BEFORE THE
OIL CONSERVATION COMMISSION
NOVEMBER 19, 1958

IN THE MATTER OF:

APPLICATION OF THE PURE OIL COMPANY, CONTINUED CASE 1537

TRANSCRIPT OF HEARING

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BEFORE THE
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IN THE MATTER OF:

Application of Pure Oil Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing it to dually complete its South Vacuum Unit No. 2-35 Well, located 1980 feet from the South line and 660 feet from the East line of Section 35, Township 18 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the South Vacuum-Devonian Pool and gas from an undesignated McKee gas pool through parallel strings of tubing.

CASE NO.

1537

BEFORE:

ELVIS UTZ, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The next case on the Docket will be the continued case 1537.

MR. PAYNE: Case 1537, Application of Pure Oil Company for a dual completion .

MR. WELLS: H. C. Wells representing Pure Oil Company.

(Witness Sworn.)

H. C. WELLS

the witness, having first been duly sworn, testified as follows:

DIRECT EXAMINATION

MR. PAYNE: State your name and position.

A Harry C. Wells. I'm the Assistant Chief Division and Production Engineer of the Texas Division of the Pure Oil Company with offices in Fort Worth, Texas.

Q Mr. Wells, have you previously testified before this Commission as an expert witness?

A I have.

MR. PAYNE: Are the witness' qualification acceptable?

MR. UTZ: Yes, sir.

MR. PAYNE: Proceed with your application.

A The Pure Oil Company is the operator of the South Vacuum Unit in Lea County. The company proposes to dually complete the South Vacuum Unit in Lea County, New Mexico to their hole 1980 feet from the south line and 660 feet from the east line of Section 35 in Unit "I", Township 18 South, Range 35 East.

Exhibit One shows the location of this well circled in red, together will all of the offsetting leases and wells. The South Vacuum Unit is outlined in green.

Exhibit Two is an application for dual completion form. There has been no previous authorization for a dual completion in the South Vacuum Pool. This will be an oil over gas type completion.

The upper zone is the Devonian reservoir. The top of the pay is at 11,680. The base of the pay is 11,730. This is an oil zone producing by flowing. The lower zone is the McKee reservoir. The top of the pay is 13,620. The base of the pay is 13,823 feet.

There is gas production from this zone, and it also flows. A list of all offset operators is shown on this exhibit.

Exhibit Three, which I only gave you one copy of, are waivers from all ten of the offset operators to the South Vacuum Unit, stating that they have no objection to our proposal to dually complete this well.

Exhibit Four is a diagrammatic sketch of the well equipment. We propose to produce this well through parallel strings of two inch tubing. The casing program in this well consists of surface pipe of 13 5/8 inch casing cemented with 400 sacks of cement and it is circulated to the surface.

The intermediate string consists of 9 5/8 inch casing set at 3808 feet and cemented with 1220 sacks of cement. The cement is also circulated to the surface on this string. The long string consists of seven inch set at 11,953 feet below the Devonian pay and is cemented with 655 sacks of cement. The top of the cement outside the seven inch is at 7490 feet as determined by a temperature survey.

A five inch line was run inside the seven inch extending from 11,853 to 13,881 feet. It was cemented over its entire length with 320 sacks of cement.

The McKee zone is perforated through the five inch liner. The Devonian zone is perforated through the 7 inch casing. The McKee production tubing consists of 13,622 feet of two inch EUE tubing; and the Devonian production tubing consists of 11,730 feet of two inch EUE tubing. A Guiberson Hook Wall Packer was run on the key producing tubing string and set in the 7 inch casing 11,791 to isolate the zones.

Exhibit Five is composed of three Form C-103's setting out the casing cementing program and the test of the casing after it was set. It will be noted that each of the strings of casing was tested with 1,000 pounds for 30 minutes before any further operations on the well.

Exhibit Six is a Packer-setting Affidavit executed by Mr. L. M. Williams, who personally supervised the setting of the production packer. The affidavit states a Guiberson Hookwall Packer was set at a depth of 11,791 feet.

