BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 1, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of El Paso Natural Gas Company for an order amending the special pool rules for the Blanco-Mesaverde Gas Pool. Applicant, in the above-styled cause, seeks an order amending the special pool rules for the Blanco-Mesaverde Gas Pool, Rio Arriba and San Juan Counties, New Mexico, to authorize district supervisors to approve "slim hole" completions in the Blanco-Mesaverde Gas Pool, regardless of depth. Case 1981

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 1981.

MR. PAYNE: Application of El Paso Natural Gas Company for an order amending the special pool rules for the Blanco-Mesaverde Gas Pool.

MR. HANNAHS: Fred Hannahs, Seth & Montgomery; Garrett Whitworth, for El Paso Natural Gas Company.

(Witness sworn.)

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, for Caulkins Oil Company.

MR. UTZ: Other appearances? You may proceed.

EDWARD OBERLY

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

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q Please state your name, by whom and in what capacity you are employed.

A Edward Oberly; I am division petroleum engineer for El Paso Gas in Farmington.

Q Mr. Oberly, have you ever testified before this Commission as an expert witness?

A No, sir.

Q Would you state briefly to the Examiner your scholastic training, and experience?

A I was graduated from Marietta College at Marietta, Ohio, in 1950, as a petroleum engineer; Bachelor of Science, Petroleum Engineering, and since that time I have been actively engaged in engineering for approximately eight and a half years, six of which have been with El Paso Natural Gas Company.

MR. WHITWORTH: Are the witness's qualifications acceptable?

MR. UTZ: Yes, sir.

Q (By Mr. Whitworth) Mr. Oberly, you are familiar with El Paso's application in this case, aren't you?

A Yes, sir.

Q What does El Paso seek by this application?

A They seek to amend the pool rules of the Blanco-Mesaverde pool.

Q Since this application was filed, the pool rules have been consolidated; is that right?

A That's right.

Q Do you happen to know the Order Number?

A Order No. R-1670.

Q So we seek an amendment or an addition to this particular order, to allow for what?

A To allow for the drilling of a slim hole Mesaverde gas well.

Q What particular section of that order are we concerned with? Is that Section 8?

A Yes, sir; it is Section 8, Special Rules for the Blanco-Mesaverde Gas Pool.

Q What addition do we wish to make to this particular section?

A We wish to add to this section -- we wish to change the limitation of state-wide rule concerning slim holes.

Q In what respect?

A The Commission district supervisors, or their representatives, should have the authority to approve a slim hole completion without the necessity for administrative approval or notice and

hearing when the following conditions exist: In the past there was a limitation of 5000 feet on a slim hole by Rule 107; we wish to stipulate the following conditions:

1. The well is to be completed with total depth which shall not exceed the base of the Mesaverde formation;

2. The well is not a wildcat; it is not more than one mile from the existing well producing from the same common source of supply to which it is projected;

3. No known corrosive or pressure problems exist which might make the slim hole method of completion undesirable;

4. The well will not be a dual completion;

5. The tubing used as a substitute for casing will be either 2-3/8 O.D. or 2-7/8 O.D.

Q If these qualifications are added to the special rules, it will not be necessary to amend the state-wide rules; is that right?

A That's right.

Q Would you tell us, Mr. Oberly, what are the advantages of drilling and completing a slim hole?

A A slim hole creates a saving in drilling a well on the initial cost and also creates a saving in the working-over of such a well at a later date. It is a more economical method of obtaining reserves.

Q In that respect, do you have an exhibit to show the

average cost of a normal Blanco-Mesaverde well?

A Yes, sir; Exhibit 1 shows the approximate cost that a standard Mesaverde well, single Mesaverde well, would cost us at this time. It is a price schedule of the accepted practices in the San Juan Basin for drilling and completing a Mesaverde well.

Q Would you explain that exhibit?

A It calls for surface pipe, cemented to the surface; intermediate string or production string, which would cover shallower gas pays and water zones to the top of the Mesaverde or into the Lewis shales. This is a protection string against, mainly, water and upper gas production so we can afford to go ahead and gas drill the remainder of the hole. Once gas drilling through the Mesaverde, we seat a 5-1/2 liner through this intermediate string, or production string, as you might call it, and utilize both strings as production strings.

