

Case No.

1034

Application, Transcript,
Small Exhibits, Etc.

CASE 1034: OIL CONSERVATION COMMISSION
Rules & Regulations in Granting Dual
Completions in San Juan Basin Area, San
Juan and Rio Arriba Counties

BEFORE THE
Oil Conservation Commission

SANTA FE, NEW MEXICO

March 14, 1956

IN THE MATTER OF:

CASE NO. 1034

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES

COURT REPORTERS

605 SIMMS BUILDING

TELEPHONE 3-6691

ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 14, 1956

IN THE MATTER OF: :

Application of the Oil Conservation Commission :
upon its own motion for an order promulgating :
rules and regulations governing the dual com- :
pletion of gas wells in the San Juan Basin Area :
of Sandoval, San Juan and Rio Arriba Counties, :
New Mexico. The Commission, in the above-styled :
cause, seeks an order establishing rules and :
procedures to be followed in the granting of :
dual completions in the San Juan Basin Area of : Case No. 1034
New Mexico in Sandoval, San Juan and Rio Arriba :
Counties under the provisions of Rule 112 of :
the Commission's Rules and Regulations, said :
dual completions to be restricted to the dual :
completion and production of gas from gas pro- :
ducing zones in the San Juan Basin. :

BEFORE:

Honorable John F. Simms, Jr.
Mr. E. S. (Johnny) Walker
Mr. William B. Macey

TRANSCRIPT OF HEARING

MR. MACEY: The next case on the docket is Case 1034.

MR. KITTS: If it please the Commission, the Commission Staff requests that this be continued until the Commission Staff and operator has a chance to study this further.

MR. MACEY: Does anyone have any statement to make in this case? We will continue Case 1034 until the regular hearing April 24th.

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

I, THURMAN J. MOODY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission is a true and correct record to the best of my knowledge, skill and ability.

WITNESS MY HAND, this, the 26th day of March, A. D., 1956.


Court Reporter

BEFORE THE
Oil Conservation Commission
SANTA FE, NEW MEXICO
April 18, 1956

IN THE MATTER OF:

CASE NO. 1034

TRANSCRIPT OF PROCEEDINGS

ADA DEARNLEY AND ASSOCIATES
COURT REPORTERS
605 SIMMS BUILDING
TELEPHONE 3-6691
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 18, 1956

IN THE MATTER OF:

CASE NO. 1034: Application of the Oil Conservation Commission upon its own motion for an order promulgating rules and regulations governing the dual completion of gas wells in the San Juan Basin Area of Sandoval, San Juan and Rio Arriba Counties, New Mexico. The Commission, in the above-styled cause, seeks an order establishing rules and procedures to be followed in the granting of dual completions in the San Juan Basin Area of New Mexico in Sandoval, San Juan and Rio Arriba Counties under the provisions of Rule 112 of the Commission's Rules and Regulations, said dual completions to be restricted to the dual completion and production of gas from gas producing zones in the San Juan Basin.

BEFORE:

Honorable John F. Simms, Jr.
Mr. E. S. (Johnny) Walker
Mr. A. L. Porter, Jr.

TRANSCRIPT OF PROCEEDINGS

MR. PORTER: The next case on the Docket is Case 1034.

MR. GURLEY: Application of the Oil Conservation Commission upon its own motion for an order promulgating rules and regulations governing the dual completion of gas wells in the San Juan Basin Area of Sandoval, San Juan and Rio Arriba Counties, New Mexico.

MR. PORTER: Mr. Utz?

MR. UTZ: If the Commission please, the Commission Staff has prepared a brief statement which was circulated here this morning in regards to dual completions in regards to Case 1034 in the San Juan Basin.

