

Entered January 12, 1982  
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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO ON ITS OWN  
MOTION FOR THE PURPOSE OF CONSIDERING  
THE AMENDMENT OF RULE 112-A AND RULE 303-C  
OF THE OIL CONSERVATION DIVISION RULES AND  
REGULATIONS AND THE AMENDMENT OF DIVISION  
FORM C-107:

CASE NO. 7434  
Order No. R-6882

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at Santa Fe, New Mexico on December 3 and 22, 1981, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 12th day of January, 1982, the Commission, a quorum being present, having considered the testimony presented and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the multiple completion of any oil or gas well in New Mexico is prohibited except after approval of the Oil Conservation Division (Division) after notice and hearing or after administrative approval granted under provisions of Division Rule 112-A.
- (3) That the multiple completion of wells is a standard industry practice with 200 or more such completions annually.
- (4) That as a result of limitations contained in said Rule 112-A, approximately half of all applications for multiple completion must presently be set for hearing.
- (5) Experience has shown that most of the applications now set for public hearing could be processed administratively and without notice to offset operators without posing a risk of contributing to waste nor causing violation of correlative rights.

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(6) That the proposed amendment to Division Rule 112-A as shown on Exhibit "A" attached to this order, contains administrative approval processes which will permit most applications for multiple completion to be approved without notice and hearing, provided that certain "standard" downhole equipment is utilized and that volumes of liquids which would be wasteful of reservoir energy are not proposed for production through a casing-tubing annulus.

(7) That said amendment also contains proposals for hearings for certain multiple completions and for the operation and testing of approved multiple completions.

(8) That in order to effectuate the proposed administrative processes, Division Form C-107, Application for Multiple Completion, should be amended as shown on Exhibit "B" attached to this Order.

(9) That the proposed amended Rule 112-A and Form C-107 should be adopted effective February 1, 1982.

(10) That the Division Rule 303-A prohibits the commingling of production from separate common sources of supply (pools) within the wellbore of any oil or gas well except after notice and hearing.

(11) That Division Rule 303-C provides an administrative procedure to permit the commingling within a common wellbore of production from separate oil pools under certain conditions.

(12) That in recent years the Division has heard many applications for downhole commingling of gas pools and gas pools and oil pools.

(13) That many such applications have been approved and that certain standards for approval and operation of such wells have been developed.

(14) That such standards are incorporated in the proposed amendment of Division Rule 303-C, as shown on Exhibit "C" to this Order, which further contains an administrative procedure for approval of the downhole commingling of production from oil pools, gas pools, and oil and gas pools.

(15) That adoption of the proposed amended Rule 303-C should permit more efficient industry and Division operations, should permit more economic well operations and longer well life thereby achieving greater ultimate production thereby preventing waste, all without violation of correlative rights.

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(16) That effective February 1, 1982, Division Rule 303-C should be amended as shown on Exhibit "C" attached to this Order.

(17) That adoption of the proposed rule amendments and revised Division Form C-107 will serve to prevent waste and will not violate correlative rights.

IT IS THEREFORE ORDERED:

(1) That effective February 1, 1982, Division Rule 112-A is hereby revised to read in its entirety as shown on Exhibit "A" attached to this Order.

(2) That effective February 1, 1982, Division Form C-107, Application for Multiple Completion, is hereby revised as shown on Exhibit "B" attached to this Order.

(3) That effective February 1, 1982, Division Rule 303-C is hereby revised to read in its entirety as shown on Exhibit "C" attached to this Order.

(4) That jurisdiction of this cause is 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 COMMISSION

  
EMERY C. ARNOLD, Chairman

ALEX J. ARMIJO, Member

  
JOE D. RAMEY, Member & Secretary

S E A L

## RULE 112-A. MULTIPLE COMPLETIONS

I. The multiple completion of any well may be permitted only as hereinafter provided. Multiple completion of any well without prior approval by the Division shall be solely at the operator's risk and shall in no way commit the Division to subsequent approval thereof.

### II. District Approval

The supervisor of the appropriate Division district may authorize the multiple completion (qualifying conventional, tubingless, or combination) whenever the zones to be completed are to be produced through tubing or through casing where such casing has an outside diameter of 2.875 inches or less. The supervisor may authorize one gas zone to be produced through a casing-tubing annulus if such zone produces no more than one barrel of liquids per day.

To obtain approval for multiple completion the operator shall file four copies of Division Form C-107 (Application for Multiple Completion) with the appropriate district office. Form C-107 shall be accompanied by a diagrammatic sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location of packers, side door chokes, and such other information as may be pertinent.

The district supervisor may forward any application to the Director of the Division for approval.

### III. Administrative Approval (Division Director)

The Division Director may authorize the multiple completion (qualifying conventional, tubingless, or combination) not qualifying for District approval or referred to him by the District supervisor.

When any gas zone of a proposed multiple completion is to be produced through a casing-tubing annulus and such zone produces more than one barrel per day of liquids, the applicant shall furnish proof that such liquids may be efficiently produced without undue use of reservoir energy for the expected producing life of the well.

