

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION

RECEIVED

APR 21 2004

Oil Conservation Division  
1220 S. St. Francis Drive  
Santa Fe, NM 87505

APPLICATION OF THE NEW MEXICO OIL CONSERVATION DIVISION  
THROUGH THE ENVIRONMENTAL BUREAU CHIEF, FOR ADOPTION OF  
AN AMENDMENT TO 19.15.1 NMAC ADDING NEW MATERIAL TO BE  
CODIFIED AT 19.15.1.21 NMAC.

CASE NO. 13269

AMENDED  
APPLICATION FOR RULE AMENDMENT

1. The Oil Conservation Division (Division) applies for an order amending 19.15.1 NMAC [General Provisions and Definitions] to add new material setting out special provisions applicable to the Chihuahuan desert area to protect groundwater and minimize surface contamination. The new material is to be codified at 19.15.1.21 NMAC.
2. The proposed rule defines the Chihuahuan desert area to include most of Sierra and Otero counties. The excluded areas of those counties are identified in the proposed rule.
3. The Chihuahuan desert area requires special groundwater protections. Known groundwater resources in the area, such as the Salt Basin, are substantial. Not all basins in the area have been studied. Portions of the aquifers in the area are highly vulnerable to contamination from surface discharges.
4. The Chihuahuan desert area also includes significant ecoregions, such as the remnant desert grasslands of the Otero Mesa and Nutt area, and important habitats for mule deer, pronghorn, and the aplamodo falcon.

5. To protect this unique and vulnerable area, Governor Richardson issued Executive Order 2004-05, directing the Division to “propose rules to prohibit pits associated with any oil and gas drilling at Otero Mesa...to protect the groundwater resources of Otero Mesa and the public health and environment,” and “propose regulations to implement produced water re-injection standards and controls to assure full protection of the groundwater resources of Otero Mesa.”

6. The proposed rule prohibits pits associated with oil and gas drilling in the Chihuahuan desert area. This prohibition will provide additional protection from surface contamination and groundwater contamination caused by leaks and spills.

7. The proposed rule imposes additional location, construction, operation and testing requirements on injection wells and related facilities used to dispose of produced water in the Chihuahuan desert area. These requirements, summarized below, strengthen existing rules to provide additional protection from surface contamination and groundwater contamination caused by leaks and spills:

a. Produced water injection wells will be permitted only after notice and hearing. (Existing rules allow permits to be issued administratively. 19.15.9.701 NMAC.)

b. The radius of the area of review (AOR) will be increased to provide an extra margin of safety. (Current practice is to require an AOR one-half mile. Permit applicants review wells within the AOR to identify any potential conduits for migration of fluid from the injection zone.)

c. Operators will file logs or tests demonstrating the vertical extent of fresh water aquifers. (This new requirement will help identify groundwater resources to be protected.)

d. Additional casing requirements are imposed on new injection wells and wells converted to injection, including the requirement that fresh water aquifers shall be isolated through their vertical extent with at least two cemented casing strings. (These casing requirements do not exist in current rules.)

e. Operators will run cement bond logs during construction of new injection wells, and demonstrate adequate and competent cementing of all casing strings on wells converted to injection. (These requirements do not exist in current rules.)

f. Produced water transportation lines will be constructed of double-walled pipe to protect against leaks. If single-walled pipe is used, the lines must be laid adjacent to existing or constructed roads, so that leaks will be easier to detect. (These requirements do not exist in current rules.)

g. Tanks will be placed on impermeable pads and surrounded by lined berms or other impermeable secondary containment device. (Current rules require berms around tanks only in certain locations. See 19.15.5.310 NMAC.)

h. Operators will record injection pressures and volumes daily. (The monthly reports required under current rules do not require records to be kept on a daily basis. See 19.15.13.1120 NMAC.)

i. Operators will perform mechanical integrity tests annually. (Existing rules require mechanical integrity tests every five years. 19.15.9.704 NMAC.)