At the risk of being repetitious, I would like to briefly, very

briefly, go over this recommendation. The rule as now stands, the Commission Staff -- the Santa Fe Staff, I'm not so sure the Aztec Staff completely agrees with us -- believes is too narrow, and more latitude should be given to administrative approval. Briefly, the present Rule states that the upper zone of the dual completion has to be in the defined limits of the gas pool; the lower zone has to be in the defined limits of an oil or gas pool. The operator has to have written approval from all offset operators with a ten-day waiting period, and if any one operator objects to the dual completion, he has to come in for a hearing.

The Staff believes that there are certain formations in the San Juan Basin which lend themselves very readily to dual completions; there are also a number of mechanical dual completions which are accepted by the industry, and of course quite naturally are accepted by the Commission; there are certain packer leakage tests which can be run in order to prove the complete separation of the dually completed zones. So the Commission Staff is recommending that certain minimum requirements be made and that Rule 112 be changed-- that is, as far as it pertains to the San Juan Basin -- and 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. That gives us a little more land area.

2. When the well is mechanically dualled by certain specified types of mechanical methods as provided for in the order. That is the part that we run into an argument about; and

3. When certain specified packer leakage tests have been sub-

mitted after completions which proves no communication between the zones.

We believe that the rule should be written around those three recommendations, and that, further, there is more time needed to study our proposals and the operators need a little more time to study the proposals, and we actually need to run a few feeler tests to determine what kind of packer leakage tests are acceptable.

I therefore request the Commission to continue this case until the May hearing, at which time, if an operator does not come in and -- we would like to have operators come in and give testimony in regards to this -- offer testimony, then the Commission Staff will be in position to put on testimony of their own.

MR. PORTER: Mr. Utz, I believe that you stated your proposals had been circulated here this morning?

MR. UTZ: Yes, sir.

MR. PORTER: Will they be generally circulated between now and the next hearing, to the operators?

MR. UTZ: We can do that, and I think it would be a good idea to do so.

MR. PORTER: Is there any objection to Mr. Utz's request for a continuance of this case to the May 16th hearing?

The case will be continued to the May 16th hearing.

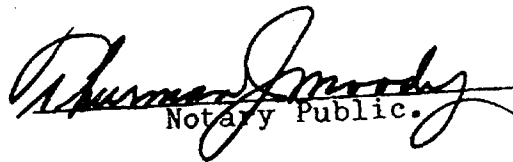
** * * **

C E R T I F I C A T E

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) :ss

I, THURMAN J. MOODY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the Oil Conservation Commission for the State of New Mexico was reported by me in stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal, this, the 3rd day of May, 1956, in the City of Albuquerque, County of Bernalillo, State of New Mexico.


Notary Public.

My Commission Expires
April 3, 1960.

BEFORE THE
Oil Conservation Commission
SANTA FE, NEW MEXICO
May 16, 1956

IN THE MATTER OF:

CASE NO. 1034

TRANSCRIPT OF PROCEEDINGS

DEARNLEY-MEIER AND ASSOCIATES
COURT REPORTERS
605 SIMMS BUILDING
TELEPHONE 3-6691
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 16, 1956

IN THE MATTER OF:

Application of the Oil Conservation Commission
upon its own motion for an order promulgating
rules and regulations governing the dual com-
pletion of gas wells in the San Juan Basin
Area of Sandoval, San Juan and Rio Arriba
Counties, New Mexico. The Commission, in the
above-styled cause, seeks an order establishing
rules and procedures to be followed in the
granting of dual completions in the San Juan
Basin Area of New Mexico in Sandoval, San Juan
and Rio Arriba Counties under the provisions of
Rule 112 of the Commission's Rules and Regula-
tions, said dual completions to be restricted
to the dual completion and production of gas
from gas producing zones in the San Juan Basin.

Case No.
1034

BEFORE:

Mr. A. L. Porter
Mr. E. S. (Johnny) Walker

TRANSCRIPT OF HEARING

MR. PORTER: The next case on the docket is Case 1034.

MR. GURLEY: Case 1034 concerns the application of the Oil
Conservation Commission upon its own motion for an order promulgat-
ing rules and regulations governing the dual completion of gas wells
in the San Juan Basin Area of Sandoval, San Juan and Rio Arriba
Counties, New Mexico.

