BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

April 23, 1957

IN THE MATTER OF
CASE NO. 1244

TRANSCRIPT OF PROCEEDINGS

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3-6691 2-2211

BEFORE THE
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IN THE MATTER OF: Application of Amerada Petroleum Corporation for an order authorizing an oil-oil dual completion in the Penrose-Skelly Pool and the Paddock Pool in Lea County, New Mexico, in compliance with Rule 112-A of the New Mexico Oil Conservation Commission Rules and Regulations. Applicant, in the above-styled cause, proposes to dually complete, by means of parallel tubing strings, its Baker Well No. 2, located in SE/4 SE/4 of Section 10, Township 22 South, Range 37 East, Lea County, New Mexico, to produce oil from both the Penrose-Skelly and the Paddock Pools.	CASE NO. 1244

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: The hearing will come to order, please, the next case on the Docket will be Case No. 1244.

MR. COOLEY: Case 1244. Application of Amerada Petroleum Corporation for an order authorizing an oil-oil dual completion of the Penrose-Skelly Pool and the Paddock Pool in Lea County, New Mexico, in compliance with Rule 112-A of the New Mexico Oil Conservation Commission Rules and Regulations.

W. G. ABBOTT

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

DIRECT EXAMINATION

BY MR. COOLEY:

Q State your name and occupation for the record, please?

A W. G. Abbott. I am a District Engineer for Amerada Petroleum Corporation in Monument, New Mexico.

Q Mr. Abbott, have you previously qualified as an expert witness before the Oil Conservation Commission?

A Yes, sir.

MR. COOLEY: Does the Examiner accept the qualifications of the witness?

MR. NUTTER: Yes, sir, they are accepted, would you proceed Mr. Abbott?

A Amerada Petroleum Corporation is requesting permission to dually complete, through parallel tubing strings, its-A B Baker No. 2, located 660 feet from the South line and 660 feet from the Ease line of Section 10, Township 22 South, Range 37 East, Lea County, New Mexico.

This well is presently producing from the Paddock Pool, Oil Pool, through perforations from 5,065 to 5,080; 5,150 to 5,125 feet.

I hand you Exhibit A, on which is shown the A B Amerada, AB Baker 80-acre lease shaded in red, and the subject well, the A B Baker No. 2, circled in red.

This well was spudded February 24th, 1946, and was completed March 28, 1946. We have 13 and 3/8 inch casing set at 202 feet, with 200 sacks of cement, and cement was circulated. We have nine and five-eights inch casing set at 2676 with a thousand sacks of cement, and the top of the cement came to 1300 feet. We have 7 inch casing set at 5205 feet, with 350 sacks of cement, and the top of that cement is 3175.

The initial potential on this well was 275 barrels of oil per day, with a gas-oil ratio of 1475.

Recent tests show 35 barrels of oil, 2 barrels of water, with a gas-oil ratio of 5612, and flowing tubing pressure of 120 pounds per square inch.

We propose to dually complete this Paddock Oil Well in the Penrose-Skelly Zone in the following manner.

I want to hand you Exhibit No., Exhibit B of this proposed dual completion. We will first run gamma-ray neutron surveys and then we will perforate the Penrose and Grayburg Sections, from approximately 3,495 to 3,640, as determined by gamma-ray neutron surveys. We will run a packer and retrievable bridge plug on 3½ inch, on D tubing, and then at this time, we will fracture the Paddock perforation, then we will set the bridge plug at 3,655 and we will acidize and fracture the Penrose-Grayburg Zone. Then, we will retrive the bridge plug and run two strings of two and three-eights inch up-set tubing, with top bevelled collars, with production packers on the long string, then,we will set the packer at approxim-

ately 5,000 feet, and then we will swab the wells in.

The reason we want to dually complete this well, instead of drilling a new well to the Penrose-Skelly Pay, is because a new well will not pay out. To support this, I want to submit Exhibit C. This exhibit shows two decline curves. The curve labeled Rowan Waldon Nos. 1 and 2, and Skelly B. Baker Nos. 1, 2, and 3 is a curve showing the average barrels per day per well, plotted on a "Y" axis versus time in months on the "X" axis for five wells located in the immediate vicinity of our Baker No. 2 and completed in the Penrose-Skelly Pool. These wells circled in green on Exhibit A.