8. A copy of the proposed amendment to 19.15.1 NMAC is attached as Exhibit A.

9. A draft advertisement for the proposed amendment is attached as Exhibit B.

WHEREFORE, the Environmental Bureau Chief of the Division hereby applies to the Commission to enter an order:

A. Amending 19.15.1 NMAC to add new material to be codified at 19.15.1.21 NMAC, as set forth in Exhibit A.

B. Granting such other and further relief as the Commission deems appropriate.

RESPECTFULLY SUBMITTED,



Gail MacQuesten  
Assistant General Counsel  
Energy, Minerals and Natural  
Resources Department of the State of  
New Mexico  
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(505) 476-3451  
Attorney for The New Mexico Oil  
Conservation Division

19.15.1.21 SPECIAL PROVISIONS FOR THE CHIHUAHUAN DESERT AREA.

A. The Chihuahuan desert area comprises:

(1) all of Sierra county except the area west of Range 8 West, NMPM and north of Township 18 South, NMPM; and

(2) all of Otero county except:

Township 12 South, Ranges 13 East through 16 East, NMPM;

Township 13 South, Ranges 11 East through 16 East, NMPM;

Township 14 South, Ranges 11 East through 16 East, NMPM;

Township 15 South, Ranges 11 East through 16 East, NMPM;

Township 16 South, Ranges 11 East through 15 East, NMPM;

Township 17 South, Ranges 11 East through 15 East, NMPM;

Township 18 South, Ranges 11 East through 15 East, NMPM;

Township 21 South, Range 19 East and Range 20 East, NMPM;

Township 22 South, Range 20 East, NMPM; and

The area bounded by Range 9 East, NMPM on the west, Township 9 South, NMPM on the north, Range 13 East, NMPM on the east, and Township 13 South, NMPM on the south.

B. The division shall not issue permits under 19.15.2.50 NMAC or 19.15.9.711 NMAC for pits located in the Chihuahuan desert area.

C. Produced water injection wells located in the Chihuahuan desert area are subject to the following requirements in addition to those set out in 19.15.9.701 NMAC through 19.15.9.710 NMAC:

(1) Permits shall be issued under 19.15.9.701 NMAC only after notice and hearing.

(2) The radius of the area of review shall be the greater of:

(a) one-half mile; or

(b) one and one-third times the radius of the zone of

endangering influence as calculated under Environmental Protection Agency regulation 40 CFR Part 146.6(a).

(3) Operators shall log or test to demonstrate the vertical extent of any fresh water aquifer(s) prior to using a new or existing well, and file the log or test results with the appropriate district office of the division.

(4) All fresh water aquifers shall be isolated throughout their vertical extent with at least two cemented casing strings. In addition,

(a) existing wells converted to injection shall have continuous, adequate cement from casing shoe to surface on the smallest diameter casing, and

(b) wells drilled for the purpose of injection shall have cement circulated continuously to surface on all casing strings, except the smallest diameter casing shall have cement raised to at least 100 feet above the casing shoe of the next larger diameter casing.

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

EXHIBIT No. A  
CASE \_\_\_\_\_

(5) Operators shall run cement bond logs acceptable to the division during new construction after each casing string is cemented, and file the logs with the appropriate district office of the division. For existing wells the operator proposes to convert to injection, the operator shall demonstrate to the division's satisfaction adequate and competent cementing of all casing strings.

(6) Produced water transportation lines that are not laid adjacent to existing or constructed roads shall be constructed of double-walled pipe.

(7) All tanks shall be placed on an impermeable pad and surrounded by lined berms or other impermeable secondary containment device of adequate capacity to contain leaks or spills.

(8) Operators shall record injection pressures and volumes daily, and make the record available to the division upon request.

(9) Operators shall perform a mechanical integrity test as described in Paragraph 2 of Subsection A of 19.15.9.704 NMAC annually, advise the appropriate district office of the division at least 24 hours prior to testing, and file the pressure chart with the appropriate district office of the division.

