

**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. 11179  
Order No. R-10168-A**

**APPLICATION OF MERIDIAN OIL INC.  
FOR DESIGNATION OF A PORTION OF THE  
ENTRADA FORMATION AS AN "EXEMPTED  
AQUIFER", AND TO AMEND DIVISION  
ORDER NO. R-10168, RIO ARRIBA  
COUNTY, NEW MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This cause came on for hearing at 8:15 a.m. on January 5, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 28th day of March, 1995, 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 Oil Conservation Division of the Energy, Minerals and Natural Resources Department currently has "Primacy" to administer and enforce Federal Rules and Regulations pertaining to the "Underground Injection Control Program."

(3) 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 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.

(4) An "Exempted Aquifer" is defined by the United States Environmental Protection Agency (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.

(5) The applicant, Meridian Oil Inc. (Meridian), seeks to designate the Entrada formation underlying the following described area in Rio Arriba County, New Mexico, 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 (CFR) Parts 145 and 146, thereby enabling the injection of produced water, for purpose of disposal, into said formation:

TOWNSHIP 24 NORTH, RANGE 3 WEST, NMPM

Section 4: SW/4 SW/4  
Section 5: S/2  
Section 6: SE/4 SE/4  
Section 7: All  
Section 8: All  
Section 9: W/2 W/2  
Section 17: N/2 N/2  
Section 18: NE/4 NE/4

(6) By Order No. R-10168 issued in Case No. 11042 on August 25, 1994, the Division authorized Meridian Oil Inc. to drill its Jillson Federal SWD Well No. 1 located 2305 feet from the North line and 2415 feet from the West line (Unit F) of Section 8, Township 24 North, Range 3 West, NMPM, Rio Arriba County, New Mexico, for the purpose of disposing produced salt water into the Entrada formation through perforations from approximately 8,441 feet to 8,683 feet.

(7) The applicant further seeks to amend Division Order No. R-10168 by expanding the approved injection interval in the Jillson Federal SWD Well No. 1 to include the entire perforated interval from approximately 8,404 feet to 8,683 feet (all located within the Entrada formation).

(8) In conformance with Order No. R-10168, Meridian completed drilling operations on the Jillson Federal SWD Well No. 1 in November, 1994. Pursuant to Division Form C-108 requirements, Meridian obtained a formation water sample from the Entrada formation through perforations from 8,404 feet to 8,659 feet. An analysis of this formation water sample indicates that the Entrada formation in the vicinity of the Jillson Federal SWD Well No. 1 contains water having total dissolved solids concentrations of 7,730 mg/l.

(9) 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 well 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."

(10) Pursuant to the Underground Injection Control Program Memorandum of Agreement executed between the State of New Mexico and the United States Environmental Protection Agency, any proposed "Exempted Aquifer" must be approved by USEPA prior to state approval.

(11) Meridian appeared at the hearing and presented extensive technical evidence and testimony in support of its request.

(12) Subsequent to the hearing, the Oil Conservation Division formally submitted an "Exempted Aquifer" request to the Region VI Office (Dallas, Texas) of the USEPA. Included in the submittal was the technical evidence and testimony presented by Meridian as well as supplemental information supplied by the Division.

(13) On March 15, 1995, the USEPA approved the "Exempted Aquifer" request as proposed by the Division.

(14) Meridian demonstrated through its evidence and testimony that the water contained within the Entrada formation at this location is currently not being utilized and will not be utilized in the future as a source of drinking water for the following reasons:

- a) the depth of this water precludes the economic development of this resource;
- b) treatment needed to render this water fit for human consumption would also preclude the economic development of this resource;
- c) there are shallow sources of drinking water (less than 1100 feet) currently being utilized in this area.

(15) The area described in Finding No. (5) 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.

(16) The evidence and testimony presented in this case indicates that the proposed "Exempted Aquifer" meets the criteria for approval as described above, and should be granted.

(17) The proposed expansion of the approved injection interval as described above is reasonable and should be granted.

(18) Meridian should be authorized to utilize its Jillson Federal SWD Well No. 1 to dispose of produced salt water into the Entrada formation through the perforated interval from approximately 8,404 feet to 8,683 feet.

**IT IS THEREFORE ORDERED THAT:**

(1) An "Exempted Aquifer" which vertically comprises the Entrada formation and horizontally comprises the following described area in Rio Arriba County, New Mexico, is hereby established:

TOWNSHIP 24 NORTH, RANGE 3 WEST, NMPM

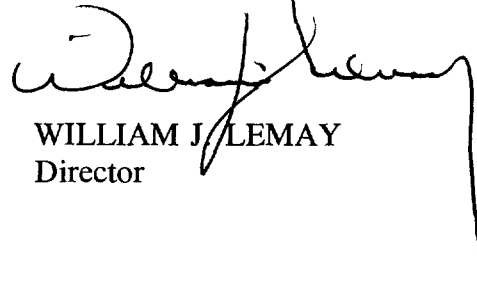
Section 4: SW/4 SW/4  
Section 5: S/2  
Section 6: SE/4 SE/4  
Section 7: All  
Section 8: All  
Section 9: W/2 W/2  
Section 17: N/2 N/2  
Section 18: NE/4 NE/4

(2) The applicant, Meridian Oil Inc, is hereby authorized to utilize its Jillson Federal SWD Well No. 1 located 2305 feet from the North line and 2415 feet from the West line (Unit F) of Section 8, Township 24 North, Range 3 West, NMPM, Rio Arriba County, New Mexico, to dispose of produced water into the Entrada formation through the perforated interval from approximately 8,404 feet to 8,683 feet (amended interval).

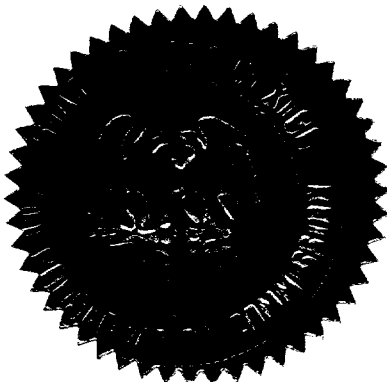
(3) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY  
Director



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