

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF DEFINING BOUNDARIES  
OF POTENTIAL OIL PRODUCING AREAS IN  
EDDY AND LEA COUNTIES, NEW MEXICO,  
WITHIN WHICH POTASH MINERALS ARE BEING  
PRODUCED OR POTENTIAL POTASH PRODUCING  
LANDS ARE LOCATED,

CASE NO. 278  
ORDER NO. R-111

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission", on June 21, 1951, and for further hearing on July 10, 1951, and the Commission, a quorum being present, having considered the testimony adduced and the exhibits introduced in evidence and arguments presented and being fully advised in the premises,

FINDS:

(1) That due notice having been given, according to law, and all interested parties having appeared, the Commission has jurisdiction of this cause, and the subject matter thereof.

(2) That an area defining potential oil and gas reserves within which are proved and potential potash deposits, and the promulgation of rules and regulations for the orderly development of oil and gas resources in such an area known to be productive of potash is within the authority of the Commission for the protection of correlative rights, the promotion of conservation, and the prevention of waste.

IT IS THEREFORE ORDERED:

That this order shall be known as THE RULES AND REGULATIONS GOVERNING THE EXPLORATION AND PRODUCTION OF OIL AND GAS IN CERTAIN AREAS AND SUB-AREAS HEREIN DEFINED AND KNOWN TO CONTAIN PROVED AND SEMI-PROVED POTASH MINERALS IN THE AREA AND SUB-AREAS HEREINAFTER SET OUT.

I  
OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of Oil and Gas resources of New Mexico and permit the simultaneous economic recovery of potash minerals in the area hereinafter defined.

II  
THE POTASH-OIL AREAS

(1) These Rules and Regulations are applicable to oil and gas operations and to exploration for and production of oil and gas in proven or potential Potash-Oil areas herein as "Area A" and "Area B".

(a) The potash-oil area represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate potential potash reserves are located and is described, as follows:

T. 19S. R. 29E

Sec. 11 - SE/4  
Sec. 12 - S/2  
Sec. 13 and 14 - all  
Sec. 23 - N/2  
Sec. 24 - N/2

T. 20S. R. 29E

Sec. 12 - NE/4 SE/4 and S/2 SE/4  
Sec. 13 - NE/4 and S/2  
Sec. 22 to 27, inclusive  
Sec. 34 to 36, inclusive

T. 21 S. R. 29E

Sec. 1 and 2, all  
Sec. 3 - E/2  
Sec. 10 - E/2  
Sec. 11 to 14, inclusive  
Sec. 15 - E/2  
Sec. 23 - N/2  
Sec. 24 and 25 - all  
Sec. 35 - E/2  
Sec. 36 - all

T. 22S. R. 29E

Sec. 1 and 2 - all  
Sec. 3 - S/2  
Sec. 9 - E/2  
Sec. 10 to 16, inclusive  
Sec. 17 - E/2  
Sec. 20 - E/2  
Sec. 21 to 28, inclusive  
Sec. 33 to 36, inclusive

T. 23S. R. 29E

Sec. 1 to 3, inclusive  
Sec. 4 - E/2  
Sec. 9 - E/2  
Sec. 10 to 15, inclusive  
Sec. 22 to 27, inclusive  
Sec. 34 to 36, inclusive

T. 18S. R. 30E

Sec. 12-S/2  
Sec. 13 and 14 - all  
Sec. 15 - SE/4  
Sec. 21 - SE/4  
Sec. 22 to 24, inclusive  
Sec. 25 - W/2  
Sec. 26 to 28, inclusive  
Sec. 29 - SE/4

