

BEFORE THE  
OIL CONSERVATION COMMISSION  
MABRY HALL  
Santa Fe, New Mexico  
August 24, 1960

IN THE MATTER OF: )  
 )  
Application of Humble Oil & Refining Company for an )  
oil-oildual completion utilizing two strings of cas- )  
ing. Applicant, in the above-styled cause, seeks an )  
order authorizing the dual completion of its State )  
"M" Well No. 24, located in Unit O, Section 19, Town- ) Case  
ship 22 South, Range 37 East, Lea County, New Mexico, ) 2059  
in such a manner as to permit the production of oil )  
from the Langlie-Mattix Pool and the production of )  
oil from an undesignated Drinkard Pool through par- )  
allel strings of 2 7/8-inch and 4½-inch casing cem- )  
ented in a common well bore. )

BEFORE:

Daniel Nutter

TRANSCRIPT OF HEARING

MR. NUTTER: We will call the next case, 2059.

MR. PAYNE: Application of Humble Oil & Refining Company  
for an Oil-oil dual completion utilizing two strings of casing.

MR. BRATTON: H. C. Bratton, of Humble Oil Company, we will  
have one witness and ask that he be sworn.

(Whereupon the witness is sworn.)

MR. BRATTON: If the Commission, please, I will explain  
briefly what we propose to do in this case. This is an applica-  
tion for an oil-oil dual completion in the Langlie-Mattix and  
Drinkard Pool utilizing parallel strings of small line or one  
diameter. It is identical to a request that we made to the

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Commission before. This well is 3/4 of a mile away from the previous well in which we made an identical application and presented extensive testimony in exhibits to the Commission and we will rather than burden the Commission with again going through that refer to that case and present the record and all of the exhibits in that case because its an identical situation. So rather than take up the Commission's time going through the same matter we will do this.

DIRECT EXAMINATION

By MR. BRATTON:

Q Would you state your name, occupation and where you are employed?

A My name is J. E. Willingham, Senior Petroleum Engineer, I work in Midland, Texas.

Q Have you previously testified before this commission and give testimony as an expert witness?

A Yes, sir.

Q You previously testified before. As a matter of fact, in connection with Slim Hole matters.

A Yes, sir.

Q Are you familiar with the area of the proposed well in question in the application?

A Yes, I am.

MR. BRATTON: Are the witnesses qualifications acceptable?



MR. NUTTER: Yes, sir.

MR. BRATTON: Will you state briefly what Humble is asking in this case, Mr. Willingham?

A As compared to conventional dual which we know as casing string with small macaroni strings inside of it, this casing will set  $4\frac{1}{2}$  and  $2\frac{7}{8}$  in the same bore hole and must be described as a twin well in one bore hole.

Q What is the location of the proposed well and the formations Mr. Willingham?

A  $2\frac{7}{8}$  will be set to the Queen and the  $4\frac{1}{2}$  to the Drinkard.

Q Is it the Queen or the Langlie-Mattix.

A It's the Langlie-Mattix.

Q Is that the same thing?

A Yes.

Q Thank you. And the location of this well?

A It's 660 from the south line and 1980 from the east line of Section 19. It's T-22 is R-37 E, Lea County, New Mexico.

Q And this is the Humble State "M" 24 Well?

A Yes, sir New Mexico State "M" 24.

Q Have you previously presented an identical application to this Commission in connection with Humble State "M" 20 Well?

A Yes, sir we have.

Q And what is the location of that Humble State "M" 20 Well?

A State "M" 20 is 1980 from the north line and from the west

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line of Section 29, Township 22 West, Range 37 East, Lea County, New Mexico.

Q Was that application presented in case number 1905 and did the Commission enter an order number R1622 in that case?

A Yes.

Q Authorizing that completion?

A Yes, sir.

Q Have you completed the State "M" 20 Well in accordance with that order of the Commission?

A Yes, sir with the exception that we are still in the testing stage on the Drinkard. It hasn't been filed, we have completed it in accordance with the plan.

Q Have you experienced any difficulty in that well from an economical standpoint?

A No, sir there were no difficulties whatsoever.

Q You are perfectly satisfied with the operation and the functioning of your completion practices in accordance with the Commission order entered in that case.

A Yes, sir we are.

MR. BRATTON: Mr. Examiner, we would move the incorporation in this case of the testimony and exhibits presented in 1905 and the provision of order are R-1622.

MR. NUTTER: The record in case 1905 will be incorporated in the record of this case by reference.

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MR. BRATTON: Mr. Willingham, the situation presented here is identical with that presented in case 1905.

A That is correct.

Q Your testimony would be identical, and the exhibits offered if there were some offered would be identical if you were to re-introduce new exhibits?

A Yes, sir they would be the same.

Q You are asking for the same order that we entered in this case?

A Yes.

Q Just to immediately clarify the matter, would you run through generally the provisions of that order?

A It provided however that the said two strings of casing should be cemented in the common well bore and the cement circulated from the total depth of 2800 feet.

Q Well, would you just generally explain what was required?

A In this particular part we pointed out in our previous testimony we would cement through the  $4\frac{1}{2}$  and bring the cement up close to the  $2\frac{7}{8}$  and then cement through the  $2\frac{7}{8}$  and we do that because we have a better chance of getting a good cement job when the two total depths of casing are far apart and also that it stated that we have  $2\frac{7}{8}$  casing set at 4000 feet. I think in this case it will be 3600 and the top of the cement would be 2800 feet.



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MR. NUTTER: You are expecting the top of the cement to be identical in this case with the previous.

A Yes, sir.