Q What is the cost, now, of drilling and completing a normal Mesaverde well?

A In the neighborhood of $75,000.

Q Do you have an exhibit to show the cost of drilling and completing the slim hole in the Mesaverde?

A Yes, sir; Exhibit 2.

Q Would you explain the exhibit?

A Exhibit 2, the slim hole Mesaverde well cost, utilizes the same surface hole size and casing, and we go into our less expen-

sive intermediate casing by reducing hole size, and also the casing size, and we proceed with the drilling in the pay zone in the same as the standard.

Q What is the total cost of drilling and completing a slim hole?

A Approximately $57,900.

Q That is a difference of about how much?

A $17,600 or around 23% saving.

Q Now, on what items do you save in your slim hole that account for the lower cost?

A The drilling cost is roughly the same, even though the hole sizes are reduced, but the material savings is the greatest, and also we save with our general services at completion, such as perforating equipment, fracing equipment, et cetera.

Q In your opinion, Mr. Oberly, would a slim hole do the job just as well as a normal hole drilled to that depth?

A Yes, it would.

Q Do you know of any adverse results to the reservoir from drilling a slim hole and completing it to that depth?

A There wouldn't be any change in the reservoir conditions or any greater risk involved.

Q What is the deepest, or the greatest depth to the baseof the Mesaverde that you know of in the Blanco?

A 6300 feet.

Q Are you familiar with El Paso's drilling program in the Mesaverde?

A Yes, sir.

Q What effect would the granting of this application have on that drilling program?

A It would give El Paso the opportunity to drill Mesaverde acreage within the Blanco-Mesaverde pool that heretofore has been considered marginal and possibly not commercial.

Q In other words, it would increase development, would it not?

A It would improve development in the general area.

Q In your opinion, would the granting of this application prevent waste and protect correlative rights?

A Yes, sir; just as much as a standard well.

Q Do you have an exhibit, which is Exhibit No. 3, El Paso's Exhibit No. 3 showing how El Paso proposes to drill and complete the slim hole wells?

A Yes; Exhibit No. 3 shows the schematic of hole size and casing size for a standard Mesaverde as in comparison with a slim hole Mesaverde completion. The size surface casing is the same in both instances, 10-3/4 surface casing; that can be reduced on the slim hole well, but when you have a lot of 10-3/4 casing you use it up before you buy smaller diameter pipe. The hole size cost for that surface would be roughly the same, the 15-inch hole size.

We go to the intermediate casing to shut off shallow water zones and gas pays in the Farmington, Fruitland, Pictured Cliff, and what have you, and we reduce our casing size to 7 inches from the standard well. Cementing procedures remain the same; instead of running a 5-1/2 production liner as in the standard, 2-7/8 casing is used in the slim hole set in a 6-1/4 gas-drilled hole.

Q Is there anything else you'd like to say about that exhibit?

A I would say that the cementing of your 2-7/8 would be nothing out of the ordinary. There is only a saving in material and reduction in the hole size in comparison between the two wells. We have the equipment available to perforate and frac the slim hole satisfactorily and obtain potentials equivalent to standard completion methods, which I believe is important.

Q Were El Paso's Exhibits 1, 2 and 3 prepared by you or under your direct supervision?

A Yes, sir.

MR. WHITWORTH: We ask that these exhibits be admitted into evidence.

MR. UTZ: Without objection Exhibits 1, 2 and 3 will be admitted into evidence.

Q (By Mr. Whitworth) Do you have anything to add to your testimony, Mr. Oberly?

A No, other than that I believe that, generally speaking,

in the Mesaverde field, El Paso and other operators, if they can adopt this policy of slim hole in the Mesaverde, if they can see their way clear to have a good material saving in the original investment they are going to be drilling quite a few more holes, for sure.

Q Do you know of a well that has been drilled to the base of the Mesaverde, at least that deep, in this area with a slim hole?

A Past the Mesaverde; yes, sir.

Q What well?