T. 18S. R. 30E

Sec. 32 - SW/4 and E/2

Sec. 33 and 34 - all

Sec. 35 - W/2

T. 19S. R. 30E

Sec. 2 to 5, inclusive

Sec. 6 - SE/4

Sec. 7 - NE/4 and S/2

Sec. 8 to 30, inclusive

Sec. 32 to 36, inclusive

T. 20S. R. 30E

Sec. 1 to 36, inclusive

T. 21S. R. 30E

Sec. 1 to 11, inclusive

Sec. 12 - S/2

Sec. 13 to 22, inclusive

Sec. 23, - N/2

Sec. 24 - N/2

Sec. 27 to 34, inclusive

Sec. 35 - S/2

T. 22S. R. 30E

Sec. 1 to 24, inclusive

Sec. 25 - W/2

Sec. 26 to 35, inclusive

Sec. 36 - W/2

T. 23S. R. 30E

Sec. 1 - S/2

Sec. 2 to 36, inclusive

T. 24S. R. 30E

Sec. 1 - N/2

Sec. 2 - N/2

Sec. 3 - N/2

T. 18S. R. 31E

Sec. 18 - W/2

T. 19S. R. 31E

Sec. 9 and 10 - all

Sec. 11 - W/2

Sec. 14 - W/2

Sec. 15 to 17, inclusive

Sec. 19 to 22, inclusive

Sec. 23 - W/2

Sec. 25 - S/2

Sec. 26 to 36, inclusive

T. 20S. R. 31E

Sec. 1 to 36, inclusive

T. 21S. R. 31E

Sec. 1 - N/2  
Sec. 2 - N/2  
Sec. 4 - W/2  
Sec. 5 and 6 - all  
Sec. 18 - S/2  
Sec. 19 - N/2

T. 22S. R. 31E

Sec. 4 to 9, inclusive  
Sec. 17 and 18 - all  
Sec. 19 - N/2

T. 23S. R. 31E

Sec. 7 - all  
Sec. 8 - S/2  
Sec. 16 - SW/4  
Sec. 17 to 20, inclusive  
Sec. 21 - W/2  
Sec. 28 to 33, inclusive

T. 24S. R. 31E

Sec. 4 to 6, inclusive

T. 19S. R. 32E

Sec. 23, S/2  
Sec. 24 to 27, inclusive  
Sec. 28 - S/2  
Sec. 31 - S/2  
Sec. 32 - S/2  
Sec. 33 to 36, inclusive

T. 20S. R. 32E

Sec. 1 to 36, inclusive

T. 21S. R. 32E

Sec. 1 to 17, inclusive  
Sec. 21 to 27, inclusive  
Sec. 35 and 36 - all

T. 19S. R. 33E

Sec. 19 - all  
Sec. 30 and 31 - all

T. 20S. R. 33E

Sec. 5 to 9, inclusive  
Sec. 15 to 23, inclusive  
Sec. 25 to 36, inclusive

T. 21S. R. 33E

Sec. 4 to 9, inclusive  
Sec. 16 to 21, inclusive  
Sec. 28 to 33, inclusive

T. 22S. R. 33E

Sec. 4 to 6, inclusive

T. 20S. R. 34E

Sec. 31 - all

(b) Area "A" represents the area in various parts of which potash mining operations are now in progress and is described, as follows:

T. 19S. R. 30E

Sec. 9 - SE/4 NW/4, E/2 SW/4, S/2 NE/4, SE/4  
Sec. 10 - SW/4 NW/4, W/2 SW/4  
Sec. 15 - NW/4 NW/4  
Sec. 16 - N/2 NE/4, NE/4 NW/4  
Sec. 26 - S/2 NW/4, SW/4 NE/4, W/2 SE/4, SW/4  
Sec. 27 - S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4, SE/4  
Sec. 28 - SE/4 SE/4  
Sec. 33 - SE/4 NW/4, NE/4 NE/4, S/2 NE/4, E/2 SW/4, SE/4  
Sec. 34 - all  
Sec. 35 - NW/4, W/2 NE/4, NW/4 SE/4, N/2 SW/4, SW/4 SW/4

