EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 29, 1958

IN THE MATTER OF: Cases No. 1374 and 1375 - Consolidated

TRANSCRIPT OF PROCEEDINGS

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 29, 1958

IN THE MATTER OF: Application of Western Natural Gas Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Wimberley No. 3 Well, located 660 feet from the North line and 660 feet from the West line of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from an undesignated Fusselman pool and oil from an undesignated Drinkard pool through parallel strings of tubing.	Case 1374
IN THE MATTER OF: Application of Western Natural Gas Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Wimberley No. 4 Well, located 1980 feet from the North line and 990 feet from the West line of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from an undesignated Fusselman pool and oil from an undesignated Drinkard pool through parallel strings of tubing.	Case 1375

BEFORE: Mr. Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will proceed to Case 1374.

MR. COOLEY: Case 1374: Application of Western Natural Gas Company for a dual completion.

MR. WRIGHT: Paul Wright, Chief Engineer of Western Natural

Gas Company. We would like to ask that Cases 1374 and 1375 be consolidated.

MR. NUTTER: Since 1374 and 1375 are in substance for the same authority, they will be consolidated for the taking of testimony only, if there is no objection to such consolidation. They will be consolidated, then.

MR. WRIGHT: We have one witness, Mr. Wendell Cook.

(Witness sworn.)

WENDELL COOK

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

DIRECT EXAMINATION

By MR. WRIGHT:

Q Mr. Cook, would you tell the Commission your name and your position with the company and your qualifications as a witness in this case?

A Wendell Cook, Division Petroleum Engineer, Western Natural Gas, Midland, Texas. I have B. S. degrees in Petroleum Engineering, Mechanical Engineering, Agricultural and Mechanical College of Texas, 1949. I was employed with Plymouth Oil Company for six years in various engineering capacities, mainly field petroleum engineer. One year with Reynolds Mining Corporation, Durango, Colorado, as a petroleum engineer.

Q You have a personal first-hand knowledge of the case here?

A Yes, I do.

MR. WRIGHT: Are his qualifications acceptable?

MR. NUTTER: He is qualified.

MR. WRIGHT: Since I am not an attorney, I would like for Mr. Cook to handle his own testimony and exhibits with the Commission's approval.

MR. NUTTER: Will Mr. Cook proceed?

A I will refer the Commission to Western Natural Gas' original application to dually complete the subject wells. I understand we are going to combine these two together?

MR. NUTTER: Yes, sir.

A Specifically, now, the Wimberley Well No. 3 -- have you got that before you?

MR. NUTTER: Yes, the Wimberley No. 3 is the subject well of Case 1374.

A Fine. It is located 660 feet from the north line, 660 feet from the west line of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico. Subject well was drilled to a total depth of 8635 feet; salt water was encountered on drill stem test in the Ellenberger formation. A 200 sack cement plug was spotted in open hole for 8550, 8,000 feet. A McCullough open hole bridge plug was set at 7400 feet off of wire line, ran seven inch casing to 7375 feet with cement back to 4195 on temperature survey; 13-3/8 casing set at 5027 and 9-5/8 intermediate string at 3400 feet. Cement circulating on both strings. Drill stem test of the Fusselman and Drinkard zones indicated commercial oil production from both zones.

(Applicant's Exhibit No. 1
marked for identification.)

If it please the Commission, I would like to offer Exhibit No. 1, waivers from offset operators. I might add, Mr. Examiner, in that original application I want to refer to the plat of offset operators, also a schematic drawing of dual completion hookup.

MR. NUTTER: These exhibits are attached to the applications for hearing and will be incorporated in the record?

A Yes, and will be incorporated with the original application. Exhibit No. 1 I want to present, the waivers of the offset operators.

MR. NUTTER: The combined waivers of all the offset operators as Exhibit No. 1 in these cases will be admitted. Mr. Cook, are the offset operators the same for both of the cases?

A I believe that's correct, with possibly the exception of Amerada. Amerada is offset to the Wimberley 4, and I don't believe they are offset to the Wimberley 3, so that Amerada is the only one that is not common to both right here, and we have waivers from those, Mr. Examiner.

MR. NUTTER: Is Gulf common to both?

A No, no, they are not, that's right. Just Gulf and Amerada and also Anderson Pritchard, they are just common with the 3. I believe you have Anderson Pritchard here, we do not have it incorporated here, but it was understood that Anderson Pritchard's waiver was sent to the Commission here.

MR. NUTTER: Mr. Cook, would you go into some detail

describing the dual completion that is proposed for these two wells?

A All right. Referring to the schematic diagram, Wimberley No. 3, the two zones in question, the Drinkard and the Fusselman, perforated with the drilling mud in the hole and the Baker Model "D" production packer, that is a Baker Model "D" retainer production packer set at 6980 off wire line. Then we went ahead with the completion of the lower zone, the Fusselman zone, that is, cleaning it up and acidizing, and I might add a Baker parallel string anchor with latching sub was set at 5990, the long string, the long string being two inch EUE tubing with turndown collars. The short string was anchored at 5999 for reasons of possibly pumping the Drinkard zone at a future date to extract all commercial saleable oil out of the Drinkard zone. The Drinkard zone then was cleaned up and acidized and shut in. We applied for an allowable on the Fusselman zone, and effective January 1st we were granted an 87 barrel per day allowable, I believe that's correct, on the Fusselman, with the Drinkard shut in.

