RECOMMENDATIONS
CASE 1034

CHANGES IN RULE 112

RULE 112 (c) 1st paragraph.

The Secretary of the Commission shall have authority to grant an exception to the requirements of Paragraph (a) above without notice and hearing where application has been filed in due approved form and when the lowermost producing zone involved in the dual completion is an oil or gas producing zone within the defined limits of an oil or gas pool, and the upper producing zone involved in the dual completion is a gas producing zone within the defined limits of a gas pool, except in Rio Arriba, San Juan and Sandoval Counties, the Secretary of the Commission shall have authority to grant an exception to Paragraph (a) above without notice and hearing where application has been filed in ~~due~~ approved form and when the lowermost producing zone involved in the dual completion is a gas producing zone, and the upper producing zone involved in the dual completion is a gas producing zone in which both upper and lower zones have been recognized by the Commission as separate productive horizons prior to the application for permission to dually complete a well.

OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

CASE 1034

This is a case called on the Commission's own motion to revise Rule 112 to establish procedures for granting Dual Completions in gas producing zones of San Juan Basin, New Mexico, without necessity of hearing or administrative approval.

The present Rule 112 makes a hearing mandatory for any dual completion, except that, administrative approval may be obtained when certain conditions are met. These are:

1. The upper zone is in the defined limits of a gas pool.
2. The lower zone is in the defined limits of an oil or gas pool.
3. The operator has written approval from all offset operators, or
4. After 10 days from receipt of application when all offset operators have been notified and none object.

The Commission's staff believes that certain changes in the rule, which would cause a savings of time, labor, and expense, are desirable; and that the minimum requirements for a rule change should provide for preliminary approval of dual completions by the District Supervisor when the following conditions are met:

1. When the well is being dualled in certain specified formations as provided for in the order, even though they are not in designated pools.
2. When the well is mechanically dualled by certain specified types of mechanical methods as provided for in the order.
3. When certain specified packer leakage tests have been submitted after completions which proves no communication between the zones.

DISCUSSION OF ABOVE PROVISIONS

PARAGRAPH 1

There are certain zones in the San Juan Basin which can be dually completed successfully and with as much safety as is possible. There are also cases when a formation could be economically produced only by dualling.

There are some formations which produce liquids in such volumes that cannot be lifted by the low velocities existing in annular flow. If such a completion cannot be properly tested or produced then it could conceivably not be a problem to the Commission. If, however, the well is large enough to enable the operator to clear the liquids and make an accurate deliverability test, but will not keep the wellbore clear under normal producing conditions, then the well will accumulate underage and could become a problem for the Commission. This raises the question as to whether this type of dual completion should be permitted.

PARAGRAPH 2

There are certain mechanical types of dual completions which are acceptable to the industry and the Commission for gas-gas and gas-oil duals. These are:

1. Tubing - annulus flow
2. Tubing - tubing flow
3. Tubing - annulus flow with a bleeder string in the annulus for clearing the well of liquids.

PARAGRAPH 3

Proof of formation separation can be proven by shutting in both zones for a specified period (probably 7 days) and then producing the low pressure side at a rate above normal while checking the pressure on the high pressure side at certain intervals. A stable or increasing pressure after temperature stabilization in the wellbore will prove separation of the zones.

This packer leakage test should be accomplished:

1. At the time of completion.
2. After workover which involves operations in the wellbore.
3. Following any and all chemical treatments.
4. At any time surface indicators might indicate packer failure.
5. At least once each year, possibly in conjunction with the annual deliverability test.

When all of the above three conditions are met there is virtually no doubt that the completion would be approved administratively or after hearing. Therefore a waiting period, approval of offsets, or a hearing seems unnecessary and a waste of time, labor and money.

Such clarification would properly advise the operator as to the types of dual completions he may use which are acceptable to the Commission. It would also avoid the possibility of putting the Commission in the position of having to disapprove a completion which has already been made; and which the operator may not have made, had he known its approval would have been questionable.