The second decline curve plotted on Exhibit C, is a production decline curve for our Amerada AB Baker No. 1, the well that was completed in the Penrose-Skelly Pool in 1942; temporarily abandoned in 1954, and placed back on schedule in June 1956, after fracturing. This well is checked by a green mark on Exhibit A.

This is a North off-set to our subject well, the Baker No. 2.

As Can be seen by this Exhibit, the average daily producing for the five wells, that is, the two Rowan Wells and the three Skelly Wells, is less than three barrels per day per well. Actually, they produce closer to two barrels per day per well. This shows the productive quality of the wells in the area.

Assuming that we could complete a better than average well by modern fracturing methods, that is a well similar to the Barker No. 1, it could be expected to have a production decline similar to

that shown on Exhibit C for the Amerada-Baker No. 1, or could be expected to decline to an exonomic limit of two barrels per day in approximately 25 months, or after producing about 10,000 barrels of oil.

That area, which is cross-hatched there on Exhibit C, represents approximately 10,000 barrels. A new well drilled to the Penrose-Skelly Pool would cost $37,000.00. Under primary recovery, we can only expect to produce approximately 10,000 barrels of oil from the Baker No. 2 in this Penrose-Skelly Zone.

If we can convert this 10,000 barrels of oil to dollars, we will produce 33 gravity oil, at $2.88 a barrel, if we will recover 7/8th of that oil, for $25,200.00, we will pay a tax on that 10,000 barrels of oil of $1,700.00, and approximately listing the cost of about 30 cents a barrel, or $3,000.00, that will leave us about $20,500.00. If we drilled a new well, this would mean a loss of $16,500.00 by drilling that well. The dual completion would cost about $10,000.00, and that would give us a profit of $10,500.00, or about a dollar per barrel for the oil. Therefore, to prevent waste and to facilitate the recovery of this oil, we request that the Oil Conservation Commission grant this dual completion.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Abbot, do you have a tabulation of those various costs and so forth that you could enter?

A Yes, sir. I can read that off again, or submit another

Exhibit.

Q I would like to have it as an Exhibit.

A This will be Amerada's Exhibit C.

Q Do you want to offer those Exhibits?

A Yes, I would.

MR. NUTTER: Without objections, Amerada's Exhibits A through D will be received in Case 1244.

MR. COOLEY: Were these exhibits prepared by you or under your supervision, Mr. Abbott?

A Yes, sir.

BY MR. MANKIN:

Q Mr. Abbott, I noticed your application indicated you intended to produce the Penrose-Grayburg and the Penrose-Skelly Pool, is that correct?

A Yes, sir. Actually, some of that Penrose-Skelly Pool is up on the Penrose, although most of it is in the Grayburg Section.

Q Are you aware that the Penrose and the Queen was deleted in the Penrose-Skelly Pool?

A No, I wasn't aware of it, but, I can't tell until we run the log whether any of that Penrose will be oil productive or gas productive.

Q Would you be aware, then, that if you do obtain Penrose production in this well, that it would not be an authorized dual completion in the Penrose-Skelly Pool?

A Well, we could -- at completion we'll have to complete it

solely on the Grayburg.

MR. NUTTER: Let's go off the record.

(Discussion off the record.)

MR. MANKIN: Let's go on the record now.

Q (By Mr. Mankin) Mr. Abbott, all of this particular Section 10, has presently been designated as the Eumont Gas Pool, are you aware of that? A Yes, sir.

Q Then if you did find that the Queen was productive in this particular well, you should not attempt to show it with the Grayburg Formation, are you aware of that?

A Yes, sir.

Q You have shown on your Exhibit No., I guess Exhibit B, which is your plat, is that correct?

A Yes, sir.

Q Exhibit B.

MR. NUTTER: Exhibit A is the Plat.

Q (By Mr. Mankin) Oh, Exhibit A, you have shown quite a number of wells in yellow. Did you mean to infere that those are the Penrose-Skelly Wells, or what?

A Those are all Penrose-Skelly Oil Wells.

Q They are not in the Penrose-Skelly schedule, that is why I was wondering.

A Yes, sir, I believe they are.

Q Some of them are, and some of them are not. I was wondering what they were, if they were not Penrose-Skelly. I believe it is

your testimony here that, primarily, this is a salavage operation to open up the Grayburg Formation here to produce the Penrose-Skelly Pool, is that correct? A Yes, sir.

Q And to protect your lease from drainage?

A Yes, sir.

Q Practically all the wells in this area, from the Grayburg Formation to the Skelly-Penrose Pool, are very small wells, is that correct? A That's correct.