MR. PORTER: Will the witness in this case please come
forward?

R. G. CARLIN

called as a witness, having been first duly sworn, testified as
follows:

DIRECT EXAMINATION

By MR. GURLEY:

Q Would you state your name, please?

A R. G. Carlin.

Q What is your position?

A Assistant General Superintendent, Delhi-Taylor Oil Corporation.

Q Have you, Mr. Carlin, in your official capacity, had the opportunity to study the facts concerning the Case 1034?

A I have.

Q Would you state your conclusions as a result of that study, and your recommendations thereon, please?

A The present Rule 112-A makes a hearing mandatory for any dual completion except that administrative approval by the secretary of the Commission might be obtained when certain conditions are met. These are, in general, the upper zone is in the defined limits of a gas pool, the lower zone is in the defined limits of an oil or gas pool, the operator has written approval from all offset operators, or after ten days from receipt of application when all offset operators have been notified and none object.

Because of the stratigraphic control in the majority of San Juan Basin fields, a development in many cases is difficult to predict, in many cases difficult to predict in advance in sufficient time to allow due notice for dual completion prior to drilling of a well. Such pay zones are not of sufficient economic importance to justify the drilling of separate wells, and under these conditions allowing of dual completion will tend to promote better conservation practices and prevent waste.

Road conditions and the isolation of many well locations in the San Juan Basin places undue hardship on the operator in requiring due notice and hearing because of the resultant delay in moving in a rig for the sole purpose of dual completion, whereas if prompt completion could be granted, the drilling rig used for drilling the well 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 an allowance for dual completion in areas outside pool limits between previously defined productive formations.

Various studies have been made of the producing characteristics of the various reservoirs in the San Juan Basin as it was felt that certain changes in the present rules and regulations and procedures would result in savings of time, labor and expense in the drilling and completion of wells in the area. It is also felt that certain rules could be provided by the Commission under which approval could be given the operator by the district supervisor of the Commission to dually complete a well without notice and hearing, provide for proper packer leakage tests, and provide for general minimum requirements of mechanical installations.

In connection with this particular Rule 112-A, I have a suggested revision to this rule which I would like to read into the record. I have copies here of the suggestion if anyone would like to have this. This would be an addition to Paragraph C, called Paragraph C-1:

" The District Supervisors of the Commission shall have authority to grant an exception to the requirement of Paragraph A

above without notice and hearing for wells located in Sandoval, San Juan and Rio Arriba Counties in the San Juan Basin, 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 the dual completion is a gas producing zone, both zones being of cretaceous age and have previously been recognized by the Commission as separate productive horizons."

I have prepared a statement as a suggested procedure for administration of Statewide Rule 304 in the San Juan Basin, 304 being for control of multiple completed wells. Statewide Rule 304 provides for the production and maintenance of multiple completed wells in a manner to insure the complete segregation of the various common sources of supply. This should adequately cover proper packer tests. However, because of a long period for pressure stabilization of many San Juan zones and the non-corrosive nature of the well fluids of cretaceous zones, administration of Rule 304 will require special procedures for the San Juan Basin. It is suggested that the following procedure be considered by the Commission in setting up a workable administration of Rule 304 to determine the effectiveness of the segregation in multiple completed wells.

1. Packer leakage tests will be required upon completion and after remedial well work or chemical treatment which would affect the packer seal yearly in conjunction with the annual deliverability test, and at any time as deemed necessary by the district supervisor of the Commission.

2. Both zones will be shutin for a minimum of seven days, and the shutin pressures recorded.

3. For gas, gas completions produced the zone which would result in the greatest differential pressure between the zones at rates equal to or greater than the maximum anticipated withdrawal rate. For gas-oil completions produced the oil zone at rates equal to or greater than the maximum anticipated withdrawal rate.