Exhibit Seven shows the results of a Packer Leakage Test conducted on this well October 27, through October 30, 1958. Would you like to have me go into the details on the Packer Leakage Test?

MR. UTZ: You might show how you feel the Packer Leakage Test showed variation.

A Neither of the shut in completions exhibited any variation in pressure whatsoever when the alternate completion was produced. There is included also a data sheet covering this test. There is

a graphical representation of the test, together with the recording pressure charts taken. This test shows that the well equipment effectively and absolutely prevents any communication between the two zones in this well.

MR. UTZ: Do you have graphs for both sides on this one?

A The Devonian is shown in red. The McKee is shown on the graph. The blue might not have shown up too well. This covers both tests, when the McKee was opened then when the McKee was shut in and likewise when the Devonian was opened.

Exhibit Eight is Form C-116 showing results of a gas-oil ratio test on the Devonian completion during which the well flowed 216 barrels of oil and 8 barrels of water in 24 hours on 6/64" choke with a gas-oil ratio of 75 cubic feet per barrel.

Gravity of the Devonian crude is 49.5 degrees API at 60 degrees, and the specific gravity of the separator gas is 0.850.

Exhibit Nine is Form C-122 showing results of a multi-point back pressure test on the McKee completion. This test indicates an absolute open flow potential of 502 thousand cubic feet of gas per day with a gas liquid hydrocarbon ratio of 22,300 cubic feet per barrel. The gravity of the McKee condensate is 56.3 API at 60 degrees Farenheit and the specific gravity of the separator gas is 0.688.

Exhibit 10 is Form C-124 showing the results of a bottom hole pressure test on the Devonian completion. This test indicates the bottom hole pressure of 4666 pounds per square inch at

a bottom depth of 7550 feet sub-sea.

Exhibit 11 shows the result of bottom hole pressure tests on the McKee completion. This test indicates the bottom hole pressure at a datum of 9860 feet sub-sea of 5111 pounds per square inch.

Mr. Examiner, I believe you have in your files an electric log on this well. If you need others, I'll be glad to furnish them.

MR. UTZ: You filed that?

A With the application, with the original application.

MR. UTZ: I'm sure we have that.

A With Santa Fe and with Hobbs, also. We believe the two reservoir perforations made in this well can be efficiently produced through the use of the well equipment presently installed.

It is estimated that a saving of 200 thousand dollars will be realized from the dual completion of this well as compared to the drilling and completion of two wells to serve the same purpose.

That's all the direct testimony I have. I'd like to offer Exhibits One through Eleven for incorporation.

MR. UTZ: Without objection, they will be received. Any questions?

CROSS-EXAMINATION

BY MR. FISCHER:

Q Is that Guiberson Packer you have in there retrievable?

A Yes, sir, it is.

Q This McKee production, is that the first McKee production in that area?

A As far as I know.

Q (By Mr. Payne) Then this is not a designated pool?

A No, it's the first well in the McKee in the area. I'd like to say on the Hookwall Packer, we've exhibited considerable difficulty with this McKee completion. It's a very tight formation and highly subject to swelling, evidently from any fluids contacted, and we are not sure yet, we have not fraced this McKee complection, and for that reason we did not install a permanent production packer yet. We may. We felt that constriction of a frac with a production packer would be a little higher than we would like; and for that reason we put a retrievable Hookwall Packer in.

Q (By Mr. Fischer) You anticipate you will go in and treat the McKee?

A We may do it. All indications are that we haven't been able to do any good at all with acid or any other treatment, and we are favorable of a fracing treatment. We may have to do it.

MR. FISCHER: Thank you.

MR. UTZ: Any other questions? If there are no other questions, the witness may be excused.

(Witness excused.)

MR. UTZ: Are there any other statements or testimony to

be given in this case? If not, the case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

WITNESS my hand and seal this 25th day of November, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

John Calvin Bevell
NOTARY PUBLIC

My Commission Expires:

January 24, 1962

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1537, heard by me on Nov. 19, 1958.

Elvis A. Utz, Examiner
New Mexico Oil Conservation Commission