

BEFORE THE  
OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
May 22, 1963

EXAMINER HEARING

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IN THE MATTER OF:

Application of Pan American Petroleum Corporation )  
for a triple completion, Lea County, New Mexico. ) CASE 2823  
Applicant, in the above-styled cause, seeks )  
approval of the triple completion (conventional) )  
of its Southland Royalty "A" Well No. 4, located )  
in Unit X of Section 4, Township 21 South, Range )  
37 East, Lea County, New Mexico, to produce oil )  
from the Drinkard and Elinebry formations through )  
parallel strings of tubing and gas from the Tubb )  
Gas Pool through the casing annulus. )  
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BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call Case 2823.

MR. DURRETT: Application of Pan American Petroleum  
Corporation for a triple completion, Lea County, New Mexico.

MR. HARVEY: I'm Carl Harvey, the technical witness.  
We are to be represented by Mr. Malone from Roswell. He anticipated  
getting a later charter flight out this morning if he couldn't  
leave there to be here by 1:00 o'clock by plane. I anticipated  
that he would be here by 1:00 o'clock. He asked that I request  
this be moved back on the docket.

MR. NUTTER: Have you heard anything from him yet?

MR. HARVEY: No, sir, I haven't.

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MR. NUTTER: In that case, we'll recess the hearing until 1:15. We will call this case at that time.

(Whereupon, the hearing was recessed.)

\* \* \*

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 Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 4th day of June, 1963.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

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(The hearing was declared reconvened by Mr. Nutter at the hour of one fifteen o'clock in the afternoon, on the 22nd day of May, 1963, in the hearing room of the Oil Conservation Commission, State Land Office Building, Santa Fe, New Mexico.)

(The Applicant was represented by Mr. Charles F. Malone, Attorney at Law, Roswell, New Mexico.)

MR. NUTTER: The hearing will come to order. Mr. Durrett, you may proceed.

MR. DURRETT: Thank you.

MR. MALONE: We will use Mr. Harpke.

CARL F. HARPKE

was called as a witness for the applicant, and having been first duly sworn, testified upon his oath as follows:

DIRECT EXAMINATION

BY MR. MALONE:

Q. Would you state your name, please, sir.

A. Carl F. Harpke.

Q. Your address?

A. 3008 37th Street, Lubbock, Texas.

Q. You are a petroleum engineer in the office of Pan American Petroleum Corporation at Lubbock, is that right?

A. Yes, sir.

Q. And the Lubbock office has jurisdiction over the Lea County, New Mexico area?



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A. Yes, sir.

Q. You have not heretofore testified before this Commission, have you?

A. No, I have not.

Q. Would you briefly state your education and experience in the petroleum engineering field?

A. I graduated from the Colorado School of Mines with a degree of petroleum engineer in 1954, and I have since been employed by Pan American, with the exception of two years military service. I had roughly six years experience in the Rocky Mountains and one year experience in the Lubbock district office.

Q. Are you familiar with the exhibit offered by Pan American in this case?

A. Yes.

Q. Would you very briefly state the purpose of it?

A. The purpose of this application is to request permission for a triple completion of Pan American royalty "A"4, in the Drinkard oil and Blinebry oil pool in Lea County New Mexico.

Q. Are the qualifications of this witness satisfactory to the Commission?

MR. NUTTER: Yes, sir, they are.

Q. (Mr. Malone, continuing) Would you begin now with attachment No. 1 in Exhibit No. 1 and describe briefly what it shows.



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A. Attachment No. 1 is a plat of the general area surrounding the well for which we are requesting the triple completion. I have Southland royalty "A", No. 4 marked with an arrow. This is presently a dual Drinkard Tubb gas completion. Most of the wells in this area are dual completions. However, the west offset to this well on No. 8 is a triple completion in the Tubb oil, Drinkard oil, and Blinebry oil zones. This triple completion should be -- was recently approved by the Commission's order No. R-2465. Also the southwest offset to the proposed triple completion is a triple completion in the Tubb (gas) Blinebry (oil), and Drinkard (oil) zones.

This triple completion was authorized by the Commission's No. R-2343. There is one other triple completion in the immediate area, which is Shell Oil Company's Livingston No. 11, which is located approximately a half mile to the northeast of our proposed triple completion.

