

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

July 26, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Amerada Petroleum Corpora-
tion for approval of a quadruple comple-
tion, Lea County, New Mexico. Applicant,
in the above-styled cause, seeks per-
mission to complete its L. G. Warlick "A"
Well No. 2 located in Unit J of Section
19, Township 21 South, Range 37 East, Lea
County, New Mexico, as a quadruple comple-
tion (tubingless) in the Penrose-Skelly,
Paddock, Blinebry, and Drinkard Pools,
with the production of oil from all zones
to be through parallel strings of 2 7/8-
inch casing cemented in a common well bore.)

CASE NO.
2605

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: Case 2605.

MR. DURRETT: Application of Amerada Petroleum Corpora-
tion for approval of a quadruple completion, Lea County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, Santa Fe,
representing the Applicant. We have one witness I would like to
have sworn.

(Witness sworn.)

MR. UTZ: Any other appearances? You may proceed.

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A. E. SNYDER,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A A. E. Snyder.

Q By whom are you employed and in what position?

A I'm employed by Amerada Petroleum Corporation as division engineer in Hobbs, New Mexico.

Q Mr. Snyder, have you testified before the Oil Conservation Commission of New Mexico and had your qualifications made a matter of record?

A Yes, sir.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. UTZ: Yes, they are.

Q (by Mr. Kellahin) Mr. Snyder, are you familiar with the application of Amerada in Case 2605?

A Yes, sir.

Q Will you state briefly what Amerada proposes in this case?

A This application is for the purpose of receiving approval for a quadruple completion. It's Warlick "A" Well No. 2 located in Unit J, Section 19, Township 21 South, Range 37 East, Lea

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County, New Mexico.

Q Do you have a plat showing the area involved in this application?

A Yes.

(Whereupon Applicant's
Exhibit 1 marked for
identification.)

Q Referring to what has been marked as Exhibit No., would you identify that exhibit and discuss the information shown thereon?

A Exhibit No. 1 is a plat showing the area involved in this application and the location of the proposed well, Warlick "A" No. 2, is shown circled in red. The location and producing zones of all other wells within about a mile and a half radius of this well are shown on the plat. The plat in general covers sections of Township 21 South, Ranges 36 and 37 East, Lea County, New Mexico.

Q Now, in what zones does Amerada propose to complete this well?

A Our proposed zones of completion are in the Penrose-Skelly or in the Grayburg formation, in the Paddock formation, the Blinbry formation, and the Drinkard formation.

Q Is it anticipated that oil will be produced from each of these zones?

A Yes, sir, they should all be oil productive.

Q What is the status of the well at the present time?

A The well has been drilled. We have just finished setting



and cementing the four strings of small casing in the hole.

Q Do you have a log of the well?

A Yes, sir.

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

Q Referring to what has been marked as Amerada's Exhibit No. 2, would you identify that exhibit and discuss the information that has been marked on it?

A Exhibit No. 2 is a combination gamma ray and sonic log of the well. On this log I have marked the tops of the zones in question. You will notice that 3620 feet, the top of the Penrose-Skelly field is marked. This is actually the top of the Grayburg zone. I have also shown the proposed perforations in the Penrose-Skelly formation. Now, these perforations all may be changed somewhat as we perforate. Some of them may be water productive and we may have to squeeze off and come up higher in the zone or some maybe high ratio, or we may have to squeeze off and go deeper in the zone. On the log I have marked the Paddock at 1510, also showing proposed perforations there, and at 5526 we show the top of the Blinbry formation as determined by this Commission order sometime in the past; and the proposed Blinbry perforations are also marked there. And at 6308 we have marked the top of the Drinkard zone and the proposed Drinkard perforations are shown.

Q Now, you have a schematic diagram showing the completion of this well?

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A Yes, sir.

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

Q Referring to what has been marked as Amerada's Exhibit No. 3, will you discuss the information shown on that exhibit?

A Exhibit 3 is merely a schematic diagram of the equipment that has been set in the well, again showing the proposed perforation and the various zones. Starting from the top, we have our 16-inch surface casing set at 295 feet, cemented with 450 sacks, and the cement did circulate to the surface. Then we set 10 3/4 casing at 2575 feet, cemented it with 2536 sacks, and that cement also circulated to the surface. Then we drilled a 9 7/8-inch hole to total depth of 6710 feet and set four strings of 2 7/8-inch casing in those. Casing string No. 1 on the right was set at a depth of 6704 feet.

