

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. 11826 (Reopened)
ORDER NO. R-4629-B

APPLICATION OF QUAY VALLEY, INC. TO REOPEN CASE NO. 11826 AND FOR AMENDMENT OF DIVISION ORDERS NO. R-4629 AND R-4629-A TO AUTHORIZE A TERTIARY RECOVERY PROJECT BY THE INJECTION OF MICROEMULSION IN ITS NORTH EL MAR-DELAWARE UNIT WATERFLOOD PROJECT AREA, AND TO QUALIFY THIS PROJECT 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 case came on for hearing at 8:15 a.m. on May 4, 2000, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this *20th* day of June, 2000, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) By Order No. R-4629-A issued in Case No. 11826 on November 5, 1997, the Division authorized Quay Valley, Inc. ("Quay Valley") to institute a tertiary recovery project in its North El Mar Unit Waterflood Project Area using combined water, carbon dioxide and produced gas (WAG) injection into the Delaware formation, El Mar-Delaware Pool, through the gross interval from approximately 4,450 feet to 4,765 feet through 31 injection wells located within Sections 24, 25, 26, 27, 34, 35 and 36, Township 26 South, Range 32 East, and Sections 30 and 31, Township 26 South, Range 33 East, NMPM, Lea County, New Mexico, all as shown on Exhibit "A" to Order No. R-4629-A. The North El Mar Unit Area comprises:

TOWNSHIP 26 SOUTH, RANGE 32 EAST, NMPM

- Section 24: S/2 SE/4
- Section 25: All
- Section 26: NE/4 NE/4, S/2 NE/4, SE/4 NW/4, S/2
- Section 27: SE/4 SE/4
- Section 34: N/2 NE/4, Lots 1 and 2
- Section 35: N/2 N/2, Lots 1 through 4
- Section 36: N/2 N/2, Lots 1 through 4

TOWNSHIP 26 SOUTH, RANGE 33 EAST, NMPM

- Section 19: SW/4 SW/4
- Section 30: NW/4 NW/4, S/2 NW/4, SW/4
- Section 31: E/2 NW/4, Lots 1 and 2

(3) The applicant, Quay Valley, seeks to amend Order No. R-4629-A to authorize the injection of microemulsion and water into the North El Mar Unit Area instead of water, carbon dioxide and produced gas.

(4) The applicant further seeks to qualify the project area for the recovered oil tax rate pursuant to the New Mexico Enhanced Oil Recovery ("EOR") Act, NMSA 1978, Sections 7-29A-1 through 7-29A-5.

(5) The applicant further seeks authority to inject microemulsion at a surface injection pressure of 1160 psi, which is approximately 270 psi above the maximum surface injection pressure normally approved by the Division for injection wells in this depth range.

(6) At the hearing, the applicant requested that the portion of the application seeking to inject microemulsion at a surface injection pressure of 1160 psi be dismissed.

(7) The applicant's evidence demonstrates that:

- (a) the North El Mar Unit is a voluntary unit formed in 1973, for the purpose of conducting waterflood operations in the El Mar-Delaware Pool. The North El Mar Unit Agreement and the North El Mar Unit Operating Agreement remain in effect at this time;

- (b) due to economics, carbon dioxide injection was never commenced within the North El Mar Unit subsequent to the issuance of Order No. R-4629-A;
- (c) the injection of microemulsion and water into the Delaware formation should result in an increase in oil recovery by surfactant-flooding the formation and by increasing the sweep efficiency within the injection interval;
- (d) the cost to implement microemulsion injection within the North El Mar Unit is estimated to be approximately \$4.5 million dollars;
- (e) as a result of implementing microemulsion injection, the applicant anticipates that it will recover an additional 3.7 million barrels of oil from the unit area at a value of approximately \$74 million dollars;
- (f) the applicant will utilize a five-spot injection pattern within the unit area, which will ultimately include 31 injection wells and 27 producing wells; and
- (g) the applicant anticipates that microemulsion injection will be fully implemented throughout the unit area within four to six months after commencement of injection operations.