Application for administrative approval of a multiple completion shall be made in QUADRUPLICATE, with two copies of the application to be mailed to the Division's Santa Fe Office, and two copies to the District Office for the area in which the

well is located. Application shall be made on the Division Form C-107 (Application for Multiple Completion) and shall be accompanied by the following:

- (a) Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location of packers, side door chokes, and such other information as may be pertinent.
- (b) Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as hereinafter provided.)

Upon receipt of a complete application the Division Director may approve the matter administratively or he may set any such application for public hearing.

#### IV. Qualifying Multiple Completions

The following defines those mechanical installations qualifying for District or Administrative approval of multiple completion.

- (a) The applicant proposes to utilize one of the conventional mechanical installations described below:
  - (1) The well is to be completed as a gas-gas dual or as a gas-gas-gas triple and the hydrocarbons from each of the zones can be safely and efficiently produced through parallel strings of tubing or a combination of tubing string(s) and the tubing-casing annulus; or
  - (2) The well is to be completed as an oil-oil dual or as an oil-oil-oil triple and the hydrocarbons from each of the zones can be safely and efficiently produced through parallel strings of tubing; or
  - (3) The well is to be completed as a combination oil and gas multiple completion and the hydrocarbons from each oil zone can be

safely and efficiently produced through parallel strings of tubing and the hydrocarbons from each gas zone can be safely and efficiently produced through parallel string(s) of tubing or through a combination of tubing and the tubing-casing annulus; and

- (4) All strings of tubing used for the production of oil in the proposed multiple completion will have a nominal inside diameter of not less than 1.670 inches nor greater than 2.50 inches; and
  - (5) The downhole equipment used to segregate the separate zones of the multiple completion will be production-type packer(s), polished bore receptacles, or the equivalent, and shall effectively prevent communication between all producing zones.
- (b) The applicant proposes to employ one of the following tubingless and/or combination methods of completion:
- (1) Multiple Completion (Tubingless) utilizing two or more small diameter casing strings (2.875 inches OD or less), one to each common source of supply, all cemented in a common well-bore; or
  - (2) Multiple Completion (Combination) utilizing a combination of small diameter (2.875 inches OD or less) and conventional diameter (greater than 2.875 inches) casing strings, all cemented in a common well-bore; and demonstrates that
  - (3) Sufficient cement will be used in said multiple completion to extend throughout each pay and a minimum of 100 feet above; and
  - (4) Centralizers and/or turbolizers will be installed on each joint of casing throughout each pay and on a minimum of three joints above; and
  - (5) Directional perforating equipment will be used in perforating all intervals in any casing string in said multiple completion

which intervals are in a zone through which one or more other casing strings pass.

The requirements of paragraphs (3) and (4) may be modified for multiple completions within given common sources of supply and within a given area if, in the opinion of the Division Director, circumstances warrant such modification.

#### V. Hearings

- (a) Any multiple completion not qualifying for district or administrative approval must be set for public hearing.
- (b) Application for public hearing to authorize a multiple completion shall be made in TRIPLICATE to the Division's Santa Fe Office. Application may be made in accordance with Rule 1203 or on the Division Form C-107, Application for Multiple Completion, setting forth all material facts relative to the common sources of supply involved and the manner and method of completion proposed.

#### VI. Operation and Testing

All multiple completions, whether approved after hearing or by district or administrative procedure, shall be subject to the following rules:

- (a) Prior to actual multiple completion of a well, the operator shall make adequate pressure tests of the casing to determine that no casing leaks exist. Results of casing tests shall be reported to the Division on Form C-103.
- (b) The well shall be completed and thereafter produced in such a manner that there will be no commingling of hydrocarbons from the separate strata.
- (c) The operator shall commence a segregation test and/or packer leakage test not later than fifteen (15) days after actual multiple completion of the well. Segregation tests and/or packer leakage tests shall also be made any time the packer is disturbed and at such other intervals as the Division may prescribe. The Operator shall also make all other tests and determinations deemed necessary by the Division. The Division shall be notified of the time such tests are to be commenced and tests may be witnessed by the

Division at its election. Representatives of offset operators may witness such tests at their election and shall advise the producer in writing if they desire to be notified when such tests are to be conducted. Results of such tests shall be filed with the Division within fifteen (15) days after the completion of tests; provided, however, that in the event a segregation test or packer leakage test indicates that there is communication between the separate strata, the operator shall immediately notify the Division and commence remedial action on the well.

- (d) The well shall be so equipped that reservoir pressures may be determined for each of the separate strata and further be so equipped that meters may be installed and the gas, oil and gas, and oil produced from each of the separate strata may be accurately measured, and the gas-oil ratio or the gas-liquid ratio thereof determined.
- (e) Within 20 days after the completion of the well, the operator shall furnish the Division with a diagrammatic sketch of the mechanical installation which was actually used in completing the well together with a report of the gravity, gas-oil ratio or gas-liquid ratio, and surface or bottomhole pressure for each of the separate zones, and the log of the well if the same has not been previously submitted.
- (f) No multiple completion may continue to produce in a manner which is unnecessarily wasteful of reservoir energy.
- (g) The Division may require the proper plugging of any abandoned zone of a multiply completed well if such plugging appears necessary to prevent waste or protect correlative rights.