Q. Have the offset operators shown on Attachment No. 1 been furnished a copy of this application and notice of this hearing?

A. Yes, sir, they have. A copy of this notice, or rather a copy of our application to the Commission, was furnished each offset operator and is shown here as Attachment No. 4.

Q. In Exhibit 1?

A. In Exhibit 1.



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Q. Has Pan American received any objection or comment from any offset operator concerning this application?

A. No, sir, we have not.

Q. Anything further on Attachment No. 1, Mr. Harpke?

A. One thing. We presently have an eighty acre Brinebry (oil) proration unit set up for well No. 5. This includes forty acres for the -- excuse me. This is an eighty acre Brinebry (gas) exploration unit. It includes forty acres dedicated to the Brinebry (gas) surrounding well 5, and forty acres dedicated to the Brinebry surrounding well 4. If we receive our approval of our application to triple complete in the Brinebry (oil) zone, we will then reduce the eighty acre gas proration unit by forty acres.

Q. All right, sir. Would you go now to Attachment No. 2 of the exhibit and describe briefly the manner in which you propose to complete the well.

A. Attachment No. 2 is a diagrammatical sketch of the mechanical hook-up of the proposed completion.

We have here color-coded the produce fluids from the various formations and the flow path through which we are going to get them to the surface. The red indicates the lower zone, which is the Drinkard (oil) zone. The yellow is the middle zone, which is the Tubb (gas) zone, and the green will be the proposed Blinebry (oil) zone.



We presently have thirteen and three-eighths in surface casings set at three hundred and five feet with three hundred sacks of cement circulated at surface; eight and five-eighths of intermediate casing set at twenty-nine-oh-five with one hundred sacks of cement and three hundred and seventy-five sacks containing eight per cent gel.

We found the top of the cement at seventeen hundred and fifty feet by temperature surveys. Behind this intermediate string we have a five and a half inch oil string set at sixty-seven forty-eight, with a hundred and eighty sacks, four per cent gel, and forty-five sacks of signalite.

The top of the cement was located by temperature survey at forty-five hundred and seventy in our production string, five and a half inch production string.

Q. In your opinion, are the three productive zones effectively separated?

A. By the primary cement job, you mean?

Q. Yes.

A. Yes, sir.

Q. Now, then, are the Baker model "FA" and "F" and "D" packers, which you propose to use, accepted in the industry as being satisfactory and effective?

A. Yes, sir.

Q. What else is there that you believe should be



mentioned in connection with that Attachment No. 2, Mr. Harpke?

A. Well, as shown here, by the sketch, both the Blinebry (oil) zone and the Drinkard (oil) zone will be produced through two inch O. D. buttress tubing. Our Tubb (gas) zone will be produced through the annulus of the five and a half inch production string. We will have a triple-flow tube set in our Baker model "FA" packer, and a dual-flow tube crossover set in our Baker model "F" packer. In the tubing string, the Drinkard tubing string, we will have a Garrett sleeve, which will normally be in a closed position. However, we can open this to permit swabbing in the Tubb (gas) zone in the event we had any work orders and had to kill this zone. That is the purpose of this Garrett sleeve.

Q. All right, sir.

A. The Blinebry (oil) zone will be perforated at an interval between fifty-eight hundred and six thousand feet. We have not been able to determine the exact interval yet, since we are running a gamma ray neutron log and selecting actual perforating intervals upon work order of the well. The Tubb (gas) zone is presently producing from various perforated intervals between sixty-one seventy-six and sixty-three ninety-two, and the Drinkard (oil) zone is producing from a continuous perforated interval between sixty-five ninety-five and sixty-six fifty-five.

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Q. Do I understand, then, this is a workover of a producing well, which you propose?

A. That is correct.

Q. All right, sir. Now, going to Attachment No. 3, would you describe briefly what it shows.

A. Attachment No. 3 is an electrical log of the subject well showing the tops and bottoms of the various producing formations, and also the producing formation, the Blinebry. I have noted here in red the present producing, or the present perforated intervals in the Tubb and in the Drinkard zones.

