

BOARD OF WATER AND NATURAL RESOURCES
STATE OF SOUTH DAKOTA

OIL AND GAS SPACING ORDER NO. 5-81

IN THE MATTER OF A HEARING CALLED BY THE BOARD OF WATER AND NATURAL RESOURCES, TO CONSIDER THE APPLICATION OF JERRY McCUTCHIN, JR., DALLAS, TEXAS, FOR AN ORDER DESIGNATING SPACING AND RULES FOR THE EAGLE SAND UNIT OF THE PIERRE FORMATION IN PORTIONS OF BUTTE AND HARDING COUNTIES, SOUTH DAKOTA.

ORDER OF THE BOARD

BY THE BOARD

Pursuant to legal notice this cause came on for hearing at 11:30 AM Friday, the 8th day of May, 1981, in the Kneip Building, Pierre, South Dakota, before the Board of Water and Natural Resources, hereinafter called "the Board".

Now, on this 8th day of May, 1981, the Board, a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being fully advised in the premises, finds and concludes as follows:

FINDINGS OF FACT:

1. Due, proper, and sufficient notice was published and given of this matter, the hearing thereon, as well as the purpose of said hearing; all parties were afforded an opportunity to present evidence.
2. The applicant requests spacing units and special rules for the production of natural gas from the Eagle sands of the Pierre Shale, underlying the following described lands in Butte and Harding Counties:

All lands not already covered by spacing orders
3. The evidence indicates that the Eagle sand unit of the Pierre Formation is a potential producer of natural gas and should be spaced on the basis of one gas well per 320 acre spacing unit to consist of the north half and the south half of each governmental section, with each well to be located only in the northwest quarter and the southeast quarter of each governmental section.
4. Applicant requests that wells be drilled not closer than 660 feet from the boundary of a spacing unit and not closer than 1875 feet from any well drilling to or capable of producing from the Eagle sand unit of the Pierre Formation.
5. Applicant also requests special field rules dealing with casing, cementing, tubing, wellhead connections, and pressure testing, as described in this order.
6. Granting the application will be in the interest of orderly development and conservation of oil and gas, and will serve to protect correlative rights.
7. No one appeared in opposition to the subject matter of the hearing.

CONCLUSIONS OF LAW

The Board concludes as a matter of law,

1. That the Board has jurisdiction over the subject matter of this hearing and over all parties interested therein and has authority to make and promulgate the order hereinafter set forth.
2. That adequate public notice has been given for this hearing.
3. That there is adequate justification for changing the spacing as requested.
4. That the application as herein stated should be granted.

ORDER

It is therefore ordered,

1. That 320 acre drilling and spacing units are hereby established for the following described lands in portions of Butte and Harding Counties, South Dakota:

All lands not already covered by spacing orders as follows:

Butte County

Township 11 - 14 North, Ranges 1 - 9 East

Harding County

Township 15 - 18 North, Range 1 - 9 East

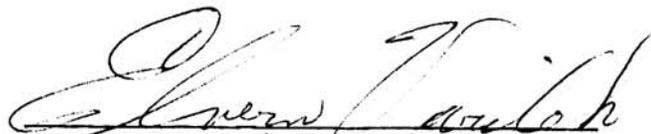
2. That all future wells drilled to the Eagle sand unit of the Pierre Formation in the above described areas shall be located only in the northwest quarter and the southeast quarter of each governmental section, and shall be drilled not closer than 660 feet from the boundary of a spacing unit and not closer than 1875 feet from any well drilling to or capable of production from the Eagle sand unit.
3. That the following special field rules, be and the same are hereby enacted and shall apply to the subsequent drilling and operations of wells in the above described areas of Butte and Harding Counties, South Dakota.
 - a. That the surface casing shall consist of new or reconditioned pipe that has been previously tested to at least one thousand (1,000) pounds per square inch. The casing shall be set and cemented at least twenty-five (25) feet below the base of any Fox Hills sandstone aquifer that is being utilized within a distance of half a mile from the well, but not less than sixty (60) feet below the surface of ground. Cementing shall be by the pump and plug method and sufficient cement shall be used to fill the annular space outside the pipe to the surface of the ground or the bottom of the cellar. Cement shall be allowed to stand a minimum of twelve (12) hours before drilling the plug or initiating tests.

- b. That the producing string shall be set below the top of the Eagle sand unit of the Pierre Formation. The string shall be tested by the application of at least fifteen hundred (1,500) pound per square inch pump pressure. If, at the end of thirty minutes, this pressure drops one hundred fifty (150) pounds per square inch or more, the string shall be repaired and again tested in the same manner. Further work shall not proceed until a satisfactory test has been obtained. Cementing shall be by the pump and plug method and not less than twenty-five (25) sacks of cement shall be used, and the cement shall be allowed to stand twelve (12) hours before drilling the plug or twenty-four (24) hours before initiating tests.
- c. That all wells shall be equipped with tubing and packer.
- d. That all christmas tree fittings and well head connections shall have a working pressure of at least one thousand five hundred (1,500) pounds per square inch or a test pressure rating of at least three thousand (3,000) pounds per square inch.
- e. That the reservoir pressure of all wells be determined annually, during the month of May. The results thereof shall be reported in writing to the Office of the State Geologist on or before the 25th day of the succeeding month. All pressure determinations shall be measured or adjusted to the sea level datum of the top of the producing formation and after the well has been shut in for a period of approximately forty-eight (48) hours. All reservoir pressure measurements shall be made by methods approved by the State Geologist.

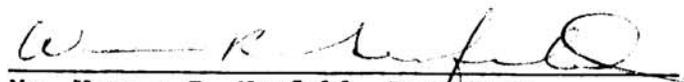
Full ^{4.}/_{8.} That this order shall cover all of the above described lands and shall continue in force indefinitely.

DONE at Pierre, South Dakota, this 8th day of May, 1981.

BOARD OF WATER AND NATURAL RESOURCES


Mr. Elvern Varilek, Chairman

I, Warren R. Neufeld, Secretary, Department of Water and Natural Resources, hereby certify that the above Oil and Gas Order No. 5-81 was adopted by the Board of Water and Natural Resources at a regular meeting, held May 8, 1981.


Mr. Warren R. Neufeld, Secretary
Department of Water and Natural Resources