Casing string No. 2 was set at 6705. String No. 3 was set at 6707, and No. 4 string was set at 550 feet. Now, we cemented down the three long strings of casing simultaneously with 1815 sacks of cement. By temperature survey, top of cement was at 2400 feet, which brings it back up inside the 10 3/4-inch casing 175 feet, so that all zones in the entire well bore are protected by cement.

MR. UTZ: How far did it come back up into the 10 3/4, did you say?

A One hundred and seventy-five feet.

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Q (by Mr. Kellahin) In other words, the entire well bore is protected by cement, is that correct?

A Yes, sir.

Q Now, Mr. Snyder, in your opinion, will this type of completion fully and adequately protect the zones involved from communication?

A Yes, sir, we feel that it will.

Q How will the perforations be made for these strings?

A Each one of these strings of casing will necessarily be perforated individually from the other strings. At the time that we perforate any one string, we will have gamma ray source in all three of the other strings and actually locate the other three strings of casing so that the perforating will be done away from the other three strings of casing in the well. And this is an approved procedure. We have used it some twenty-five times and have had no failures in it as far as perforating more than one string of casing at the time.

Q Is this a completion that has been approved by the Commission in the past?

A Yes, sir.

Q Are there other completions of this type in the vicinity of this well?

A Yes, sir.

Q Would you name one of them, or could you?

A Our Amerada's Warlick "A" No. 1 located in the Northeast



Southeast of Section 19, 21 South, 37 East, was recently completed in this manner.

Q In your opinion would the approval of this application be in the interest of conservation and the prevention of waste?

A Yes, sir.

Q Do you have anything to add to your testimony, Mr. Snyder?

A No, I believe that's all.

Q Were Exhibits 1, 2, and 3 prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time I would like to offer in evidence Exhibits 1, 2 and 3.

MR. UTZ: Without objection, Exhibits 1, 2, and 3 will be entered in the record.

(Whereupon Applicant's Exhibits 1, 2, and 3 admitted in evidence.)

MR. KELLAHIN: That's all the questions I have of the witness, Mr. Utz.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Snyder, are you familiar with the process of completing or cementing these small strings of casing that some operators use by circulating as you did and then going back in and squeezing around the pay zone?

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A Yes, sir, we have found it necessary to do that in some instances; many times it has not been necessary.

Q You don't do that as a usual practice at all?

A Not as a usual practice.

Q How do you determine it's necessary?

A When we make these perforations, we make just a few shots at the top and bottom of the zone that we anticipate perforating in all the different zones and pressure tests to see if we get any type of communication between any of the zones. If we find we do have communication, then we squeeze and re-perforate and run the test again, until we find that we do not have communication between any of the zones.

Q I notice on your Exhibit No. 3 you scratched out 9 5/8 and put 10 3/4-inch.

A Yes, sir.

Q Actually you have a 9 7/8-inch hole there, do you not?

A Yes, sir, a 9 7/8-inch hole, but the last casing above that was the 10 3/4-inch.

Q Do you have any idea what the GORs are in these various zones?

A I can give you an idea of what we expect based on what we found on the well east offset to this.

Q I would like the GOR and the pressure and type of crude, if you have them there.

A Okay, in the Warlick "A" No. 1 the immediate east offset



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to this well, our Paddock was low there, some 30 feet low and was water bearing, so we did not make a completion in it. It is higher in this well, and we anticipate that it will be productive. We did not have any other Paddock completions in that immediate area, so I could not furnish you at this time gas-oil ratio or pressure information on the Paddock zone. The Penrose-Skelly should produce crude oil with a gravity of about 37 degrees and a gas-oil ratio of something less than 2,000 probably about 1500-to-one. The bottomhole pressure in that zone is 1196 pounds.

Q Is that a sweet crude?

A No, sir, the Penrose-Skelly is a sour crude. The Blinebry zone, we anticipate that it will produce oil about 39 degrees API, and the gas-oil ratio probably will be on the order of 5,000. The reservoir pressure in the Blinebry is about 2,070 pounds. We anticipate the Drinkard zone will produce oil with a gravity of about 41 degrees API with a gas-oil ratio of about 2,000, and it has a bottomhole pressure of 1325 pounds. The Drinkard and the Blinebry are both sweet crudes.

MR. UTZ: Any other questions of the witness?

The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in this case?

The case will be taken under advisement.

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STATE OF NEW MEXICO)
) ss.
 COUNTY OF BERNALILLO)

I, MARIANNA MEIER, NOTARY PUBLIC in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of proceedings was reported by me in stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

Marianna Meier
 NOTARY PUBLIC

My Commission Expires:

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2605 heard by me on July 26, 1962.

Paul H. [Signature], Examiner
 New Mexico Oil Conservation Commission

