

**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. 10619
Order No. R-9822**

**APPLICATION OF SIETE OIL AND GAS
COMPANY FOR APPROVAL OF A WATERFLOOD
PROJECT, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on December 3, 1992, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 6th day of January, 1993, 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. 10618 and 10619 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Siete Oil and Gas Company (Siete), seeks authority to institute a waterflood project in its Parkway Delaware Unit by the injection of water into the Delaware formation, Parkway-Delaware Pool, Eddy County, New Mexico, through the gross perforated and/or open hole interval from approximately 4,210 feet to a depth of 4,350 feet in five existing wells as shown on Exhibit "A" attached hereto.

(4) The applicant's Parkway Delaware Unit Area comprises some 920 acres in portions of Sections 26, 35 and 36, Township 19 South, Range 29 East, and portions of Section 2, Township 20 South, Range 29 East, NMPM, Eddy County, New Mexico.

(5) Within the Parkway-Delaware Pool there are three distinct and separate producing intervals identified by the applicant as the "A", "B" and "C" intervals. According to applicant's evidence, the "C" interval is the thickest, most permeable, most lateral continuous, and the most prolific producing interval within the Parkway-Delaware Pool. The applicant intends to initially flood the "C" interval and expand into the "A" and "B" intervals at a later time.

(6) In addition, in the initial stage of the waterflood project, the applicant intends to convert five wells to injection and drill an additional two injection wells. At a later time, according to testimony, the applicant intends to drill an additional seven injection wells.

(7) Within the Parkway Delaware Unit Area the applicant will utilize eighteen producing wells. According to evidence, testimony and data obtained from Division records, there are eight producing wells within the unit area which are currently capable of producing at or near top allowable (80 BOPD) for the Parkway-Delaware Pool. The remaining ten producing wells within the unit area currently produce at an average rate (January-October, 1992) of approximately 15 barrels of oil per day.

(8) The average production (January-October, 1992) from the eighteen producing wells to be utilized in the proposed project is approximately 43 barrels of oil per day.

(9) The water injection project, as described and proposed by the applicant, more closely resembles at this time a pressure maintenance project.

(10) The proposed water injection project should be classified as a pressure maintenance project and should be assigned a project allowable based upon a standard formula utilized by the Division.

(11) The project allowable should be equal to top unit allowable for the Parkway-Delaware Pool times the number of developed (production or injection) proration units within the subject project area.

(12) In addition, the transfer of allowables between wells within the project area should be permitted.

(13) The proposed pressure maintenance project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(14) 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.

(15) The injection of water into each of the wells shown on Exhibit "A" should be accomplished through 2 3/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; 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.

(16) According to applicant's evidence and testimony, there is one well within the "area of review" which may not be cemented adequately so as to confine the injected fluid to the proposed injection zone.

(17) Prior to commencing injection operations into the Apache "A" Federal Well No. 3, the applicant should be required to cement above, across and below the proposed injection interval in the Strata Production Company Petco State Com Well No. 1 located 760 feet from the South line and 660 feet from the East line (Unit P) of Section 26, Township 19 South, Range 29 East, NMPM, in a manner acceptable to the supervisor of the Division's Artesia District Office.

(18) Prior to commencing injection operations into the wells shown on Exhibit "A", 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.

(19) 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 842 psi.

(20) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (19) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(21) The operator should give advance notification to the supervisor of the Artesia District Office of the Division of the date and time of the conductance of remedial cement work on the Petco State Com Well No. 1, the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(22) 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.

(23) At the time of the hearing, the applicant 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).

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

(25) The approved "project area" should initially comprise the area approved for statutory unitization by Division Order No. R-9821, and described as follows:

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

Section 26: SW/4 SE/4

Section 35: N/2, SE/4, E/2 SW/4 and NW/4 SW/4

Section 36: W/2 W/2, SE/4 NW/4 and NE/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM

Section 2: NW/4 NE/4

(26) 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.

(27) 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.