A Johnston and Shear well, Jicarilla reservation, slim completion; drilled to Dakota with a 2-7/8 casing, and 1 to the Gallup, and 1 to the Chacra. Gas zones stimulated and completed satisfactorily, and when they get their fishing job cleaned up on the Gallup I believe they will make a good oil well.

Q They haven't started producing yet?

A I don't believe so. In our company we have several slim hole Pictured Cliffs completed this year very satisfactorily, and we have no production from them at this time, however. They haven't been tied in yet.

MR. WHITWORTH: That is all we have.

CROSS EXAMINATION

BY MR. UTZ:

Q How many Pictured Cliffs slim hole completions have you completed, approximately?

A Around 20.

Q I notice that you have run 7-inch to 3800 feet; what is the purpose of that?

A To give us the opportunity to utilize gas drilling in the lower part of the hole. The hole for the 7-inch, 8-3/4 for the 7-inch casing was mud-drilled, and the Mesaverde is too bad a circulation zone to continue with mud drilling. That was the cause of gas drilling many years ago up there. Seven-inch casing itself is strictly to protect the Pictured Cliff and Fruitland, and also to hold back any water that might come into the hole when we are gas drilling.

Q In order to gas drill you need that large casing for that depth?

A Yes, we do. Now, in one instance, smaller casing was used for that same purpose. I might explain that well in Colorado, Johnston and Shear drilled at Ignacio with 5-1/2 casing instead of 7-inch. The 5-1/2 forced them to drill with a 4-3/4 bit. They did it satisfactorily, but it is our company's belief that the proper 4-3/4 bit hasn't been designed yet to withstand the drilling that we would encounter with gas drilling. Our most economical bit sizes stop in the neighborhood of six inches. Your smaller sizes become very uneconomical. I hope this will change as the bit manufacturers catch up with us.

Q As I understand your recommendation, you propose to change

Section 8 of the R1670 to permit the approval in a District Office of slim completions drilled to the base of the Mesaverde that are not wildcats, are not duals, and use 2-3/8 and 2-7/8, with a maximum depth of 6300 feet.

Q To depths greater than 5000 feet; not 5000 feet as stipulated in the state-wide rule at this time in Rule 107.

MR. PAYNE: All you are proposing to change insofar as Rule 107 will relate to Mesaverde is the depth?

A Depth limitation of 5000 feet.

MR. UTZ: Any other questions?

BY MR. PAYNE:

Q Mr. Oberly, do you know what your depth of the discovery well in the Mesaverde was?

A No, sir; I sure don't.

Q It was less than 6000, wasn't it?

A I believe it is over in an area where I believe you will find the Mesaverde in the neighborhood of 4800 to 5000 feet.

Q So that if you wanted to look at the discovery well as being the criterion for the pool as a whole you really wouldn't have to have this amendment? Rule 107 says the well shall not be deeper than 5000 feet; in many cases you look at the discovery well, do you not, such as determining an allowable for all the wells in the pool?

A I am not familiar with that.

Q All I am trying to point out -- your recommendation is not anything radical. Do you know of any corrosion or pressure problems in the Mesaverde that would make this type of completion undesirable?

A No, sir; I don't.

MR. PAYNE: Thank you.

MR. UTZ: Any other questions? Witness may be excused. Any statements in this case?

MR. KELLAHIN: Caulkins Oil Company, Jason Kellahin. Caulkins Oil Company supports the application of El Paso Natural Gas Company in this case. We feel that the Blanco-Mesaverde pool is particularly suited to slim hole completions, and we have a situation in this pool where, in some areas, it would be possible to make a slim hole completion under the state-wide rules, and other areas where it would not, and yet it is in the same pool and should be treated the same. Caulkins has some wells less than 5000; most in the vicinity of 5500 feet or deeper, and we support the application and feel that it would encourage further drilling in areas which might be subject to question at the present time.

MR. UTZ: Case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, JUNE PAIGE, 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 10th day of June, 1960.

June Paige
Notary Public-Court Reporter

My commission expires:

May 13, 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1961, heard by me on June 1, 1960.

Examiner
New Mexico Oil Conservation Commission