The Baker Model "D" retainer is a seal tube which allows the operator to do any kind of wire line work for the Fusselman zone. It is a full opening seal tube standard, for standard dual completions. The latching sub that I mentioned is simply for tension in the secondary string; the short string to allow better efficiency as I stated, if we at a future date desire to pump the Drinkard zone. I believe that's all I have on the mechanics, the actual mechanics.

MR. NUTTER: Mr. Cook, would you tell what the gravity of the oil produced from each of the two zones is?

A From the Fusselman, 36.3 degrees API corrected. From the Drinkard 38.2 degrees API corrected.

MR. NUTTER: Could you tell me what the GOR from the two zones are, please?

A If it please the Commission, I would at this time like to incorporate Exhibit No. 2, the packer leakage test which has the oil and gas production.

(Applicant's Exhibit No. 2 marked for identification.)

Exhibit No. 2, packer leakage test by disinterested third party, as Exhibit No. 2.

MR. NUTTER: This is from the Wimberley No. 3?

A Yes, the Wimberley No. 3, Case 1374. Mr. Examiner, I have it written here, the ratio of the Fusselman, 219 to 1.

MR. NUTTER: 219 cubic feet of gas?

A Per barrel of oil, and of the Drinkard, 1,010 to 1. Mr. Coleman in his test, there is not on that form -- if you will allow me a minute, I'll check that to be sure.

MR. NUTTER: The GOR's for the two zones are amended, Mr. Cook, to be 218 to 1 for the Fusselman?

A Yes, sir.

Q And 1025 to 1 for the Drinkard?

A Could we strike that now and let me -- just a minute.

MR. PORTER: Have those forms been submitted?

A No, this is the first test we have.

MR. PORTER: The original hasn't been submitted to our office?

A No.

MR. NUTTER: Well, are they amended, the GOR's?

A Yes. We are going to get this straight in a minute.

MR. NUTTER: What is the GOR for the Fusselman?

A 219 to 1. For the Drinkard, 1,010 to 1 as we originally had it there.

MR. NUTTER: Do you have the bottomhole pressures, Mr. Cook?

A Yes, sir. That will be Exhibit No. 3. Exhibit No. 3, bottomhole pressures, I'll give you that copy, and I have a copy here. You have a little more gas with the upper zone.

MR. NUTTER: Exhibit 3 will be the --

A (Interrupting) Exhibit 3 will be the bottomhole pressures.

MR. NUTTER: For the Wimberley No. 3 well?

A For the Wimberley No. 3 well.

MR. NUTTER: That will be so identified.

(Applicant's Exhibit No. 3 marked for identification.)

A That is the Drinkard. Here is the Fusselman, Mr. Examiner.

MR. NUTTER: Bottomhole pressure on the Drinkard formation has been identified as Exhibit No. 3. The bottomhole pressure for the Fusselman will be identified as Exhibit No. 4.

(Applicant's Exhibit No. 4 marked for identification.)

MR. NUTTER: What would those bottomhole pressures be?

A On the Drinkard at 5897 feet for subsea datum of minus 2800 feet, bottomhole pressure of 2610 pounds. On the Fusselman at 6997 feet, for subsea datum of minus 3900 feet, bottomhole pressure of 2806.

MR. NUTTER: Mr. Cook, do you think that the two bottomhole pressures of these two separate zones have enough variation between them to cause any damaging strain on the packer that's separating the two zones?

A I don't believe so, Mr. Examiner. There is only 200 pounds in 1100 feet there, and that is not enough to cause any kind of damaging effect.

MR. NUTTER: Is the Baker Model "D" retainer production packer designed to withstand that much pressure differential?

A Yes, sir. It is my understanding as high as four or five thousand pounds.

MR.NUTTER: Do you believe there is sufficient difference in the GOR to detect the leakage through the packer in GOR readings for the two separate zones?

A Future production of the well may alter physical characteristics where you may not effectively tell packer leakage by GOR, I think possibly actual drawdown, in observing the alternate pressures on the continuous reading chart as we have done, by disinterested third party there.

MR. NUTTER: Would a drastic change in GOR possibly reflect

a leak through the packer?

A Not necessarily.

MR. NUTTER: What means do we have of observing a leak if such should occur in the packer?

A We, of course, will run our semi-annual or annual surveys of bottomhole pressures, plus our drawdown of one zone by continuous reading of the chart on the other zone, which would indicate any kind of communication.

MR. NUTTER: This can be done on a constant basis?

A Oh, yes, sir, definitely on a regulated basis. I might add, Mr. Examiner, there is a dually completed well by Tidewater two locations away to the east in the Drinkard and McKee.

MR. NUTTER: To your knowledge, has Tidewater encountered any difficulties with the dual completion in this pool?

