

BEFORE THE  
OIL CONSERVATION COMMISSION  
HOBBS, NEW MEXICO  
April 13, 1961

IN THE MATTER OF:

CASE NO. 2242 Application of the Oil Conservation Commission on its own motion to consider certain changes in the Definition section of its Rules and certain changes in the definitions in Rule 107, and to consider amending Rule 112 to provide, among other things, for administrative approval for multiple slim-hole completions.

Hobbs High School Cafeteria  
1300 East Scharbauer  
Hobbs, New Mexico

BEFORE:

Edwin L. Mechem, Governor  
E. S. "Johnny" Walker, Land Commissioner  
A. L. "Pete" Porter, Secretary-Director

TRANSCRIPT OF HEARING

MR. PORTER: We will take Case No. 2242.

MR. MORRIS: Mr. Commissioner, we will have one witness,  
Mr. Nutter.

MR. PORTER: Will you come forward and be sworn, please?

(Witness sworn.)

DAN NUTTER

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

DIRECT EXAMINATION

BY MR. MORRIS:



THE ARNOLD-METTER REPORTING SERVICE, INC.

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ALBUQUERQUE, NEW MEXICO

Q Will the witness please state his name and position?

A Dan Nutter, Chief Engineer for the Oil Conservation Commission.

Q Mr. Nutter, in your capacity with the Commission, have you made a study of the Rules and Regulations of the Commission pertaining to multiple completions in general?

A Yes, I have.

Q Would you state what rules have been considered in this study?

A Primarily the consideration is to Rule 112-A which deals with the multiple completion of wells. We are also considering some accompanying changes in the definition section of the Rule Book, and also some nomenclature changes in Rule 107.

Q Is it your opinion that the rules you have mentioned in the definition section should be revised?

A Yes, I believe it should be.

Q What conditions have come to your attention that would indicate that a revision is necessary?

A Primarily, the thing that motivated the consideration of this rule change was the vast increase in the number of multiple completions in which a string of casing is used. In view of the fact we have quite a number of these and there was no actual provision for administrative approval of this type of multiple completion, we felt that it would alleviate the load of hearings to the operator as well as the Commission if we set up an administrative procedure to approve this type of multiple completion.



Q In order to do that you are proposing certain changes in the definition of Rule 107(a) and Rule 112-A; is that correct?

A That is correct.

Q Mr. Nutter, will you now proceed to give us your recommendations concerning the numbering system as presently used in the definition section of our Rules and Regulations?

A Yes, sir. First of all, I'd like to point out that we have printed these proposed rule changes and have them available for the people to pick up as they come in.

Q Since you have called attention to the printed matter, would you have that marked as Commission's Exhibit No. 1?

A Well, this is a work copy. The first thing would be to abolish the numbering system in the definition section of the Rule Book. The reason for this is that the numbering system has been in here for a long time and if you have any kind of a change in the definition section and you insert a new definition, it has either got to go in out of order or it requires renumbering the entire section; and the numbers themselves serve no useful purpose, so I'd suggest that all of the numbers in this section be deleted.

Q Isn't it true that if you're looking for a definition of dual completion, you have to look under "M"?

A That is correct. Several years ago the thing was changed to dual completion, but rather than renumber the section at that time, they inserted dual completion under "M".



Q Mr. Nutter, what recommendations do you have concerning any deletions from the definition section of the Rules and Regulations?

A Well, since dual completion is listed under "M" and since we have a lot of completions other than dual, I would therefore recommend that the definition of dual completion be deleted and some substitute definition be placed in the definition section. First of all, I would recommend that "Conventional Completion" be inserted in the definition section and defined as follows: Conventional Completion shall mean a well completion in which the production string of casing has an outside diameter in excess of 2.875 inches. In other words, this would mean any well in which the casing is larger than the tubing. Of course, we have some casing that's a little bit larger than 2.875, but we have to have a breaking point some where. We should also insert the definition of "Tubingless Completion" and define it as follows: Tubingless Completion shall mean a well completion in which the production string of casing has an outside diameter of 2.875 inches or less. This, in effect, would mean any well completed with a string of tubing used for casing. These two definitions that we have just gone into, it might be noted, are both for single completions.

