Well No. 1 on a semi-annual basis and submit the results of said analysis to the Santa Fe and Aztec offices of the Division.**

**(11) The operator 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.**

**(12) The injection of water into the Navajo Allotted "15" Well No. 3 should be accomplished through internally plastic-lined tubing installed in a packer set at approximately 5100 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.**

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(13) Prior to commencing injection operations into the Navajo Allotted "15" Well No. 3, 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.

(14) The injection well or injection pressurization system should be so equipped as to limit injection pressure at the wellhead to no more than 1028 psi.

(15) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Entrada formation.

(16) The operator should give advanced notification to the supervisor of the Aztec 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.

(17) Prior to commencing injection operations into the Navajo Allotted "15" Well No. 3, the applicant should be required to obtain the appropriate Federal and/or Indian injection permits in accordance with the requirements set forth in 40 CFR Part 147.

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

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Merrion Oil & Gas Corporation, is hereby authorized to institute a waterflood project within its Papers Wash Cooperative Unit (as described in Finding No. (2) above), by the injection of water into the Papers Wash-Entrada Oil Pool through the perforated interval from approximately 5142 feet to 5148 feet in its Navajo Allotted "15" Well No. 3 located 2310 feet from the South line and 2000 feet from the West line (Unit K) of Section 15, Township 19 North, Range 5 West, NMPM, McKinley County, New Mexico.

(2) The applicant is further authorized to inject produced Entrada and Mesaverde water within said well provided that the concentration of total dissolved solids contained within the Mesaverde water remains below 10,000 milligrams per liter (mg/l).

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**(3) The applicant shall be required to conduct a water analysis on the injected Mesaverde water on a semi-annual basis and submit the results of said analysis to the Santa Fe and Aztec offices of the Division.**

**(4) The operator 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.**

**(5) The injection of water into the Navajo Allotted "15" Well No. 3 shall be accomplished through internally plastic-lined tubing installed in a packer set at approximately 5100 feet; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.**

**(6) Prior to commencing injection operations into the Navajo Allotted "15" Well No. 3, 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 injection well or injection pressurization system shall be so equipped as to limit injection pressure at the wellhead to no more than 1028 psi.**

**(8) The Director of the Division shall be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Entrada formation.**

**(9) The operator shall give advanced notification to the supervisor of the Aztec 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.**

**(10) The operator shall immediately notify the supervisor of the Division's Aztec district office of the failure of the tubing, casing, or packer in the Navajo Allotted "15" Well No. 3, the leakage of water or oil from or around any producing well, or the leakage of water or oil from or around 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.**

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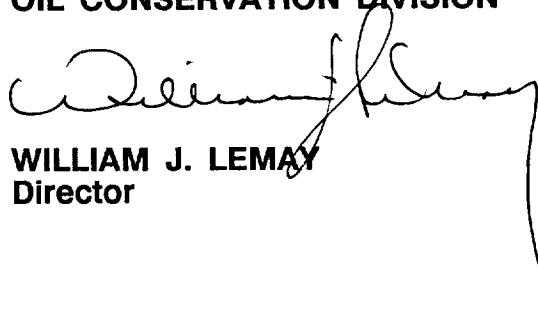
(11) The subject waterflood project is hereby designated the Papers Wash Cooperative Unit Waterflood Project and shall be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

(12) Monthly progress reports of the waterflood project herein authorized shall be submitted to the Division in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

(13) 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

A handwritten signature in black ink, appearing to read 'William J. Lemay', is written over the typed name and title. The signature is fluid and cursive, with a long, sweeping tail that extends downwards and to the right.

WILLIAM J. LEMAY  
Director

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