**Draft Advertisement**

The Oil Conservation Commission will consider a proposed amendment to 19.15.1 NMAC adopting a new section to be codified at 19.15.1.21 NMAC. The new section, which applies to the Chihuahuan desert areas of Otero and Sierra counties, New Mexico, prohibits the use of pits and imposes additional location, construction, operation and testing requirements on injection wells and related facilities used to dispose of produced water.

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

EXHIBIT No. B  
CASE \_\_\_\_\_

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION COMMISSION

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Oil Conservation Division  
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1. The Oil Conservation Division (Division) applies for an order amending 19.15.1 NMAC [General Provisions and Definitions] to add new material setting out special provisions applicable to the Chihuahuan desert area to protect groundwater and minimize surface contamination. The new material is to be codified at 19.15.1.21 NMAC.
2. The proposed rule defines the Chihuahuan desert area to include most of Sierra and Otero counties. The excluded areas of those counties are identified in the proposed rule by township and range.
3. The Chihuahuan desert area requires special groundwater protections. Known groundwater resources in the area, such as the Salt Basin, are substantial. Not all basins in the area have been studied. Portions of the aquifers in the area are highly vulnerable to contamination from surface discharges.
4. The Chihuahuan desert area also includes significant ecoregions, such as the remnant desert grasslands of the Otero Mesa and Nutt area, and important habitats for mule deer, pronghorn, and the aplamodo falcon.

5. To protect this unique and vulnerable area, Governor Richardson issued Executive Order 2004-05, directing the Division to “propose rules to prohibit pits associated with any oil and gas drilling at Otero Mesa...to protect the groundwater resources of Otero Mesa and the public health and environment,” and “propose regulations to implement produced water re-injection standards and controls to assure full protection of the groundwater resources of Otero Mesa.”

6. The proposed rule prohibits pits in the Chihuahuan desert area associated with oil and gas drilling. This prohibition will provide additional protection from surface contamination and groundwater contamination caused by leaks and spills.

7. The proposed rule imposes additional location, construction, operation and testing requirements on injection wells and related facilities used to dispose of produced water in the Chihuahuan desert area. These requirements, summarized below, strengthen existing rules to provide additional protection from surface contamination and groundwater contamination caused by leaks and spills:

a. Produced water injection wells will be permitted only after notice and hearing. (Existing rules allow permits to be issued administratively. 19.15.9.701 NMAC.)

b. Permits will limit the total volume of fluids that may be injected, so that the radius of influence does not exceed 75% of the area of review. (Currently, permits contain pressure restrictions but not volume restrictions. The volume restrictions imposed by the proposed rule are designed to ensure that injected fluids remain within the area of review.)

c. Operators will file logs or tests demonstrating the vertical extent of fresh water aquifers, and isolate those aquifers through their vertical extent with at least two casing strings. (These new requirements will help identify and protect groundwater resources.)

d. All casing strings will be cemented to the surface. (This requirement does not exist in current rules.)

e. Operators will run cement bond logs during new construction. (This requirement does not exist in current rules.)

f. Produced water transportation lines will be constructed of double walled pipe to protect against leaks. If single-walled pipe is used, the lines must be laid adjacent to existing or constructed roads, so that leaks will be easier to detect. (These requirements do not exist in current rules.)

g. Tanks will be placed on impermeable pads and surrounded by lined berms or other impermeable secondary containment device. (Current rules require berms around tanks only in certain locations. See 19.15.5.310 NMAC.)

h. Operators will record injection pressures and volumes daily. (The monthly reports required under current rules do not require records to be kept on a daily basis. See 19.15.13.1120 NMAC.)

i. Operators will perform mechanical integrity tests annually. (Existing rules require mechanical integrity tests every five years. 19.15.9.704 NMAC.)

