BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1463

May 28, 1958

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

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MAY 28, 1958

IN THE MATTER OF:

CASE NO. 1463: Application of Pan American Petroleum Corporation for an oil-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its O. H. Randel "A" No. 1 Well, located 1650 feet from the South line and 990 feet from the West line of Section 9, Township 26 North, Range 11 West, San Juan County, New Mexico, in such a manner as to permit the production of oil from an undesignated Gallup oil pool and gas from an undesignated Dakota gas pool through parallel strings of tubing.

BEFORE:

Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The hearing will come to order, please. Next case on the docket will be Case 1463.

MR. PAYNE: Application of Pan American Petroleum Corporation for an oil-gas dual completion.

(Witness sworn)

D. L. CURRENS,

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

DIRECT EXAMINATION

BY MR. BUELL:

Q State your full name, by whom you are employed, in what capacity and what location, please, Mr. Currens.

A Daniel R. Currens. Employed by Pan American Petroleum Corporation; reservoir engineer in Roswell, New Mexico.

Q Would you name the well and locate it for the record; the well, the subject matter of this application?

A The application is for permission to dually complete our O. H. Randel "A" No. 1 which is located 990 feet from the West line, 1650 feet from the South line, Section 9, Township 26 North, Range 11 West, San Juan County, New Mexico.

Q Mr. Currens, why is a hearing required to dual that well?

A Well, the Commission has not yet issued an order for administrative approval of dual completion of oil over gas. In addition, this well is completed in two present undesignated pools, being an undesignated Gallup oil completion and undesignated Dakota gas completion.

Q I hand you now what has been marked as Pan American's Exhibit No. 1. What is that Exhibit, please?

A Exhibit No. 1 is a plat showing the subject well located in Section 9 and circled in red, and the surrounding area, the lease in question here.

Q I notice symbols for other wells on that Exhibit. What are they?

A They are to the west here. We have some Gallup comple-

tions up to the northeast, and there are some Pictured-Cliffs completions.

Q Mr. Currens, I hand you now what has been designated as Pan American's Exhibit No. 2. What is that?

A Exhibit No. 2 is a portion of the electrical log on the O. H. Randel "A" No. 1 showing the entire Gallup zone and the Dakota zone; encountered down to TD marked on here with a blue line is the top of the Gallup at approximately 5173; top of the Dakota at approximately 6150 feet.

Q Does it also reflect the completion interval?

A Yes, sir. In the center of the log the red marking -- the lines and circles indicate the intervals that were perforated both in the Gallup and down in the Dakota.

Q Would you briefly, Mr. Currens, discuss the completion method used on those wells?

A Yes, sir. The well was completed initially -- we went in, perforated the Gallup, -- I mean the Dakota. Initially went in and perforated the Dakota from 6189 to 6230, from 6260 to 6280. Then sand water fraced that with forty thousand gallons of water, forty thousand pounds of sand. The next -- isolated the Dakota formation and came up to the Gallup, perforated the Gallup from 5300 feet to 5342, from 5372 to 5400, from 5424 to 5458. Sand oil fraced the Gallup with sixty thousand gallons of oil, 60 thousand pounds of sand, ran our dual completion equipment; a production type packer which was set between the two formations below the

lowermost Gallup perforation and above the top of the Dakota had parallel strings of tubing, one string going through the production packer to the Dakota, the other string being bottomed at the Gallup.

Q Do you have any indication, Mr. Currens, of the productive ability of each of those zones?

A Yes, sir. On April 28, 1958, we took the potential test on the Gallup well, and flowed at a rate of 131 barrels of oil per day with a GOR of 1673. Incidently, that oil gravity is 39.5, API gravity corrected to standard temperature. We didn't potential the Dakota as such. We have taken a preliminary test on the Dakota, on that that same date, the 29th of April, 1958. The well produced at a rate of 5,696 MCF per day after seven-hour blowdown. That was a pitot measurement.

Q Mr. Currens, it is obvious that we are dealing with two separate and distinct reservoirs in that the oil is above the gas, but let me ask you this question. In your opinion, is the vertical separation of more than a magnitude that the use of modern completion techniques will still be able to keep them separate?

A Yes, sir. Certainly, we have good separation behind the pipe. We are certainly definite in the two zones. As I stated in here, the Gallup and the Dakota, the production packer is adequate. It is very good formation, or very good seal in the well bore itself. We have very effectively isolated the two zones.

Mr. Currens, I hand you now what has been marked Pan American's Exhibit No. 3. What is it?

