

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 28, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Texaco Inc. for an exception to Rule 107 (e), Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 107 (e) to permit the tubingless completion of its State "AT" Well No. 5, located in Unit M, Section 10, Township 14 South, Range 33 East, Lea County, New Mexico. The subject well will be completed in the Wolfcamp formation and will be produced through a string of 2 7/8 inch casing set at approximately 10,000 feet.

CASE 2591

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: We will take Case 2591.

MR. MORRIS: Application of Texaco Inc. for an exception to Rule 107 (e), Lea County, New Mexico.

MR. WHITE: Charles White, Gilbert, White and Gilbert of Santa Fe, appearing on behalf of Texaco.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 and 2 marked for identification.)

C. R. BLACK

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

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**FARMINGTON, N. M.
PHONE 325-1182**

ALBUQUERQUE, N. M.
PHONE 243-6691



DIRECT EXAMINATION

BY MR. WHITE:

Q State your name, please.

A I am C. R. Black. I am employed by Texaco as a Petroleum Engineer.

Q Have your qualifications as a Petroleum Engineer previously been accepted by the Commission?

A Yes, they have.

Q Will you briefly state the purpose of the subject application?

A This is the application of Texaco Inc. for an exception to Rule 107 (e), in that we intend to complete our State of New Mexico "AT" Well No. 5 as a tubingless completion at a depth greater than 5,000 feet.

Q Will you refer to Exhibit 1 and among other things point out the location of the well?

A Exhibit No. 1 is a location plat showing the Texaco State of New Mexico "AT" lease; it's bordered in yellow. The "AT" No. 5 is circled in red. It's located 660 feet from the south and west lines of Section 10, Township 14 South, Range 33 East. Also shown on this plat are the offset operators and their mailing addresses.

Q What's the status of the well at the present time?

A At the present time this well is drilling at a depth below 8500 feet.

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Q Will you refer to Exhibit No. 2 and explain the proposed installation?

A Exhibit 2 is a diagrammatic sketch of the tubingless completion installation. We drilled a 15 inch hole to 370 feet and at that point we set 10-3/4 inch casing, circulated cement to the surface. We then proceeded with a 9-7/8 inch hole to 4143 feet, and set 7-5/8 inch casing at 4143.

Exhibit 2 should be amended from 4150 to 4143. We cemented with a total of 700 sacks of cement, and we estimate that the top of the cement is at approximately 2450 feet. We then proceeded and are currently drilling a 6-3/4 inch hole. We plan to go to a total depth of 10,000 feet, and at that point we will set 2-7/8 inch casing and cement it with sufficient cement to bring the cement back to 8700 feet.

Q What are the crude characteristics expected to be?

A We expect to complete in the Permo-Pennsylvanian, or Wolfcamp formation. We perforate four intervals ranging from 9750 to 9950. We expect an intermediate sweet crude with a gravity of 42.5 degrees. We expect a gas-oil ratio to be approximately 1200 cubic feet per barrel, with an estimated bottom hole pressure of 1600 psi. We expect this zone to flow for one year at the rate of a top allowable of 129 barrels of oil per day.

Q Is this installation suitable for artificial lifting?

A Yes, sir, at the time it becomes necessary to artifi-



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ficially lift the installation, it will be possible.

Q Do you anticipate any corrosion, scale, or paraffine problems?

A We anticipate some corrosion problems. We plan to control this corrosion by pumping a liquid inhibitor mixed with crude oil back into the formation in a batch treatment. We will take periodic coupon surveys to determine at what time it's necessary to recharge the formation with this inhibitor.

Q How about your scale problems?

A With regard to scale, we are expecting some scale problems from the water production. We do expect approximately 30 barrels of water per day initially. We will control the scale by packing the casing from a point above the perforations to the plug-back total depth with a solubility control phosphate crystals. These are small crystals approximately 3/8ths of an inch in diameter, and based on calculations as to when it will be necessary to recharge the casing and also water analysis, we will know at what time to recharge the casing and prevent scale. With regard to paraffine, we expect no paraffine whatsoever in this installation.