(8) The applicant testified that it expects the proposed microemulsion tertiary recovery project to be at least as effective in recovering additional oil reserves from the North El Mar Unit as the previously approved water, carbon dioxide and produced gas injection.

(9) The proposed microemulsion injection represents a change in the process used for the displacement of oil in the Delaware formation.

(10) The evidence presented demonstrates that the proposed microemulsion tertiary recovery project within the North El Mar Unit should result in the recovery of additional oil and gas from the project area which may otherwise not be recovered, thereby preventing waste.

- (11) The application should be approved.
- (12) Pursuant to the provisions of Order No. R-4629-A, the injection authority for the 31 proposed injection wells has terminated.
- (13) The injection authority for the wells shown on Exhibit "A" to Order No. R-4629-A should be reinstated.
- (14) All injection wells or the pressurization system should be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 890 psi.
- (15) The evidence presented demonstrates that the proposed tertiary recovery project meets all the criteria for certification by the Division as a qualified EOR Project pursuant to the New Mexico Enhanced Oil Recovery Act, NMSA 1978, Sections 7-29A-1 through 7-29A-5.
- (16) The certified EOR project area should comprise the entire North El Mar Unit area; however, the EOR project area eligible for the recovered oil tax rate may be contracted based upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.
- (17) To be eligible for the recovered oil tax rate, the applicant should advise the Division when injection commences within the project area and request the Division certify the subject tertiary recovery project to the New Mexico Taxation and Revenue Department ("NMTRD")
- (18) At such time as a positive production response occurs from microemulsion injection and within five years from the date of certification to NMTRD, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area actually benefiting from tertiary recovery operations. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to NMTRD those lands and wells that are eligible for the recovered oil tax rate.
- (19) The injection authority reinstated herein for the 31 injection wells should terminate one year after the effective date of this order if the operator has not commenced injection operations into these wells; however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(20) All other provisions contained within Order No. R-4629-A not in conflict with the provisions contained herein should remain in full force and effect.

IT IS THEREFORE ORDERED THAT:

(1) The application of Quay Valley to amend Order No. R-4629-A is hereby approved.

(2) Quay Valley is hereby authorized to institute a tertiary recovery project in its North El Mar Unit by the injection of microemulsion and water into the Delaware formation, El Mar-Delaware Pool, through the gross interval from approximately 4,450 feet to 4,765 feet through 31 injection wells located within Sections 24, 25, 26, 27, 34, 35 and 36, Township 26 South, Range 32 East, and Sections 30 and 31, Township 26 South, Range 33 East, NMPM, Lea County, New Mexico, all as shown on Exhibit "A" to Order No. R-4629-A.

(3) All injection wells or the pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the surface injection pressure to no more than 890 psi.

(4) The subject tertiary recovery project is hereby certified as a qualified EOR Project pursuant to the New Mexico Enhanced Oil Recovery Act, NMSA 1978, Sections 7-29A-1 through 7-29A-5.

(5) The certified EOR project area shall comprise the entire North El Mar Unit area; however, the EOR project area eligible for the recovered oil tax rate may be contracted based upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

(6) To be eligible for the recovered oil tax rate, the applicant shall advise the Division when injection commences within the project area and request the Division certify the subject tertiary recovery project to the NMTRD.

(7) At such time as a positive production response occurs from microemulsion injection and within five years from the date of certification to NMTRD, the applicant must apply to the Division for certification of a positive production response. This application shall identify the area actually benefiting from tertiary recovery operations. The Division may review the application administratively or set it for hearing. Based upon the evidence presented, the Division will certify to NMTRD those lands and wells that are eligible for the recovered oil tax rate.

(8) The injection authority reinstated herein for the 31 injection wells shall terminate one year after the effective date of this order if the operator has not commenced injection operations into these wells; however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(9) All other provisions contained within Order No. R-4629-A not in conflict with the provisions contained herein shall remain in full force and effect.

(10) The portion of the Quay Valley's application seeking authority to inject microemulsion at a surface injection pressure of 1160 psi is hereby dismissed.

(11) Jurisdiction is hereby 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


LORI WROTENBERY
Director

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