

**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. 11470
CASE NO. 11470 (Reopened)
ORDER NO. R-10847**

**APPLICATION OF ENERGY DEVELOPMENT
CORPORATION FOR SALT WATER DISPOSAL
AND DESIGNATION OF A PORTION OF THE
MENELEE MEMBER OF THE MESAVERDE
FORMATION AS AN "EXEMPTED AQUIFER",
SANDOVAL COUNTY, NEW MEXICO.**

**APPLICATION OF PRIDE ENERGY COMPANY
TO REOPEN ENERGY DEVELOPMENT
CORPORATION'S CASE NO. 11470 FOR
SALT WATER DISPOSAL AND DESIGNATION
OF A PORTION OF THE MENELEE MEMBER
OF THE MESAVERDE FORMATION AS AN
"EXEMPTED AQUIFER", SANDOVAL COUNTY,
NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 21 and May 2, 1996, at Santa Fe, New Mexico, before Examiners David R. Catanach and Michael E. Stogner, respectively.

Reopened Case No. 11470 came on for hearing at 8:15 a.m. on March 6 and May 15, 1997, at Santa Fe, New Mexico, before Examiners Michael E. Stogner and David R. Catanach, respectively.

NOW, on this 23rd day of July, 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) Case No. 11470 was originally heard by the Division on March 21 and May 2, 1996. The applicant, Energy Development Corporation, sought authority to dispose of produced water into the Menefee member of the Mesaverde formation through perforations from 2,438 feet to 2,624 feet in its existing San Isidro (Shallow) Unit Well No. 7-11, located 2074 feet from the South line and 1650 feet from the West line (Unit K) of Section 7, Township 20 North, Range 2 West, NMPM, Sandoval County, New Mexico. Applicant further sought to designate a portion of the Menefee member of the Mesaverde formation underlying the W/2 E/2 and W/2 of Section 7, and the N/2 NW/4 of Section 18, Township 20 North, Range 2 West, and the E/2 E/2 of Section 12, Township 20 North, Range 3 West, NMPM, as an "Exempted Aquifer" pursuant to Division Rule No. 701.E. and applicable Federal Underground Injection Control Program Rules and Regulations, as contained within the Code of Federal Regulations, 40 CFR Parts 145 and 146, thereby enabling the injection of produced water, for purpose of disposal, into said interval.

(3) Case No. 11470 was taken under advisement by the Division on May 2, 1996.

(4) Pursuant to the Underground Injection Control Program Memorandum of Agreement executed between the State of New Mexico and the United States Environmental Protection Agency (USEPA), the Division submitted, on April 8, 1996, the record and evidence presented in Case No. 11470 to the USEPA for their approval of the proposed "Aquifer Exemption".

(5) In subsequent discussions, the USEPA informally informed the Division that the technical evidence presented in Case No. 11470 was insufficient to approve the proposed "Aquifer Exemption".

(6) Division records indicate that on February 3, 1997, Pride Energy Company assumed operations on the San Isidro (Shallow) Unit Well No. 7-11 from Energy Development Corporation.

(7) In February, 1997, Pride Energy Company requested authority to reopen Energy Development Corporation's Case No. 11470 in order to present additional technical evidence to support the proposed "Aquifer Exemption".

(8) Upon application of Pride Energy Company, Case No. 11470 was reopened and heard by the Division on March 6 and May 15, 1997. Pride Energy Company proposed no changes to Energy Development Corporation's original application, however, additional technical data was presented at the March 6, 1997 hearing to support the application.

(9) On April 30, 1997, the Division submitted the record and new technical evidence presented in reopened Case No. 11470 to the USEPA for approval of the proposed "Aquifer Exemption".

(10) By letter dated June 27, 1997, the USEPA approved the proposed "Aquifer Exemption" as requested by the Division.

(11) Pride Energy Company, being successor operator of the San Isidro (Shallow) Unit Well No. 7-11, should be substituted as applicant in Case No. 11470, and, Energy Development Corporation, having no interest in Case No. 11470 at the present time, should be dismissed as applicant.

(12) Pursuant to Division Rules and Regulations, "Underground Sources of Drinking Water" (USDW's) are defined as aquifers which supply water for human consumption or which contain ground water having total dissolved solids concentrations of 10,000 mg/l or less. Injection into such aquifers for purpose of produced water disposal is prohibited pursuant to Division Rule No. 701.E.

(13) An "Exempted Aquifer" is defined by the USEPA as an aquifer or portion thereof which meets the criteria in the definition of a USDW, but which by virtue of meeting certain criteria has been exempted from protection by produced water injection.