MR. NUTTER: 2800 feet?

A That is 1000 feet above the casing shoe.

MR. NUTTER: Where is the Queen formation expected to be perforated, Mr. Willingham?

A It was perforated in the previous well from 3622 to 3650. It will be approximately the same depth on this one.

MR. NUTTER: What is the uppermost perforation?

A 3622 to 3650.

MR. NUTTER: So the cement comes approximately 800 feet I guess above the Queen perforation.

A Yes, sir that is right.

MR. NUTTER: That would be centralized throughout?

A Throughout the pay and yes it will be centralized up to the cement. We customarily cement all of our wells, centralize all of our strings through the pays.

MR. BRATTON: Do you have anything else to add as to this particular completion with relation to the previous case and the exhibits and testimony which are incorporated now in this case?

A No, sir I believe they would be the same.

Q Mr. Willingham, with reference to the matter of the 4½ and 2 7/8 inch casing duals, has Humble completed a number of



these in this State of New Mexico?

A We have completed one in the State of New Mexico and a considerable number in West Texas.

Q And as a matter for the Commission, have you prepared a list of those completions?

A Yes, sir I have.

BY MR. BRATTON: That is identified as Exhibit No. 1 with reference to that list of completions.

MR. BRATTON: Mr. Willingham, would you care to express to the examiner your opinion as to the possibility of expanding the Commission's present order on Slim Hole dual completion?

A Yes, sir. The exhibits that I have submitted of course is parallel  $4\frac{1}{2}$  and  $2\frac{7}{8}$ . We have also made many parallel  $2\frac{7}{8}$  and we have made triple  $2\frac{7}{8}$ , not however in New Mexico. Our multiples have been highly successful and I expect and anticipate that it will be expanded rapidly in the future months and I feel that the having of the hearings for these multiples is going to become a burden on the Commission as well as on the operator, and I feel the statewide order would certainly be prudent from the standpoint of saving everyone time.

Q Do you think if the Commission were to call a statewide hearing the operators could come forth with considerable and additional testimony and suggestions for the Commission's consideration?

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A Yes, sir I feel they could.

MR. BRATTON: We have nothing further to offer, Mr. Examiner.

MR. NUTTER: Any questions of Mr. Willingham?

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Willingham, what are the communication tests on the State "M" 20?

A We as I stated before on the "M" 20 we had a good completion, on our 2 7/8 on the Queen and our 4 1/2 in the Drinkard which was a marginal well and we came up and tested the Blinebry which was non-productive and we have gone back to accept the Drinkard as it was even though a poor producer and as a result we have not run the communication test as yet.

Q Do you anticipate doing that in the future?

A Yes, sir. Naturally when you refer and I point to the well on the multiple, you pressure up the string and when you shoot, if you did shoot into the other zone, why you would have an immediate consideration of communication, if I am making myself clear.

Q You do have a tubing string in the 4 1/2-inch casing?

A Yes, sir.

Q You do propose the same thing in this well?

A Yes, sir.

MR. PAYNE: Thank you.





CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Willingham, I was noting on exhibit number 7 in the previous case, 1905, and at that time you indicated that your 4½-inch pipe would be set at 7000 and your 2 7/8 inch pipe set at 4000 and on this exhibit we find that the 4½ was set at 6847 and the 2 7/8 at 3730, so evidently the structure ran a little higher than you anticipated.

A We found it slightly off, in fact this one we are saying is going to be 3800 instead of 4000.

Q Do you expect that it will be the same as the "M" 20?

A Yes, sir.

Q So the provision there in finding number 5, if we are going to use the identical copy, the provision in finding number 5 should read 2 7/8-inch casing at 3600 rather than 4000.

A Yes, that would be true.

Q So if the order provided further that centralizers should be used, the interval between the bottom of the 2 7/8-inch casing at 4000 feet and the top of the cement at 2800 feet should read 3800 and 2800.

A That is correct.

Q Mr. Willingham, your company has used this type of completion rather extensively, have they ever arrived at a concise, clear, brief term to call these cases, casing dual completions,



what do you call them?

A What we call a Slim Hole-first of all when you talk about a Slim Hole, it means many things to many people. To my company a Slim Hole is a 6 1/4 inch or below and when we talk about this type of completion we would call it a parallel dual completion, parallel string dual completion, in other words.

Q Do you think that is distinct from the standard dual completion, that is parallel strings of tubing.

A I would say you would call that a dual completion with concentric strings of tubing or parallel-let me rephrase that. We would call that a dual completion with macaroni strings inside of the oil string, it's very difficult, it's hard to get nomenclature for these really.

Q I appreciate that. Thank you.

A I understand though that my company is in fact, Mr. Bird's specifically is sending you a letter with our recommendations and I have not conversed with him. I don't know what they decided yet.

MR. NUTTER: We can look forward for that nomenclature from Humble.

A Yes, sir I told him Friday.

MR. BRATTON: We would offer exhibit number 1.

MR. NUTTER: It will be admitted. Does anyone have anything further for case number 2059?

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(No response)

We will take the case under advisement and call case 2060.  
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STATE OF NEW MEXICO     )  
                                  ) ss  
COUNTY OF BERNALILLO    )

I, Lewellyn Nelson, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing was reported by me in Stenotype, and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 31st day of August, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lewellyn I. Nelson  
NOTARY PUBLIC

My Commission Expires:

June 14, 1964

I do hereby certify that the foregoing is  
a true and correct copy of the proceedings in  
the hearing of Case No. 2059  
dated 8/24 1960

[Signature] Examiner  
New Mexico Oil Conservation Commission

