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. 11848
Order No. R-10882

APPLICATION OF SANTA FE ENERGY RESOURCES, INC. FOR SALT WATER DISPOSAL, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on September 4, 1997, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 24th day of September, 1997, 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) The applicant, Santa Fe Energy Resources, Inc., seeks authority to utilize its Jones Canyon "4" Federal Well No. 2, located 1505 feet from the South line and 2381 feet from the East line (Unit J) of Section 4, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico, as a production/disposal well in the following manner:

> The well will be produced from the Cisco-Canyon formation, Indian Basin- Upper Pennsylvanian Associated Pool, through the perforated interval from approximately 7,950 feet to 8,300 feet. Separation of oil and water will be accomplished downhole by means of a hydrocyclone downhole separator. The oil stream will be pumped to the surface by means of a downhole production pump and water will be injected into the Devonian and Montoya formations at a depth of approximately 10,600 feet to 11,400 feet by means of a downhole injection pump.

(3) Evidence, testimony and information obtained from Division records indicate that the applicant drilled the Jones Canyon "4" Federal Well No. 2 in February, 1996, to a total depth of 8,565 feet. The well was cased and cemented as follows:

Casing Size	Setting Depth	Top of Cement
9 5/8"	1,600'	Circulated to Surface
7.0"	8,565'	Approximately 6,000'

(4) Due to water disposal limitations at its Indian Basin Central Battery, the applicant has yet to complete the aforesaid Jones Canyon "4" Federal Well No. 2 in the Indian Basin-Upper Pennsylvanian Associated Pool.

(5) The applicant proposes to deepen the Jones Canyon "4" Federal Well No. 2 to a total depth of approximately 11,400 feet and subsequently run a 4 ½ inch liner from a depth of approximately 8,500 feet to 11,300 feet. The applicant further proposes to cement the 4 ½ inch liner with 300 sacks, or a sufficient volume to circulate cement.

(6) Evidence and testimony presented indicates that wells within the Indian Basin-Upper Pennsylvanian Associated Pool typically produce at high water/oil ratios.

(7) The applicant currently utilizes submersible pumps in other producing wells which it operates in the Indian Basin-Upper Pennsylvanian Associated Pool. Applicant testified that due to the mechanical limitations of these submersible pumps, maximum fluid production from these wells is approximately 3,200 barrels per day (approximately 3,000 barrels of water and 100-200 barrels of oil per day).

(8) Utilizing the hydrocyclone downhole separator should allow the applicant to increase fluid production from the Cisco-Canyon reservoir to approximately 6,000 barrels per day, which should result in a significant increase in oil production.

(9) Applicant testified that the proposed hydrocyclone downhole separator should efficiently separate the oil and water in the production stream.

(10) Applicant further proposes to:

a) install the downhole pumps and separation equipment on 3 ½ inch internally plastic-coated tubing set in a polished bore receptacle and seal assembly at approximately 8,500 feet;

b) utilize downhole monitoring equipment to determine injection pressures and volumes; and,

c) inject fluid into the Devonian and Montoya formations at a maximum injection pressure of 5,800 psi (approximately 1,000 psi @ surface).

(11) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed production/disposal well.

(12) Prior to commencing production/injection operations, the casing and liner in the subject well should be pressure-tested throughout the interval from the surface down to total depth to assure the integrity of such casing.

(13) The pressurization system should be equipped or otherwise maintained so as to limit injection pressure into the Devonian and Montoya formations to no more than 5,800 psi (1000 psi @ surface).

(14) 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 fluid from the Devonian and Montoya formations.

(15) The operator should notify the supervisor of the Artesia district office of the Division of the date and time of the installation of production/disposal equipment and of the conductance of the mechanical integrity pressure test in order that the same may be witnessed.

(16) 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.

(17) The applicant should consult with the Santa Fe and Artesia offices of the Division to develop a plan for testing the mechanical integrity of the subject well at reasonable frequencies.

(18) Approval of the subject application will prevent the drilling of unnecessary wells and will otherwise prevent waste and protect correlative rights.

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

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Santa Fe Energy Resources, Inc., is hereby authorized to utilize its Jones Canyon "4" Federal Well No. 2, located 1505 feet from the South line and 2381 feet from the East line (Unit J) of Section 4, Township 22 South, Range 24 East, NMPM, Eddy County, New Mexico, as a production/disposal well in the following manner:

> The well will be produced from the Cisco-Canyon formation, Indian Basin Upper Pennsylvanian Associated Pool, through the perforated interval from approximately 7,950 feet to 8,300 feet. Separation of oil and water will be accomplished downhole by means of a hydrocyclone downhole separator. The oil stream will be pumped to the surface by means of a downhole production pump and water will be injected into the Devonian and Montoya formations at a depth of approximately 10,600 feet to 11,400 feet by means of a downhole injection pump.

PROVIDED HOWEVER THAT, the wellbore shall be deepened and equipped as proposed by the applicant at the time of the hearing. Any variation from the proposed wellbore configuration shall be submitted to the Santa Fe office of the Division for approval.

(2) Prior to commencing production/injection operations, the casing and liner in the subject well shall be pressure-tested throughout the interval from the surface down to total depth to assure the integrity of such casing.

(3) The pressurization system shall be equipped or otherwise maintained so as to limit injection pressure into the Devonian and Montoya formations to no more than 5,800 psi (1000 psi @ surface).

(4) 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 fluid from the Devonian and Montoya formations.

(5) The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of production/disposal equipment and of the conductance of the mechanical integrity pressure test in order that the same may be witnessed.

(6) 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.