A Only mechanically speaking. They're pumping the Drinkard as of now, but as far as that goes, no packer leakage; whereas we are flowing both zones, they are pumping the upper zone.

MR. NUTTER: Can both zones in the Wimberley No. 3 dual completion be pumped if necessary?

A Yes, sir.

MR. NUTTER: Would you proceed to your Wimberley No. 4 well, please, and describe the mechanical dual completion?

A I might add one more thing. We have separate flow lines, separate separators and separate tank batteries for each production.

MR. NUTTER: So the oil will be segregated in the well bore

as well as on the surface?

A Yes, sir.

MR. NUTTER: Until after it is measured?

A That is true.

MR. NUTTER: Do you have anything further on Well No. 3?

A I believe that's all.

MR. NUTTER: Would you proceed to Well No. 4, then, please?

A I would refer you to the application dated January 8, 1958; Western Natural Gas Company's Wimberley No. 4 will be located 1980 feet from the north line and 990 feet from the west line of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico. The well will have 13 - 3/8 surface casing, 9 and 5/8 inch intermediate casing, and 7 inch production casing; and I refer the Commission at this time to the attached plat and schematic diagram on that application.

MR. NUTTER: The schematic diagram and the plat are incorporated in the record?

A Yes. We propose to perforate the 7 inch casing opposite the Drinkard zone from 5925 to 5965 feet. This zone was found to be productive of oil on drill stem test in our Wimberley No. 3, located 1320 feet north. We propose to perforate the 7 inch casing opposite the Fusselman from 7,000 feet to 7,050 feet. Also this zone was found oil productive during completion test, also drill stem test on our No. 3. The two zones will be separated within the well bore per our attached diagram. All tests will be conducted

on the 4 as were conducted on the 3.

Baker Model "D" retainer production packer will be set off of wire line at 6975. We shall have a Baker parallel string anchor the latching sub at 6,030 feet. The mechanics are essentially the same as in the No. 3.

I might add that the Wimberley No. 4 is in the process of being drilled at this time.

MR. NUTTER: Is that all?

A That's all.

MR. NUTTER: Does anyone have any questions of Mr. Cook? Mr. Cook, neither the Drinkard zone or the Fusselman zone has been penetrated or tested in the Wimberley No. 4 yet?

A No, sir.

MR. NUTTER: Do you anticipate that the conditions will be similar in the No. 4 as were encountered in the No. 3 Well?

A According to our geological department, they will be the same.

MR. NUTTER: Do you expect similar bottomhole pressures in this well?

A Yes, sir.

MR. NUTTER: Is the Baker Model "D" production packer to be installed in this well capable of withstanding the differential in pressures that you anticipate in the two zones?

A Yes, sir.

MR. NUTTER: Do you think that the GOR in the two zones will be similar to those in the No. 3 Well?

A Yes, sir, I do.

MR. NUTTER: Do you think the gravities of the two zones will be similar?

A I do.

MR. NUTTER: Will each of these zones be capable of being pumped if necessary?

A Yes, sir.

MR. NUTTER: Does anyone have any questions of Mr. Cook? Mr. Porter.

MR. PORTER: To your knowledge, Mr. Cook, are there any wells producing from the Drinkard in this area, say, within a mile of this well?

A The nearest that I am acquainted with is the Tidewater.

MR. PORTER: Tidewater has a pumper?

A It has a pumper on the dual completion on the Coates No. 8.

MR. PORTER: But no pool has been established?

A No pool designated, no, sir.

MR. PORTER: That is all.

MR. NUTTER: Any further questions of Mr. Cook? If not, he may be excused.

(Witness excused.)

MR. WRIGHT: That's all we have.

MR. NUTTER: Do you want to enter the exhibits?

MR. WRIGHT: Yes.

MR. NUTTER: Without objection, the exhibits of Western Nos. 1 through 4 will be admitted in these cases.

MR. NUTTER: We have received letters waiving objection from R. Olsen Oil Company; however, copies of these letters were a part of Exhibit No. 1. We have also received a letter from Anderson Pritchard Oil Company in these cases.

MR. COOLEY: The Commission has received correspondence from Anderson Pritchard Oil Corporation, Oklahoma City, Oklahoma, as follows: "Western Natural Gas Company has furnished us with copies of the application for permission to dually complete their Wimberley No. 3 and No. 4 wells located in Section 24, Township 25 South, Range 37 East, Lea County, New Mexico, in the Fusselman and Drinkard horizon. Anderson Pritchard Oil Corporation as an offset operator has no objection to the proposed dual completion." Signed, Very truly yours, Duncan Patty.

MR. NUTTER: Is there anything further in Cases No. 1374 and 1375? If nothing further, we will take the cases under advisement.

* * * * * * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. ....., heard by me on ....., 19....

....., Examiner
New Mexico Oil Conservation Commission

C E R T I F I C A T E

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 New Mexico Oil Conservation Commission was reported by me in stenotype 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.

WITNESS my Hand and Seal this 14th day of February, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My commission expires:

June 19, 1959.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1374 - 1375 heard by me on 1-29, 1958.

, Examiner
New Mexico Oil Conservation Commission