Q These definitions that you have just given us appear as paragraphs 3 and 4 of Exhibit No. 1; is that correct?

A Yes, sir. Now, paragraph 5, we recommend that the definition "Multiple Completion (Conventional)" be inserted and de-



defined as follows: Multiple Completion (Conventional) shall mean a completion in which two or more common sources of supply are produced through one or more strings of tubing installed within a single casing string, with the production from each common source of supply completely segregated by means of packers. You will recognize this as being the usual type of dual or triple completion in which you have annular casing or through tubing.

The next definition would be "Multiple Completion (Tubingless)" which would be defined as follows: Multiple Completion (Tubingless) shall mean a completion in which two or more common sources of supply are produced through an equal number of casing strings cemented in a common well-bore, each such string of casing having an outside diameter of 2.875 inches or less, with the production from each common source of supply completely segregated by use of cement. Now, this is the type of completion that we had quite a number of in recent months in which several strings of casing of small diameter are cemented in a single hole and the production is segregated in the definition by cement rather than a packer. We would then get into another type of multiple completion and call it "Multiple Completion (Combination)" and define it as follows: Multiple Completion (Combination) shall mean a multiple completion in which two or more common sources of supply are produced through a combination of two or more conventional diameter casing strings cemented in a common well-bore, or a combination of small diameter and conventional diameter casing



strings cemented in a common well-bore, the latter of which might or might not be a Multiple Completion (Conventional). I'd like to note there a little miswording in the latter part of that definition, that the word "latter" should be scratched and the words "conventional diameter strings" used therefor. We recognize this as a multiple completion in which you can have a large diameter casing string as well as maybe one or two small diameter casing strings cemented in a well-bore, and the large diameter casing string may or may not be a dual completion or even a triple completion.

Q The definitions that you have just given us of Multiple Completions (Conventional, Tubingless, Combination) are as appear on Exhibit 1, paragraphs 5, 6 and 7; is that correct?

A That is correct. I might point out that sometime last July or August we invited suggestions as to the proper nomenclature for this type of completion, and we received suggestions from quite a number of companies. We tried to glean the best of the suggestions from all of them and incorporate them in the series of definitions right here.

Q In the definition, Mr. Nutter, in paragraphs 5, 6 and 7, you refer to two or more common sources of supply. By that do you mean common sources as to each other?

A No, sir, the statutory definition in which pool is synonymous with common source of supply.

Q Now, these definitions that we have just gone over in



paragraphs 3 to 7, inclusive, are intended nomenclature, is that correct?

A This is correct.

Q Mr. Nutter, would you now give us your recommendations concerning revision of Rule 107?

A Yes, sir. Rule 107 "----authorize the district supervisors or their representatives in the Commission District Offices to approve slim hole completions." We have noticed as we have indicated in these definitions here that there is a trend away from the use of the use of the words "slim hole" and these are appearing more frequently, and in order to make Rule 107 compatible with the definition section as we have proposed here today, we would substitute the words "tubingless completion" for "slim hole completion" in each place that it appears in Rule 107. We would amend Rule 107 (e), 2nd line, to read, "----shall have authority to approved tubingless completions without----". We would amend Rule 107 (e) (3), 2nd line, to read, "---which might make the tubingless method of completion----". Those are the only changes for Rule 107, just a matter of definition.

Q Now, turning to Rule 112-A would you give us your recommendations concerning the revision of that rule?

A Yes, sir. There would be no change whatsoever from the existing rule. We have inserted some additional verbiage and tried to make the rest of it compatible with the changes that were recommended here today. In Rule 112-A I is not changed at all.



In II, Dual Completions (Conventional) is not changed at all with the exception that in paragraph (a), the third line we have inserted the word "similar" and in the sixth line we have inserted the word "similar". There has also been a little bit of confusion when we get applications for administrative approval of dual completions whether one was similar or not, and it has never actually been defined the way that it should be. I think this will clear it up.