4. Producing period will be at least three 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 deadweight gauge.

6. For gas-oil completions, the oil zone will be shut in until stabilized or for a period of at least twenty-four hours in the event stabilization is not obtained in less than twenty-four hours. Flow gas zone in gas-oil completion repeating steps three, four and five as mentioned above.

8. Packer leakage will be shown by pressure decline on shut in zone during flow test. While dual completion experience in the San Juan Basin has been limited, a large number of dual completions have been made in other areas, industry experience in these areas leads to the conclusion that there are numerous mechanical means for effectively separating multiple horizons in dually completed wells.

For this reason it is my opinion that the Commission would prefer not to place any mechanical limitations on dual completions inasmuch as packer leakage tests will effectively determine the complete segregation of the various common sources of supply. It is my belief that the suggested revision of Rule 112-A and the procedure for administering Rule 304 to include these procedures as applicable to the San Juan Basin area will expedite approval of dual completions, and will eliminate the necessity of a hearing

for dual completions outside of known pool limits. It is realized that it should be a matter of policy for the district supervisor to grant approval for wells dually completed if equipped in what has been acceptable methods. It should also be a matter of policy for the district supervisor to not approve dual completions which should deviate from standard accepted procedures in this area. In those cases, the matter would be resolved through normal notice and hearing.

Q You have testified before the Commission as an expert witness before, have you not?

A I have.

MR. PORTER: Are there any questions of Mr. Carlin?

CROSS EXAMINATION

By MR. MANKIN:

Q Mr. Carlin, considerable reference has been made to approval by the district supervisor to expedite the approval of duals. Don't you feel that from the statutes of this State that possibly the tenor of approval may be given by the district supervisor, but the final dual completion orders accordingly could not be delegated to the district supervisor, and would have to be made by the director of the Commission?

A I believe you are entirely correct in that particular instance. However, it is the feeling that that is a matter for administration of the Commission. If they desired to have the authority vested in the secretary and then perhaps delegate the authority to the deputy supervisor, that would entirely be a matter within the administration of the Commission.

MR. PORTER: Mr. Arnold.

By MR. ARNOLD:

Q In regard to your suggested procedure for administration of Rule 304, Paragraph 3, I notice that you recommend that the low pressure side be flowed and a shutin check on the high pressure side. I would like to ask if you are aware that there is an opinion held by some engineers in the basin that a packer test should be conducted by flowing the high pressure side and checking the shutin on the low pressure side because of the possible effect of reaching the critical flow conditions through the leak if the well is flowed through the low pressure side?

A Well, there has been considerable thought on that particular matter. It was my feeling that if we could limit this to producing the zone which would result in the highest differential pressure between the zones, that would then give the operator an opportunity to produce the zone which would better fit the conditions. I am aware that as Mr. Arnold has stated, that there is the possibility of these other conditions, and that it might be wise during the initial stages of working out some procedures for tests for dual completions that we make tests perhaps of both zones, which would probably also entail considerable study as to the amount of time for the shutin periods.

Q You think it might be a good idea for an indefinite period or would you want to specify how long a time?

A Well, there have been relatively few dual completions made up to the present time in the basin, and I believe though that from the nature of the development in the basin as we are getting more into marginal and perhaps submarginal areas, that we should consider more dual completions, especially on the economic basis of drilling, and that in six months or twelve months period of time in which to

make a study would be appropriate.

Q You think that would be better to leave the time unspecified and just make it when we get enough information gathered maybe we can eliminate one of the tests at that time.

A I believe that would be proper.

MR. ARNOLD: That is all.

MR. PORTER: Mr. Mankin.

By MR. MANKIN:

Q Mr. Carlin, I understand there has been considerable thought given to specifying that the dual completions would be from the cretaceous age which is the present producing zones within the basin at the present time. Would it not be best to further limit that instead of being cretaceous age, to previously approved zones in known producing zones such as the Mesa Verde-Pictured Cliffs and Dakota and such formations as that, would that not be best, and then as the development goes ahead, the administrative procedures might be further enlarged to include characteristic formations which were known?