Q. And, as you stated before, the actual perforations in the Blinebry will be made on the basis of a subsequent survey?

A. Yes, sir.

Q. Is there anything else in connection with Attachment No. 3?

A. No.

Q. You have previously testified that Attachment No. 4 is the application, is that correct?

A. Yes, sir.

Q. Now, then, if I have not previously asked you, was this exhibit prepared by you or under your supervision?

A. Yes, it was.

Q. Is the proposed triple, here, similar to the two triples previously approved by the Commission in this area?



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A. Yes, with the exception that in this triple we are going to produce the Tubb (gas) through the five and a half inch annulus, between the five and a half inch casing and the two tubing strings, which will be found between the Blinebry (oil) and the Drinkard (oil). I believe in the other two completions a third tubing string was run.

Q. Will the granting of this application prevent economic waste, Mr. Harpke?

A. Yes, it will.

Q. In what respect?

A. In the respect that the estimated cost to triple complete this well is approximately twenty-four thousand dollars. The estimated cost of drilling a single completion to the Blinebry (oil) zone would be between seventy to eighty thousand dollars, and we have an offset -- an offset well on the Shell Livingston lease here, well No. 5, which is presently an able well in the Blinebry (oil) zone, and we wish to offset that.

Q. Is there any question in the opinion of Pan American, and in your opinion, as to whether the drilling of this separate well solely to Blinebry might be economic?

A. I have not personally looked at that.

Q. All right, sir. With respect to the entire application, Mr. Harpke, is there anything further that you feel the Examiner should be given in the way of information?



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A. No, sir, I have nothing additional.

MR. MALONE: We move the admission of Exhibit No. 1 of the Applicant.

MR. NUTTER: Applicant's Exhibit 1 will be admitted in evidence.

MR. MALONE: That's all of our examination.

MR. NUTTER: Does anyone have any questions of the witness?

MR. DURRETT: Yes, sir, I have one question.

MR. NUTTER: Mr. Durrett.

CROSS EXAMINATION

BY MR. DURRETT:

Q. First, would you spell your last name.

A. H-a-r-p-k-e.

Q. The specific question I had, Mr. Harpke, was referring to the packers involved.

A. Yes, sir.

Q. I am not familiar with all these types of packers. Are all these permanent type packers?

A. Yes, sir, they are permanent type packers, and they are all similar in construction to the Baker model "D" packer, with the exception that the internal diameters of the model "F" and "FA" packers are larger than the other packer. Other than that, the construction is the same.



Q. And they are permanent?

A. Yes.

MR. DURRETT: That's all.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Harpke, at this time this is a Tubb (gas) and Drinkard (oil) completion. Is the Tubb (gas) being produced through the annulus, or is it being produced through the tubing?

A. I am sorry. I can not answer that.

Q. Do you know what the gas liquid ratio is on the Tubb (gas)?

A. Yes, sir. The Tubb (gas) zone averaged thirty-nine m.c.f. per day with just a trace of distillate during March, 1963.

Q. So it is a high ratio?

A. Yes, sir, it is.

Q. Very high?

A. Very high.

Q. And you don't anticipate there will be any fluid problem in producing through the annulus?

A. No, sir, I sure don't.

MR. NUTTER: If there are no further questions of the witness, he may be excused. Do you have anything further, Mr. Malone?



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MR. MALONE: Not unless the Commission would wish to have an answer to the question, which we did not have. We could supply that by telegram or letter, if you would like.

MR. NUTTER: Well, in view of the fact that the high ratio is extremely high, I don't think there would be any problem there.

MR. MALONE: Fine. Thank you very much.

MR. NUTTER: Does anyone have anything they wish to offer in this case, 2823? If not, we will take the case under advisement and the hearing is adjourned.

(Thereupon, the hearing was adjourned at approximately one forty-five in the afternoon.)

\* \* \*

STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, HOWARD W. HENRY, 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, and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 13th day of June, 1963.

*Howard W. Henry*  
NOTARY PUBLIC

My Commission Expires  
March 2, 1965

I do hereby certify that the foregoing is a true and correct record of the proceedings in the Examiner hearing of Case No. 2823 heard by me on 5/22, 1963

*[Signature]*, Examiner  
New Mexico Oil Conservation Commission