Going on to section (b), paragraphs 1, 2, 3 and 4 are all identical as they appear in the rules today. In paragraph (c) there is a change. The present rule restricts the smallest diameter of the casing to be 1.750 inches. We have changed this 1.750 inches, the reason being a new type of tubing that National Tubing has come out with. I have this brochure which I'd like to offer as an exhibit in this case which goes into the details and specifications on this type of tubing. I think it's a tubing trend which will open up new avenues. I recommend that this type of tubing be authorized by including this change in the rule.

MR. MORRIS: Will you have that marked as Exhibit 2?

(Whereupon, Exhibit No. 2 marked in evidence.)

Q (By Mr. Morris) Will you proceed to paragraph D?

A That is identical with the way it appears in the rule today. Now, Section III, Multiple Completions (Tubingless and Combination). We have pretty much followed the same format in Section III that we followed in Section II (Dual Completions).





I'll read this section: "The Secretary-Director of the Commission shall have the authority to grant an exception to the requirements of Rule 112-A(I) and approve the multiple completion of a well without notice and hearing where application has been filed in due form; and

(a) The well is to be a multiple completion (tubingless or combination) within the limits of two defined pools or within one mile thereof, and the Commission has previously authorized the similar multiple completion of a well in the same zones as proposed, after notice and hearing; or the well is to be so multiply completed outside the limits of a defined pool and there is a similar multiple completion in the same zones within one mile of the proposed multiple completion which has previously been authorized by the Commission after notice and hearing, provided however that in Rio Arriba, San Juan and McKinley Counties, any such proposed multiple completion may be authorized even though it is not within defined pools nor within one mile of a previously authorized multiple completion of similar nature, if a similar multiple completion within the same zones as proposed has been authorized after notice and hearing; and

(b) The applicant proposes to employ one of the following methods of completion:

1. Multiple completion (Tubingless) utilizing two or more small diameter casing strings (2.875) inches, O. D. or less, one to each common source of supply, all cemented in a common well-bore.



2. Multiple Completion(Combination) utilizing a combination of small diameter (2.875 inches O. D. or less) and conventional diameter (greater than 2.875 inches) casing strings, all cemented in a common well-bore. Provided however, that if any conventional diameter casing in said multiple completion is used for the production of two separate common sources of supply, the rules pertaining to Dual Completions (Conventional) in Rule 112-II (b), (c) and (d) above shall also apply; and

(c) Sufficient cement shall be used in said multiple completion to extend throughout each pay and a minimum of 100 feet above." And then substitute for that period a semicolon, and insert the word "and" "(d)".

"(d) Centralizers or turbolizers shall be installed on each joint of casing throughout each pay and on a minimum of three joints above; and

"(e) Directional perforating equipment shall 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.

"(f) The requirements of paragraph (c) and (d) may be modified for multiple completions within given common sources of supply and within a given area if, in the opinion of the Secretary-Director, circumstances warrant such modification."

Q What is the purpose and what will be the effect of this paragraph (f) that you have just read?



A I visualize several circumstances in which the Secretary-Director may want to increase the amount of--the number of centralizers that would be used. Also under some circumstances the 100 feet and the centralizers through this specific pay zone may not be necessary. In all probability, the first well in an area that would be approved would be the criterion as to what the subsequent wells that would be approved administratively would follow.

Q Would you now go through paragraph IV entitled "Administrative Procedure" pointing out where this has been changed from our existing rule?

A Yes, sir. Essentially, paragraph IV is the same as paragraph 3 in the old rule and sets out the procedural policy of the Commission as far as approving multiple completions administratively. It also goes into detail on how to obtain it. We have had to add a few things and it reads as follows--there is no other change in this paragraph except the Commission form will be changed--and if this change is approved, it would read "Application for approval of a multiple completion" rather than a "dual completion. In paragraph (a) we have made a few minor changes there, and it would read: "Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, 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."



In the second paragraph of paragraph (d) the word "multiple" is a substitute for the word "dual" and in the third line of that paragraph that should be changed to "proposed multiple completion".