Q It wouldn't pay to drill a well to them to get the reserves of the individual wells? A No, sir.

Q Would Amerada be agreeable, if this application were approved for dual completion, to specify that only the Grayburg Formation would be opened in the Penrose-Skelly Pool to allow for oil-oil dual?

A Yes, sir, I believe it would be agreeable.

Q Or to show cause later, why this order should be amended, if the Grayburg was found to be productive, if it was found to be productive of oil in the area?

A That's right, we would have to examine all these off-set wells and wells in this area to determine whether they were producing.

Q Do you have knowledge that there are wells in this area which are gas productive from the Queen, rather than oil productive?

A No, sir.

Q Do you have knowledge of Skelly's Baker B No. 10 in the Northeast Quarter of the Southwest Quarter of Section 10, which is

directly west of your well?

A No, sir, I was not aware of it.

Q Are you aware that they obtained Queen gas production in that well? A No, sir.

Q It is shown on your Exhibit No 1 as just an open well in the Northwest of the Southeast of Section 10?

A I believe that well --

Q (Interrupting) Dual completion?

A Oh, is it a dual. I have it in the Paddock Pool in our application.

Q They were granted a 320-acre -- sorry, 240-acre unit by NSP Order 303. Then, Amerada would be agreeable to keeping this dual completion only in the Grayburg Formation, Penrose-Skelly, and to continue as a Paddock Oil Well, if conditions were found in that manner? A Yes, sir.

Q And if conditions were found different from that, that would be a subject for a separate hearing?

A That's right.

MR. MANKIN: That's all.

BY MR. NUTTER:

Q Mr. Abbott, in the production decline curve, as shown on Exhibit C, this is the decline curve for the five wells that you mentioned and the average production for all five wells, is that right? A That's right.

Q Is there much deviation from the average by any of the wells?

A No, they are fairly close together.

Q They are all average?

A Yes, sir. The reason I had to average them was because evidently there had been some fracturing in the area, which would bring one well up one month and then it would be down the next, and I couldn't plot up just one well's production and get a representative curve of the wells in the area.

Q Now, your Amerada AB Baker No. 1 Well, the production decline curve, which starts in June of 1956, this is after a workover, is that correct?

A After fracturing, yes, sir.

Q And it had produced previously, but been temporarily abandoned for a period of quite a few months?

A Yes, sir.

Q Now referring to Exhibit C, A and C, simultaneously, are these five wells that are shown on Exhibit C the closest five wells that you could have included, the closest five wells that are depicted on Exhibit A, which are productive from the Penrose-Skelly Pool, the closest to your proposed dual completion, that being your AB Baker No. 2 Well?

A Yes, those are the closest wells that have a consistent production history. There are other wells that have been recompleted, or some remeidal work has been performed on them, and you can't plot them up on the decline curve.

Q You feel then, that these five wells are the most repres-

entative wells in the near neighborhood?

A Yes, sir.

Q To determine what the decline would be for the Penrose-Skelly Pool?

A Yes, sir.

Q Mr. Abbott, I note that in your application, Exhibit B, which is attached to it, it mentions that the Paddock would be perforated from 5,115 to 5,125, and you have amended Exhibit C, as offered at the hearing, to also include from 5,065 to 5,080?

A Yes, sir. When we prepared this application, we overlooked some previous perforations from 5,065 to 5,080, although they are still in the Paddock Formation.

Q And you desire that your application be amended to include those additional perforations, is that right?

A Yes, sir.

Q Now, the proposed perforations for the Penrose-Skelly, I mean the Penrose-Grayburg Formation as depicted on Exhibit B, would be 3,495 to 3,640, is that correct?

A That's the approximate intervals, yes, sir.

Q What did you get those figures from, the electric logs, or what?

A I think we took those from a log that we had run on the off-set well, the Baker No. 1, although in that well we are producing in the Grayburg from 3,611 to 3,680.

Q It doesn't have any Penrose Section open?

A No, sir.

MR. NUTTER: Anyone else have any questions of the witness? If there are not further questions, the witness may be excused. Anyone have anything to offer in Case 1244? If not, we will take the case under advisement and take up next, Case No. 1245.

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 Hearing was reported by me in Stenotype at the time and place hereinbefore set forth; that same was thereafter transcribed into typewritten transcript by me; and that same is a true and correct record to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this, the 9th day of May, 1957, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

J. A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960.