T. 20S. R. 30E

Sec. 2 - W/2 NW/4, NW/4 SW/4  
Sec. 3 - N/2, SW/4, N/2 SE/4, SW/4 SE/4  
Sec. 4 - E/2, SW/4, E/2 NW/4, SW/4 NW/4  
Sec. 5 - SE/4 NE/4, E/2 SE/4, SW/4 SE/4, SE/4 SW/4  
Sec. 7 - SE/4 SE/4  
Sec. 8 - E/2, E/2 NW/4, E/2 SW/4, SW/4 SW/4  
Sec. 9 - N/2, SW/4, N/2 SE/4, SW/4, SE/4  
Sec. 10 - NW/4, W/2 NE/4, NW/4, NW/4 SE/4, N/2 SW/4  
Sec. 16 - N/2 NW/4, NW/4 NE/4  
Sec. 17 - W/2, N/2 NE/4, SW/4 NE/4, W/2 SE/4  
Sec. 18 - E/2 NE/4, E/2 SE/4  
Sec. 19 - NE/4 NE/4  
Sec. 20 - N/2 NW/4, NW/4 NE/4  
Sec. 25 - SW/4 SW/4  
Sec. 26 - SE/4 SW/4, S/2 SE/4  
Sec. 35 - E/2 NW/4, NE/4, N/2 SE/4, NE/4 SW/4  
Sec. 36 - W/2 NW/4, NW/4 SW/4

T. 21S. R. 29E

Sec. 1 - SE/4, S/2 NE/4, SE/4 NW/4, NE/4 SW/4, S/2 SW/4  
Sec. 2 - SE/4 SE/4  
Sec. 11 - NE/4 NE/4, S/2 NE/4, SE/4 NW/4, E/2 SW/4, SE/4  
Sec. 12 - all  
Sec. 13 - N/2, SE/4, N/2 SW/4, SE/4 SW/4  
Sec. 14 - E/2 NW/4, NE/4, NE/4 SW/4, N/2 SE/4  
Sec. 24 - NE/4 NW/4, N/2 NE/4  
Sec. 25 - SE/4 SW/4, S/2 SE/4  
Sec. 36 - E/2 NW/4, E/2 SW/4, E/2

T. 22S. R. 29E

Sec. 1 - E/2 NW/4, SW/4 NW/4, SW/4, E/2  
Sec. 2 - SE/4 NE/4, E/2 SE/4  
Sec. 11 - E/2 NE/4, NE/4 SE/4  
Sec. 12 N/2, N/2 SW/4, N/2 SE/4

T. 21S. R. 30E

Sec. 6 - SW/4 NW/4, W/2 SW/4  
Sec. 7 - NW/4 NW/4, S/2 NW/4, SW/4 NE/4, SW/4, W/2 SE/4  
Sec. 18 - NW/4, W/2 NE/4, N/2 SW/4, SW/4 SW/4, NW/4 SE/4  
Sec. 19 - NW/4 NW/4

T. 21S. R. 30E

Sec. 29 - SW/4 SW/4  
Sec. 30 - S/2 SW/4, S/2 SE/4  
Sec. 31 - all  
Sec. 32 - W/2 NW/4, W/2 SW/4

T. 22S. R. 30E

Sec. 5 - W/2 NW/4, NW/4 SW/4  
Sec. 6 - N/2, SW/4, N/2 SE/4, SW/4 SE/4  
Sec. 7 - N/2 NW/4, SW/4 NW/4, NW/4 NE/4, NW/4 SW/4

(c) Area "B" is defined as that area in which core tests indicate potential potash reserves and includes the entire potash-oil area as described under "The Potash-Oil Areas" Sec. (1) (a), of this order, except and excluding lands defined and described as area "A" in "The Potash-Oil Areas, "Sec. (1) (b) of this order.

(2) Area "A" and "B" as hereinabove defined may be contracted or expanded by the Commission from time to time as circumstances or conditions may warrant, after due notice and hearing.

III  
EXPLORATION OF AREAS

(1) Area "A"

(a) Drilling of oil and gas exploratory test wells shall not be permitted in Area "A" except upon leases outstanding as of the effective date of these regulations, provided, that oil and gas exploratory test wells shall not be drilled through any open potash mines or within 1,320 feet thereof unless agreed to in writing by the potash lessee involved.

(b) Any oil or gas leases hereafter issued for lands within Area "A" shall be subject to these regulations.

(c) All future drilling of oil and gas exploratory test wells in Area "A" shall be further subject to these rules and regulations.

(d) Where oil and gas wells are in production in Area "A", no potash mine opening shall be driven to within less than 100 feet of such wells so that protection of both wells and mine can be afforded.