IT IS THEREFORE ORDERED THAT:

(1) The application of Siete Oil and Gas Company for approval to institute a waterflood project in its Parkway Delaware Unit, Eddy County, New Mexico, is hereby denied.

(2) The application of Siete Oil and Gas Company for authority to institute a pressure maintenance project in its Parkway Delaware Unit by the injection of water into the Delaware formation, Parkway-Delaware Pool, Eddy County, New Mexico, through the gross perforated and/or open hole interval from approximately 4,210 feet to a depth of 4,350 feet in five existing wells as shown on Exhibit "A" attached hereto is hereby approved.

(3) 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.

(4) Injection into the wells shown on Exhibit "A" shall be accomplished through 2 3/8-inch 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 injection wells 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 842 psi.

(6) 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.

(7) Prior to commencing injection operations into the wells shown on Exhibit "A", 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.

(8) Prior to commencing injection operations into the Apache "A" Federal Well No. 3, the applicant shall cement above, across and below the proposed injection interval in the Strata Production Company Petco State Com Well No. 1 located 760 feet from the South line and 660 feet from the East line (Unit P) of Section 26, Township 19 South, Range 29 East, NMPM, in a manner acceptable to the supervisor of the Division's Artesia District Office.

(9) The operator shall give advance notification to the supervisor of the Artesia District Office of the Division of the date and time of the conductance of remedial cement operations on the Petco State Com Well No. 1, the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(10) The applicant shall immediately notify the supervisor of the Artesia District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells shown on Exhibit "A", 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.

(11) The project allowable shall be equal to top unit allowable for the Parkway-Delaware Pool times the number of developed (production or injection) proration units within the subject project area.

(12) In addition, the transfer of allowables between wells within the project area shall be permitted.

(13) The subject pressure maintenance project is hereby designated the Parkway Delaware Unit Pressure Maintenance Project, and the applicant 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.

(14) 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).

(15) The approved "project area" shall initially comprise the area approved for statutory unitization by Division Order No. R-9821, and described as follows:

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

Section 26: SW/4 SE/4

Section 35: N/2, SE/4, E/2 SW/4 and NW/4 SW/4

Section 36: W/2 W/2, SE/4 NW/4 and NE/4 SW/4

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM

Section 2: NW/4 NE/4

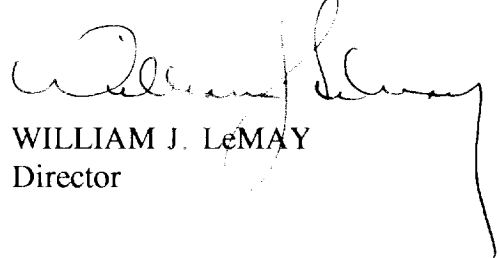
(16) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certification of EOR Project, which certificate will specify the proposed project area as described above.

(17) At such time as a positive production response occurs and within five years from the date of the Certification of EOR Project, 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.

(18) 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

S E A L

EXHIBIT "A"
DIVISION ORDER NO. R-9822
PARKWAY DELAWARE UNIT
APPROVED INJECTION WELLS

<i>Well No.</i>	<i>Location</i>	<i>Unit</i>	<i>S-T-R</i>	<i>Injection Perforations</i>	<i>Packer Depth</i>	<i>Tubing Size</i>	<i>Injection Pressure (PSIG)</i>
Apache "A" Federal No. 3	890' FNL - 990' FEL	A	35-19S-29E	4221' - 4239'	4170'	2 3/8"	842
Apache "A" Federal No. 4	990' FNL - 940' FWL	D	35-19S-29E	4210' - 4246'	4160'	2 3/8"	842
Osage Federal No. 5	1980' FSL - 760' FWL	L	35-19S-29E	4220' - 4300'	4170'	2 3/8"	842
Renegade Federal No. 3	2230' FNL - 760' FWL	E	35-19S-29E	4240' - 4310'	4190'	2 3/8"	842
Flathead State No. 1	330' FNL - 1650' FEL	B	2-20S-29E	4266' - 4350'	4215'	2 3/8"	842