A Up to the present time I don't believe we have considered any dual completions in anything other than the Dakota zone, and all higher formations. I can see in the future that there might be deeper drilling. I would not be against any limitation down to the granite, if that is what you would like.

Q I have particular reference to certain questionable formations such as the La Ventana and other formations which have no known, or very little known about them as to producing characteristics as to whether they should be administratively or further studied.

A In the defining of those zones that will be a normal procedure for notice and hearing before the Commission to define the pool on that, and that would then come up at that time I would imagine.

Q Then possibly it would be better to eliminate some of those zones which we know very little about rather than to specify as a matter of policy what some of these zones have been previously so that could be done administratively, the others might be done as a result of the hearing?

A That is right.

MR. PORTER: Mr. Madule.

MR. MADULE: Ross Madule for Magnolia Petroleum Company.

By MR. MADULE:

Q Do you propose to have these rules that you are proposing as amendments to Rule 112 and 304 or as field rules, what is your proposal?

A I would propose an amendment to Rule 112-A. I would not propose a change in Rule 304. I believe that would be an administrative procedure for the Commission.

Q What is the reason for recommending the change in Rule 112? Could it be in connection with the field rules confined to this area?

A Basically Rule 112 provides for administrative approval by the secretary of the Commission for dual completions within known pool limits. We have conditions at the present time where there are dual completions outside of known pool limits, defined pool limits.

Q Does your proposal limit to this area or to all areas?

A To all areas in those three counties.

Q In those three counties?

A Yes.

Q Not Statewide?

A No.

Q Aren't you getting a Statewide rule mixed up with a local rule?

A It was my feeling as long as we limited this to Sandoval and Rio Arriba and San Juan Counties that that should take care of it.

By MR. MANKIN:

Q I believe it was the Commission's original intent when this particular case was called, that this would not be a change to Rule 112, but primarily only be an exception to Rule 112 for specific rules for the San Juan Basin.

A That is right.

Q I suppose that is what the call of the hearing likewise reflects, is that not true?

A That is right.

Q So it was not a change to Rule 112-A, it was merely to be primarily an exception to Rule 112-A as concerns the San Juan Basin?

A It is an exception or addition. I am not an attorney.

Q Then these would be specific rules for the San Juan Basin as an exception to Rule 112-A as concerns the San Juan Basin?

A That would be more like it.

MR. PORTER: Mr. Woodruff.

MR. WOODRUFF: Representing El Paso Natural Gas Company.

We concur in the testimony and recommendation of the witness. We would like to make one suggestion about delegating the authority to district supervisors. I think that difficulty can be eliminated by the Commission issuing a blanket order for these three counties approving dual completions under the specified circumstances, and making that order effective in individual cases upon the approval of the district supervisor. The Commission has then made appropriate findings that such procedures will eliminate waste and not injure the correlative rights of any person. It could not become effective,

of course, as an act of the Commission until the approval of the district supervisor is had in individual cases. I think that would be better than giving him authority to make tentative approval that might later be withdrawn.

If you have some money to spend here and you are going ahead on the district supervisor's sayso, you want to know that you are not going to have the operation shut down by that method. I think it is the act of the Commission in approving the dual.

MR. PORTER: Any more questions?

MR. GRENIER: A. S. Grenier for Southern Union Gas Company. Our company also would like to state its position as being in general favor of the proposals made by Mr. Carlin. This, however, does strike us that if it is suggested by one of the staff of the Commission, this order were to be limited to certain specific formations rather than speaking in the more general terms of all defined cretaceous formations as the proposal was first made, it would be necessary whenever that rule was amended, it being a general rule to have further hearings on that subject, perhaps those could be combined with the definition of the new pool, but it would just mean that there would also have to be two things done at once there whereas if it were set up on the basis of any defined pool or formation which had been delineated, its vertical limits by prior proceedings before this Commission, that is prior to the time that the dual completion was being considered, we wouldn't be having to come back here and reconsider this particular rule or set of rules every time some new formation were encountered, which proved productive.