8. A copy of the proposed amendment to 19.15.1 NMAC is attached as Exhibit A.

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B. Granting such other and further relief as the Commission deems appropriate.

RESPECTFULLY SUBMITTED,



Gail MacQuesten  
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Resources Department of the State of  
New Mexico  
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(505) 476-3451  
Attorney for The New Mexico Oil  
Conservation Division

19.15.1.21 SPECIAL PROVISIONS FOR THE CHIHUAHUAN DESERT AREA.

A. The Chihuahuan desert area comprises all of Otero and Sierra counties except:

Township 10 South, Ranges 5 West through 11 West, NMPM;

Township 11 South, Ranges 7 West through 11 West, and Range 11 East, NMPM;

Township 12 South, Ranges 7 West through 11 West, and Ranges 10 East through 16 East, NMPM;

Township 13 South, Ranges 7 West through 10 West, and Ranges 12 East through 16 East, NMPM;

Township 14 South, Ranges 7 West through 10 West, and Ranges 12 East through 16 East, NMPM;

Township 15 South, Ranges 7 West through 10 West, and Ranges 12 East through 16 East, NMPM;

Township 16 South, Range 8 West, Range 9 West, and Ranges 11 East through 15 East, NMPM;

Township 17 South, Range 8 West, Range 9 West, and Ranges 11 East through 15 East, NMPM;

Township 18 South, Range 8 West, Range 9 West, and Ranges 11 East through 14 East, NMPM;

Township 19 South, Range 8 West, Range 9 West, and Ranges 11 East through 13 East, NMPM;

Township 21 South, Range 19 East and Range 20 East, NMPM; and

Township 22 South, Range 19 East and Range 20 East, NMPM.

B. The division shall not issue permits under 19.15.2.50 NMAC or 19.15.9.711 NMAC for pits located in the Chihuahuan desert area.

C. Produced water injection wells located in the Chihuahuan desert area are subject to the following requirements in addition to those set out in 19.15.9.701 NMAC through 19.15.9.710 NMAC:

(1) Permits shall be issued under 19.15.9.701 NMAC only after notice and hearing.

(2) Permits shall limit the volume of fluids that may be injected so that the radius of influence does not exceed 75% of the area of review. The minimum area of review shall be one half mile.

(3) Operators shall log or test to demonstrate the vertical extent of any fresh water aquifer(s) prior to using a new or existing well, and file the log or test results with the appropriate district office of the division. Fresh water aquifers shall be isolated through their vertical extent with at least two casing strings.

(4) Casing strings in new or existing wells shall be cemented to the surface.

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
ocd EXHIBIT No. A  
CASE \_\_\_\_\_

(5) Operators shall run cement bond logs acceptable to the division during new construction after each casing string is cemented, and file the logs with the appropriate district office of the division.

(6) Produced water transportation lines that are not laid adjacent to existing or constructed roads shall be constructed of double-walled pipe.

(7) All tanks shall be placed on an impermeable pad and surrounded by lined berms or other impermeable secondary containment device of adequate capacity to contain leaks or spills.

(8) Operators shall record injection pressures and volumes daily, and make the record available to the division upon request.

(9) Operators shall perform a mechanical integrity test as described in Paragraph 2 of Subsection A of 19.15.9.704 NMAC annually, advise the appropriate district office of the division at least 24 hours prior to testing, and file the pressure chart with the appropriate district office of the division.

**Draft Advertisement**

The Oil Conservation Commission will consider a proposed amendment to 19.15.1 NMAC adopting a new section to be codified at 19.15.1.21 NMAC. The new section, which applies to the Chihuahuan desert areas of Otero and Sierra Counties, New Mexico, prohibits the use of pits and imposes additional location, construction, operation and testing requirements on injection wells and related facilities used to dispose of produced water.

BEFORE THE  
OIL CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO  
000 EXHIBIT No. 6  
CASE \_\_\_\_\_