A Exhibit No. 3 is a diagramatic sketch of the dual completion equipment in the O. H. Randel "A" No. 1. Shows the casing strings in the hole. We have surface casing set at 517 feet. The hole is cased to TD with seven-inch casing, that being 6397. A Baker model D production packer is set at 6045 which is above the top of the Dakota below the lowermost Gallup perforation. We have a two and three-eights inch tubing string run through the production packer to the Dakota that being bottomed at 6205, and we have a two and three-eights inch tubing string run to the Gallup being bottomed at 6453. Incidently, this is N 80 tubing.

Q Does this Exhibit also reflect the location of the top of the cement?

A Yes, sir. It shows the cement top here well above the uppermost Gallup perforation top of the cement. This was by temperature survey 4710 feet.

Q In your opinion, Mr. Currens, have these zones been effectively isolated and this well bore?

A You can see from the cement here that we have outside in the well bore; certainly we have good isolation between the two zones.

Q Do you have any pressure information that verifies that conclusion?

A Yes, sir. I have some shut-in pressure tests that were taken for the two zones; have a 51-hour test. Both zones had been shut in 51 hours. At that time, the annulus between the casing

and the tubing, in other words, the Gallup formation pressure shut-in casing pressure was 850 pounds. The Gallup shut-in tubing pressure was 350 pounds. Same time we ran a -- took a pressure measurement on the tubing for the Dakota shut-in tubing pressure on the Dakota was 2,050 pounds. There is a difference of 1200 pounds there, certainly shows good isolation.

Q Mr. Currens, I wonder if you were at this month's statewide hearing.

A Yes, sir, I was.

Q Do you recall the case that considered amending the state-wide rule relating to the dual completion of wells?

A Yes, sir. 1463, as I recall.

Q 1463 is this case?

A Beg your pardon. 1443.

Q Are you sure you were there?

A Yes, I was there. Yes, sir.

Q Does the mechanical feature of this dual coincide with the recommendations made by the Commission staff to the Commissioners?

A Yes, it certainly does. We have oil over gas here. We've utilized two and three-eights inch parallel strings of tubing and a production packer set between the two formations, one tubing string going down through the packer to the lower formation.

Q One last question, Mr. Currens. In your opinion, will the approval of this dual completion request prevent waste and adequately protect the correlative rights of all parties of interest?

A Yes, sir, I certainly believe so. Definitely prevent economic waste. I could cite some figures here. Estimate of cost to drilling, complete a Gallup well in this area is approximately sixty-three thousand dollars, a single completion. A Dakota well, single completion, would cost about eighty thousand dollars, or a total for the two single completions over one hundred forty-three thousand dollars. We have final cost figures in on the O. H. Randel "A" No. 1; cost one hundred three thousand dollars, so we made a savings there of forty thousand dollars economically.

Q What about physical waste?

A As to reservoir, certainly a dual completion of this type is as efficient as two single completions. With respect to correlative rights, it will, of course, afford us the opportunity to recover our proportionate share of the recoverable gas and oil in place in this reservoir.

MR. BUELL: That's all we have at this time, Mr. Examiner.

CROSS EXAMINATION

QUESTIONS BY MR. UTZ:

Q Mr. Currens, the seven-hour pitot test on the Dakota formation was through the tubing?

A Yes, sir, through the tubing.

Q I note that your electric log shows your Gallup pay zones?

A Yes, sir.

Q Did you try to complete the upper zone?

A No, sir, we did not.

Q You have no idea whether it is gas or oil?

A No, sir. I could not say that it would be either one.

Q You didn't core it either? A No, sir.

Q Do you know what the samples look like?

A No, sir. I didn't see them.

Q Do you know why you didn't investigate that particular zone?

A I don't believe I could give a specific answer to that, sir.

Q Would you say from the log that it is almost as good as the rest of them?

A We don't quite have the SP there that you do for the others. Of course, the Gallup, that's kind of rough to work straight on SP anyhow, but I don't really know why we didn't attempt that upper zone, Mr. Utz.

MR. UTZ: Are there any other questions of the witness?

MR. BUELL: May I at this time formally offer Pan American's Exhibits 1 through 3 inclusive?

MR. UTZ: Without objection they will be received. The witness may be excused.

(Witness excused)

MR. UTZ: Any statement in this case? The case will be taken under advisement.

C E R T I F I C A T E

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, J. A. TRUJILLO, 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 by me and/or 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, the 19th day of June, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
Notary Public

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1463, heard by me on May 25, 1958.

Examiner
New Mexico Oil Conservation Commission