(e) Proposals to unitize with respect to land within Area "A", as herein defined and described, will be considered on their merits.

(2) Area "B"

(a) Oil and gas exploratory test wells may be drilled in Area "B" in accordance with these rules and regulations.

(3) Upon the discovery hereafter of oil and gas in Areas "A" or "B", the Oil Conservation Commission shall promulgate field or pool rules for the affected area after due notice and hearing.

(4) Nothing herein shall be construed to prevent unitization agreements involving lands in Areas "A" or "B", or both.

IV  
DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of oil and gas exploratory test wells, shallow and deep zones are defined, as follows:

(a) The shallow zone shall include all formations above the base of the Delaware sand or above a depth of 5,000 feet, whichever is the lesser.

(b) The deep zone shall include all formations below the base of the Delaware sand or below a depth of 5,000 feet, whichever is the lesser.

(2) Surface Casing String:

(a) A Surface casing string of new, second-hand, or reconditioned pipe shall be set in the "Red Bed" section of the Basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations and shall be cemented with not less than one hundred and fifty percent (150) percent of calculated volume necessary to circulate cement to the ground surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new, second-hand, or reconditioned pipe shall be set not less than one hundred (100) feet nor more than two hundred (200) feet below the base of the salt section.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be recemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section IV (5), (a), (i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature or gamma ray survey and additional cementing shall be done until the cement is brought to the point required.

(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with three (3 percent) percent of calcium chloride by weight of cement.

(e) Centralizers shall be spaced on at least every one hundred fifty (150) feet of the salt protection string below the surface casing string.

(f) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four hours (24) before drilling the plug or initiating tests.

(g) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(h) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section IV (3), (b), (i) and (ii) above.

(4) Intermediate String:

(a) In the drilling of oil and gas exploratory test wells to the deep zone, an intermediate string shall be set at sufficient depth to case-off all formations in the shallow zone and shall be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections IV (3), (c), (f) and (g) for the salt protection string.



(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

(i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that is, no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-sections IV (3) (c), (f) and (g) for the salt protection string.

V

DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

VI

PLUGGING AND ABANDONMENT OF WELLS

All wells heretofor and hereafter drilled within Areas "A" and "B" shall be plugged in a manner that will provide a solid cement plug through the salt section and prevent liquids or gases from entering the hole above or below the salt section.

VII

LOCATIONS FOR TEST WELLS

Before drilling for oil or gas on lands in Areas "A" or "B", a map or plat showing the location of the proposed well shall be prepared by the well operator and copy sent by registered mail to the potash lessee involved, if any. Upon proper showing of such notice and if no objection to the location of the proposed well is made by the potash lessee within ten days, a drilling permit may be issued and the work may proceed. If, however, the location of the proposed well is objected to by the potash lessee on the grounds that the location of the well is not in accordance with the foregoing regulations, the potash lessee may file a written objection within ten days for consideration and decision by the Oil Conservation Commission.

VIII

INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of the potash lessee may be present during drilling, cementing, casing, and plugging of all oil or gas wells on his lease to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

IX

FILING OF WELL AND MINE SURVEYS

Each oil and gas lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to the potash lessees involved certified directional surveys from the surface to a point below the lowest known potash-bearing horizon for each oil or gas well drilled in Area "A" during the preceding calendar year. Each potash lessee shall furnish not later than January 31st of each year to the Oil Conservation Commission and to each oil and gas lessee involved, certified plat of survey of the location of open mine workings underlying outstanding oil and gas leases.

X

APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Commission governing the development, operation, and production of oil and gas in the State of New Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

XI

ADOPTION

The foregoing Rules and Regulations are hereby adopted by the Oil Conservation Commission and adopted, ratified and confirmed by the Commissioner of Public Lands of the State of New Mexico this \_\_\_\_\_ Day of November, 1951.

DONE at Santa Fe, New Mexico this 9th day of November, 1951.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

GUY SHEPARD, Member

R. R. SPURRIER, Secretary

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GUY SHEPARD  
Commissioner of Public Lands