In paragraph V there is no change except in the fourth line where "Multiple Completion" has been substituted for "Dual Completion."

In paragraph VI, "All multiple completions" has been substituted for "All Dual Completions". In paragraph (a) the words, "Prior to actual multiple completion" has been changed from "Prior to actual dual completion."

Now, when we get to paragraph (c) in Paragraph VI, over on the right hand side where it says, "Segregation tests and/or packer leakage tests" that does not appear in the existing rule and in the third line the same thing applies. The reason for this is that in these multiple completions where you have several strings of tubing cement or casing cemented on a common well-bore and rely on cement to separate the zones, it would be improper to rely on packer leakage tests because there is no packer.

In Paragraph (d), we would make a change in this exhibit and add the words, "if applicable" to the end of the sentence. A packer setting is not applicable in all cases. Outside of that, it would be as printed and distributed.

Q Mr. Nutter, in summary, would you explain briefly in what cases administrative approval is going to be able to be obtained under the rule changes that you have noted and in what

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cases it is not going to be obtained?

A Assuming that multiple completion has been approved after a hearing in an area and you had been able to get approval for a dual, triple, quadruple, quintuple or any other type of a multiple completion. If there were that many strings of tubing cemented in the well-bore you would also be able to get approval for a completion in which you have one, two or three, or how many ever, small diameter casing strings in the hole plus large conventional size casing strings which may be dually completed. You will note that it may be dual. We find that over in 3(b)(2). It says that if a multiple completion is used on a conventional diameter casing string, the rule pertaining to dual completion would apply. We have limited administrative approval of conventional multiple completions to duals rather than triples. In other words, we would still have a hearing on a triple completion if the conventional means are used to make that triple and the reason for it is that there is such a variety of equipment used for triples that we prefer to see those sketches at a hearing and be able to go into the details of the hook-up. However, triple completions or quadruple completions in a hole where you're relying on the cement, and if you have adequate cement and centralizers, you should be safe and there is not a great deal of detail that we feel we have to go into to approve those.

Q Mr. Nutter, do you have anything further that you wish to express with regard to your proposed revisions of these defini-



tions and rules?

A No, sir.

Q Did you prepare Exhibit 1 as amended?

A Yes, sir, I did.

Q You were furnished Exhibit No. 2 by U. S. Steel?

A Yes, sir.

MR. MORRIS: At this time, Mr. Commissioner, I would like to offer Exhibit Nos. 1, as amended and 2 into evidence.

MR. PORTER: Without objection, they are admitted.

Does anyone have a question?

QUESTIONS BY MR. PAYNE:

Q I note in paragraph 3, which is entitled "Multiple Completions (Tubingless and Combination), in paragraph (a) it provides that in Rio Arriba, San Juan and McKinley Counties, those proposed multiple completions may be authorized even though it is not within defined pools or within one mile of a previously authorized completion. Why do you have a dual rule in the northwest and not in the southwest?

A Because of a much greater variety of producing horizons in the southwest. Up in the north we have four or five well-known, well-defined gas producing areas, and a greater gas producing horizon that has broadened in the last three years and we know pretty well what kind of pressure can be anticipated in any of these zones. They don't present any pressure problem



or any particular corrosive problem, and it's just a lot easier to assume that a multiple completion can be carried out without any difficulty in the northwest than in the southwest. In the southwest, you can run into anything there in the high pressure zones.

Q How would you define "similar"?

A "Similar" is a very difficult word to define.

Q You used it throughout the rule.

A Yes, sir. "Similar" can mean something that's nearly like something else, but it's very difficult to say just how far it can be from being exactly the same, slightly different, and still be "similar."

Q A gas-oil-gas triple completion has been approved. Would you approve administratively an oil-gas-oil triple completion?

A It would depend on whether or not there was an annular--

Q Assuming they are going to be produced the same way.

A This has been one of the problems that we have been faced with before in a circumstance where the word "similar" doesn't answer the question. I would imagine that if the mechanical hook-up is the same, if you have authority to produce an oil zone through tubing and then you get a gas zone, certainly there is no need for revision of the order.