April 16, 1956

FINDINGS OF THE DUAL COMPLETION PRACTICES SUB-COMMITTEE OF THE SAN JUAN BASIN SUB-COMMITTEE OF THE NEW MEXICO OIL AND GAS ENGINEERING COMMITTEE

The Executive Committee of the San Juan Basin Sub-Committee of the New Mexico Engineering Committee requested that the dual completion Sub-Committee study the following problems concerning dual completions in the San Juan Basin Area:

I. Determine rules under which approval could be given the operator administratively to Dual Complete the well without Notice and Hearing.
II. Determine Proper Packer Test.
III. Minimum Requirements of Mechanical Installations.

Conclusions of the Sub-Committee concerning these problems are as follows:

I. Determine rules under which approval could be given the operator administratively to Dual Complete the well without Notice and Hearing.

Because of the stratagraphic control in the majority of San Juan Basin Fields, pay development in many cases can not be predicted in advance to allow due notice and hearing for dual completion prior to drilling of the well. Many such pay zones are not of sufficient economic importance to justify drilling of separate wells and under these conditions allowing of dual completion will serve conservation.

Road conditions and the isolation of many well locations in the San Juan Basin places an undue hardship on the operator in requiring due notice and hearing because of the resultant delay which would require moving in a rig for dual completion, whereas if prompt approval could be granted, the drilling rig could be used for this work.

The San Juan Basin is a typical sedimentary basin and known Cretaceous productive formations may be correlated over large distances; therefore, correlative rights will be protected and waste prevented with allowance of dual completion in areas outside pool limits between previously defined productive formations.

It is, therefore, the conclusion of this Sub-Committee that conservation will be served and correlative rights protected through addition to State-Wide Rule 112-A as follows:

(C-1) The District Supervisor of Commission shall have authority to grant an exception to the requirements of Paragraph (a) Rule 112-A without notice and hearing for wells located in the San Juan Basin area of Sandoval, San Juan and Rio Arriba Counties, where application has been filed in due form and when the lowermost producing zone involved in the dual completion is an oil or gas producing zone, and the upper producing zone involved in dual completion is a gas producing zone in which both zones are of Cretaceous age and have previously been recognized by the Commission as separate productive horizons.

Consideration was given to oil-oil dual completion; however, it was the conclusion of the committee that such completions would not present unique problems to the San Juan Basin and would, therefore, not be within the scope of this Sub-Committee.

II. Determine Proper Packer Test.

It is the conclusion of the Sub-Committee that State-Wide Rule 304, Control of Multiple Completed Wells, adequately covers packer tests. However, because of the long period for pressure stabilization of many San Juan Basin productive zones and the non-corrosive nature of the well fluids of Upper Cretaceous zones, administration of Rule 304 will require special procedures for the San Juan Basin.

It is the conclusion of this Sub-Committee that the following procedure will determine the effectiveness of the segregation in multiple completed wells.

1. Packer leakage test will be required upon completion, and after remedial well work or chemical treatment which would effect the packer seal and at any time as deemed necessary by the District Supervisor of the Commission.

2. Both zones will be shut-in for a minimum of 7 days and the shut-in pressures recorded.

3. For gas-gas completions, produce zone with the highest shut-in pressure at rates equal to or greater than the maximum anticipated producing rate. For gas-oil completions, the oil zone will be produced at rates equal to or greater than the maximum anticipated producing rate.

4. Producing period will be of at least 3 hours duration and pressures of both zones will be recorded at regular intervals during the flow period.

5. All pressures will be measured with a dead weight gauge.

6. For gas-oil completions, the oil zone will be shut-in until stabilized or for a period of at least 24 hours in the event stabilization is not obtained in less than 24 hours.

7. Flow gas zone in gas-oil completion repeating steps No. 3, 4 and 5.

8. Packer leakage will be shown by pressure decline on shut-in zone during flow test.

III. Minimum Requirements of Mechanical Installations.

While dual completion experience in the San Juan Basin has been limited, a large number of dual completions have been made in other areas. Experience of Sub-Committee members in these areas leads to the conclusion that there are numerous mechanical means of effectively segregating multiple horizons in dually completed wells. For this reason we conclude that mechanical limitations are not desireable provided the two zones are effectively segregated as determined by packer leakage test.