Q In regard to controlling this scale, have you used this method before and has it proved satisfactory?

A Yes, we have. It's a relatively new process in the industry; however, we have it in several installations in Southeast New Mexico and West Texas and find it is controlling scale.

Q Are there any similar installations of this nature in the



area?

A Upon review, we found that the closest installation we could find completed in the Wolfcamp formation is approximately 25 miles to the north. It's the Cabeen Exploration Company State "K" Well No. 1. It's a tubingless completion in the Permo-Pennsylvanian or Wolfcamp formation. It's completed in the Mescalero- North Wolfcamp Field and it was completed on June 14, 1960.

Q Did the Commission approve this installation?

A Yes. The Commission approved it by Order No. R-1743 dated August 4th of 1960. At the present time this well is currently producing top allowable of 102 barrels of oil per day. They've experienced no apparent difficulties with it.

Q Are there any other wells in this pool within a mile of the subject well?

A Yes, sir, this well is offset directly to the west and to the northwest by wells completed in the Saunders Pool, and then our State of New Mexico "AT" No. 1, 3, and 4 are also completed in the Saunders Pool.

Q Do you anticipate any pressure problems?

A No, sir, we expect none whatsoever.

Q Do you intend to ever dually complete the well?

A No, sir. We have no indication of any formation above the Wolfcamp being productive in this area; and due to this installation it would be relatively impossible to complete it at a



formation at a lower depth.

Q Will a log be submitted upon the completion of the well?

A When the well is logged and completed, we will submit a log to the Commission.

Q In your opinion, will this installation lend itself to the prevention of waste and to the protection of correlative rights?

A Yes, sir.

MR. WHITE: At this time we offer Exhibits 1 and 2.

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

Q (By Mr. White) Do you have any further statements to make, Mr. Black?

A That's all I have.

MR. WHITE: That concludes our direct.

CROSS EXAMINATION

BY MR. UTZ:

Q What is the producing formation in the Saunders Pool?

A It's the Permo-Pennsylvanian or the Wolfcamp formation. There's some difference of opinion as to whether it's Permian or Pennsylvanian, so we call it the Permo-Pennsylvanian.

Q Which is the same formation which you intend to complete the subject well in?

A That is correct.

Q I believe you testified that the 7-5/8 casing was set at 4143?



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A Yes, sir.

Q Top of your cement on your 2-7/8ths was 8700?

A Yes, sir.

Q Which leaves something like 4557 open hole?

A Yes, sir.

Q How about the water zones and producing zones in the area?

A We feel that the intermediate casing has all fresh water zones cased off because it is below the base of the salt section. There are no indicated producing zones between 8700 and 4143 feet. We've experienced no difficulty with older wells in the Saunders Pool with regard to corrosion problems, external corrosion problems on the production casing.

Q Is that much open hole prevalent in the other completions in the pool?

A In most of our completions in the pool, they are completed in a very similar manner to this, with the exception we set 5-1/2 or 4-1/2 inch casing rather than the 2-7/8ths.

Q What was the chemical again that you were going to use for scale?

A We're going to use solubility control phosphate crystals which, they dissolve at a rate proportional to the area exposed to the water being produced. These crystals dissolve in the produced water and keep the calcium carbonate scale in suspension until it's produced at the surface, and thereby reduce the scale deposits



at the formation and in the tubing string.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused.)

MR. UTZ: Any other statements in this case?

MR. WHITE: We have none.

MR. UTZ: The case will be taken under advisement.

* * * * *

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 Proceedings before the New Mexico Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript under my personal supervision; that the same is a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

WITNESS my Hand and Notarial Seal this 3rd day of July, 1962.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7591, heard by me on June 28, 1962.
[Signature]
Examiner
New Mexico Oil Conservation Commission

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