Q Then, in other words, you're going to leave it to the Secretary-Director, or to the discretion of the Secretary-Director?

A You're depending on the cement in these completions. A



segregation of the centralizers will help you to get the pipe in the middle of the hole so that you know the cement has been circulated around there and the best way to know that is to get a good job on your cement.

Q If I understand your proposal, if one wanted to triply complete a well in a conventional manner, he still has to have a hearing, but on a tubingless or combination, he doesn't.

A If that completion is limited to a dual, if the large diameter casing string is limited to a dual completion in combination.

Q You propose to delete dual completion, in which there are only two zones. Why do you say that in your rule?

A No, it's just understood, Mr. Payne.

Q The rule does say in which two or more common sources of supply are completed in the same well, and two would be dual.

Referring to paragraph 6(e), Mr. Nutter, where it says oil produced from each of the separate strata may be accurately measured. You don't mean to imply there --

A I didn't go into this paragraph with any thought of change from the existing rule. No, sir, this means that the oil or gas is to be produced separately and measured separately.

Q Do you think perhaps the word "may" should be deleted and "shall" substituted therefor?

A There are three places in the paragraph that I think the word "may" is used in the sense that you can do it; that it's





possible to do it, physically possible, not that it's optional to do it.

MR. PAYNE: Thank you.

MR. PORTER: Does anyone have a question of Mr. Nutter concerning the proposed rule changes?

QUESTIONS BY MR. UTZ:

Q Mr. Nutter, in reference to Rule 112-A(3)(a), at the top of page 4, do you believe it might be appropriate to ask Sandoval County?

A It probably would be.

MR. UTZ: That's all.

MR. PORTER: Anyone have a question? The witness may be excused.

(Witness excused.)

MR. PORTER: Does anyone have any further testimony to offer in this case? The Commission will take the case under advisement.

MR. ANDERSON: I have a statement I would like to make on behalf of Sinclair. We would like to concur in all of the recommendations made by Mr. Nutter with one exception, and that is on his proposed amendment to Rule 112-A under Dual Completion, Paragraph C, where he lists the minimum tubing requirement from 1.75 down to 1.67, and in that respect, Sinclair believes that that matter should be left to the discretion of the Commission completely, and we would recommend that all reference to minimum

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tubing aize be deleted and that each well in each application that is submitted to the Commission be analyzed on the basis of the many variable factors involved--the well's depth, pressure, gas-oil ratio, type of fluids, whether gas or oil; those factors should be analyzed by the Commission.

Thank you.

MR. BRATTON: Humble Oil Company is in support of the rules authorizing administrative approval of multiple completions with a diameter of 2.875 because of the economical operational use of this type of installation.

MR. BUELL: PanAm would recommend that the Commission adopt the changes and additions recommended by Mr. Nutter. We feel that it will give an opportunity to operators to administratively use more economical techniques.

MR. ROBINSON: Ed Robinson, Texaco, Inc. Texaco wants to go on record in supporting Mr. Nutter's requests here on the tubing, in reducing the size of the tubing. We would like to point out that in production buttress tubing is in competition with the normal sized tubing, and with the tubing joint being milled out to 1.70 there is actually only .03 of an inch difference between the two tubings, and a saving of \$.50 a foot with the adoption of this new tubing. We believe this is a step in the right direction.

MR. BUSHNELL: Amerada is in accord with the recommendations of Mr. Nutter. There might be a provision we would like to



change, but generally we are in accord. We would like to say we agree with the recommendation of Sinclair.

Gulf Oil concurs in all features of all the recommendations proposed by Mr. Nutter.

MR. PORTER: Does anyone have a statement? If not, the Commission will take the case under advisement.

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ALBUQUERQUE, NEW MEXICO



STATE OF NEW MEXICO    )  
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COUNTY OF BERNALILLO   )

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I, Thomas F. Horne, Court Reporter, in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in machine shorthand and reduced to typewritten transcript under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

  
\_\_\_\_\_  
Court Reporter

My Commission Expires:

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