MR. PORTER: Anyone else have anything further to say in this case?

ADA DEARNLEY & ASSOCIATES
STENOGRAPHIC REPORTERS
ALBUQUERQUE, NEW MEXICO
TELEPHONE 3-6691

MR. DUGAN: Tom Dugan with Pacific-Northwest Pipeline. We worked on this problem. We agree with Mr. Grenier that we don't believe that specific formations should be set out in the rule and that the recognized; that any dual can be made in a recognized formation.

MR. PORTER: Anyone else?

By MR. MANKIN:

Q Mr. Carlin, would it not be in order to have this particular order be of very general nature and then have certain memorandums and policies that could be easily changed without further hearing that would designate these zones as the development moved to the front, and in the future would that not be possible?

A It would be very possible.

MR. PORTER: Any more questions? The witness may be excused.

(Witness excused.)

MR. PORTER: Are there other witnesses in this case? We will take the case under advisement. We will have a short recess.

(Recess.)

* * * * *

C E R T I F I C A T E

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) SS

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 22nd day of May, 1956.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:
June 19, 1959.

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1034
Order No. R-824

APPLICATION OF THE OIL CONSERVATION
COMMISSION UPON ITS OWN MOTION FOR
AN ORDER PROMULGATING RULES AND
REGULATIONS IN CONNECTION WITH RULE
112 OF THE COMMISSION'S STATEWIDE
RULES AND REGULATIONS GOVERNING THE
DUAL COMPLETION OF GAS WELLS IN THE
SAN JUAN BASIN AREA OF SANDOVAL, SAN
JUAN, AND RIO ARRIBA COUNTIES, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 14,
April 18, and May 16, 1956 at Santa Fe, New Mexico, before the
Oil Conservation Commission of New Mexico, hereafter referred to
as the "Commission".

NOW, on this 18th day of June 1956, 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 due to the complex nature of the gas producing
zones in the San Juan Basin area, a need exists for a more flexible
rule for administratively approving dual completions in said San
Juan Basin Area.

(3) That this need may be met by the Revision of Rule
112 (c) of the Oil Conservation Commission's Statewide Rules and
Regulations.

IT IS THEREFORE ORDERED:

1. That Rule 112 (c) 1st paragraph, be and the same
is hereby revised to read as follows:

The Secretary of the Commission shall have authority to
grant an exception to the requirements of Paragraph (a) above with-
out notice and hearing where application has been filed in 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. In Rio Arriba, San Juan and Sandoval Counties, in considering gas-gas dual completions 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 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.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

John F. Simms

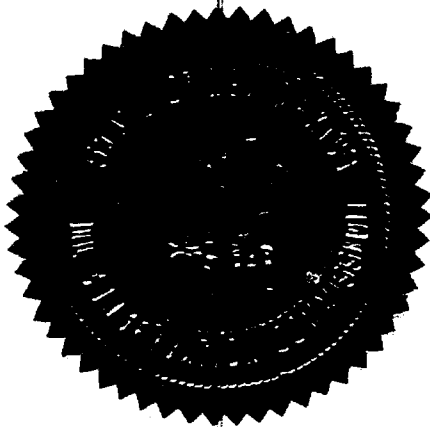
JOHN F. SIMMS, Chairman

E. S. Walker

E. S. WALKER, Member

A. L. Porter, Jr.

A. L. PORTER, Jr., Member & Secretary



ir/

Memo

6/7/56

From

Warner

To Pete

OK WWM
6/18/56

I have sent Emory a copy
of this memo (rough draft)
and also a copy of this
proposed order today to
look over and bring
back Sunday. Suggest we
hold order & memo until
we see him on Monday (6/11/56)

Warner

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.

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

6-17-57
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 stratigraphic 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 desirable provided the two zones are effectively segregated as determined by packer leakage test.