APPLICATION FOR MULTIPLE COMPLETION

Operator	County	Date		
Address	Lease	Well No.		
Location of Well	Unit	Section	Township	Range

All Applicants for multiple completion must complete Items 1 and 2 below.

1. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation			
b. Top and Bottom of Pay Section (Perforations)			
c. Type of production (Oil or Gas)			
d. Method of Production (Flowing or Artificial Lift)			
e. Daily Production <input type="checkbox"/> Actual <input type="checkbox"/> Estimated Oil Bbls. Gas MCF Water Bbls.			

2. The following must be attached:

- Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

(This space for State Use)

Approved By \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

EXHIBIT "B"  
Order No. R-6882

RULE 303 C. DOWNHOLE COMMINGLING

1. The Director of the Division shall have the authority to grant an exception to Rule 303-A to permit the commingling in the well-bore of oil-oil, gas-gas, or gas-oil zones in a well when the following facts exist and the following conditions are met:

(a) For wells involving oil zones:

- (1) The total combined daily oil production from oil zones before commingling (as determined in accordance with Section 2, paragraphs (d) and (e) below) does not exceed the following:

<u>Bottom perforation,</u> <u>lowermost pool</u>	<u>Bbls/day oil</u>
Less than 4,999 feet	20
5,000 feet to 5,999 feet	30
6,000 feet to 6,999 feet	40
7,000 feet to 7,999 feet	50
8,000 feet to 8,999 feet	60
9,000 feet to 9,999 feet	70
More than 10,000 feet	80

- (2) Oil zones require artificial lift, or, both zones are capable of flowing. (Special consideration may be given to an exception to this latter requirement in the case in which a particular well's characteristics may justify same; however, the commingled production must be artificially lifted if either zone required artificial lift prior to commingling.)
- (3) Neither zone produces more water than the combined oil limit as determined in paragraph (1) above.
- (4) The fluids from each zone are compatible with the fluids from the other, and combining the fluids will not result in the formation of precipitates which might damage either reservoir.
- (5) The total value of the crude will not be reduced by commingling.

- (6) Ownership of the zones to be commingled is common (including working interest, royalty, and overriding royalty).
- (7) The commingling will not jeopardize the efficiency of present or future secondary recovery operations in either of the zones to be commingled.

(b) For Wells Involving a Gas Zone:

- (1) That the commingling is necessary to permit a zone or zones to be produced which would not otherwise be economically producible.
  - (2) That there will be no crossflow between the zones to be commingled.
  - (3) That any zone which is producing from fluid-sensitive sands, which may be subject to damage from water or other produced liquids, is protected from contact from such liquids produced from other zones in the well.
  - (4) The fluids from each zone are compatible with the fluids from the other(s), and combining the fluids will not result in the formation of precipitates which might damage any of the reservoirs.
  - (5) That ownership of the zones to be commingled is common (including working interest, royalty, and overriding royalty).
  - (6) The bottom hole pressure of the lower pressure zone is not less than 50 percent of the bottom hole pressure of the higher pressure zone adjusted to a common datum.
2. To obtain approval for downhole commingling, the operator of the well shall submit the following in duplicate to the Division Director plus one copy to the appropriate District Office of the Division.
- (a) Name and address of the operator.
  - (b) Lease name, well number, well location, name of the pools to be commingled.

- (c) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.
- (d) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas, and water produced from each zone.
- (e) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)
- (f) Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottom-hole pressure for each zone capable of flowing.
- (g) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.
- (h) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.
- (i) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.
- (j) A statement that all offset operators and, in the case of a well on Federal land, the United States Geological Survey, have been notified in writing of the proposed commingling.

3. The Division Director may approve the proposed downhole commingling in the absence of a valid objection within 20 days after the receipt of the application if, in his opinion, there is no disqualifying disparity of bottomhole pressures of other reservoir characteristics, waste will not result thereby, and correlative rights will not be violated. The 20-day waiting

period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Section 2, paragraph (j).

4. Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order. The production from a well with commingled oil zones shall be subject to the lower of the daily gas-oil ratio limitations applicable to the reservoirs. The production attributable to an oil zone commingled with a gas zone shall be subject to the daily gas-oil ratio limitation applicable to such oil zone or pool. Wells shall be tested on a commingled basis annually, except that a well penalized for a high gas-oil ratio shall be tested semi-annually.

5. The Division Director may rescind authority to commingle production in the well-bore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby or the efficiency of any secondary recovery project is being impaired, or if any change of conditions renders the installation no longer eligible for downhole commingling under the provisions of Section 1(a) or 1(b).