(14) An analysis of formation water obtained from the Menefee member of the Mesaverde formation within the San Isidro (Shallow) Unit Well No. 7-11 indicates a total dissolved solids concentration of 8,790 mg/l.

(15) Among the criteria to be met in approving an "Exempted Aquifer", as contained within CFR Part 146.4, are the following:

- a) It does not currently serve as a source of drinking water; and
- b) It cannot now and will not in the future serve as a source of drinking water because:

- 1) It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated by a permit applicant as part of a permit application for a Class II or III operation to contain mineral or hydrocarbons that considering their quantity and location are expected to be commercially producible;
 - 2) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technically impractical;
 - 3) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or
 - 4) It is located over a Class III mining area subject to subsidence or catastrophic collapse; or
- c) The total dissolved solids content of the ground water is more than 3,000 and less than 10,000 mg/l and is not reasonably expected to supply a public water system.

(16) The technical evidence presented by Pride Energy Company in this case indicates that the proposed "Aquifer Exemption" meets the following criteria for exemption:

Parts (a), (b)(1), (b)(2), (b)(3), and c) (As described in Finding No. (15) above.

(17) No offset operator and/or interest owner appeared at the hearing in opposition to the proposed disposal operations and proposed "Aquifer Exemption".

(18) The area described in Finding No. (2) above, which represents the area which will ultimately be affected by the proposed injection, is reasonable and should be adopted as the "Exempted Aquifer" area.

(19) Pride Energy Company should be authorized to utilize its San Isidro (Shallow) Unit Well No. 7-11 to dispose of produced water into the Menefee member of the Mesaverde formation as proposed.

(20) Injection should be accomplished through 2 7/8 inch ceramic-lined tubing installed in a packer located at approximately 2,350 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(21) Prior to commencing injection operations, the casing in the subject 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.

(22) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 488 psi.

(23) 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 Menefee member of the Mesaverde formation.

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

(25) 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.

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

(27) 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.

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IT IS THEREFORE ORDERED THAT:

(1) The applicant in Case No. 11470 (Reopened), Pride Energy Company, is hereby authorized to utilize its San Isidro (Shallow) Unit Well No. 7-11, located 2074 feet from the South line and 1650 feet from the West line (Unit K) of Section 7, Township 20 North, Range 2 West, NMPM, Sandoval County, New Mexico, to dispose of produced salt water into the Menefee member of the Mesaverde formation through the perforated interval from approximately 2,438 feet to 2,624 feet.

(2) The applicant in original Case No. 11470, Energy Development Corporation, is hereby dismissed as applicant in said case.

(3) Injection shall be accomplished through 2 7/8 inch ceramic-lined tubing installed in a packer set at approximately 2,350 feet; the casing-tubing annulus shall be filled with an inert fluid and a pressure gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) Prior to commencing injection operations, the casing in the subject 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.

(5) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 488 psi.

(6) 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 Menefee member of the Mesaverde formation.

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

(8) 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.

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(9) The operator shall immediately notify the supervisor of the Division's Aztec district office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(10) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702 through 706, 708 and 1120 of the Division Rules and Regulations.

(11) The injection authority granted herein shall 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.

(12) An "Exempted Aquifer" which comprises a portion of the Menefee member of the Mesaverde formation and horizontally comprises the following described area in Sandoval County, New Mexico, is hereby established:

TOWNSHIP 20 NORTH, RANGE 2 WEST, NMPM

Section 7: W/2 E/2, W/2

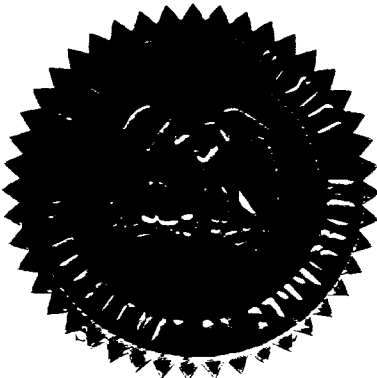
Section 18: N/2 NW/4

TOWNSHIP 20 NORTH, RANGE 3 WEST, NMPM

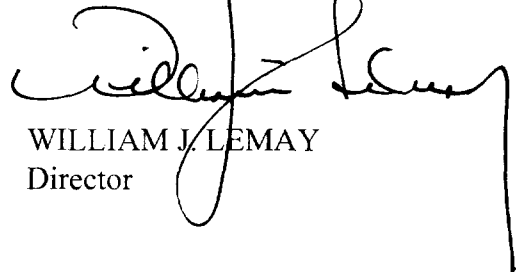
Section 12: E/2 E/2

(13) 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


WILLIAM J. LEMAY
Director