BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APRIL 5, 1961

EXAMINER HEARING

IN THE MATTER OF

CASE 2230: Application of El Paso Natural Gas Company for a gas-gas dual completion utilizing two strings of casing. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Huerfano Unit Well No. 113, located in Unit C, Section 33, Township 27 North, Range 10 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Angels Peak-Gallup Pool and the production of gas from the Basin-Dakota Pool through parallel strings of 2 7/8-inch casing cemented in a common well bore.

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: The next case will be 2230.

MR. MORRIS: Case 2230. Application of El Paso Natural Gas Company for a gas-gas dual completion utilizing two strings of casing.

MR. WHITWORTH: Garrett Whitworth, representing El Paso. Written appearance has been made by local counsel, firm of Seth, Montgomery, Federici & Andrews, Santa Fe. I have one witness to

be sworn,Mr. Hickson.

(Witness sworn)

GERALD A. HICKSON,

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

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q Will you please state your full name, by whom and in what capacity you are employed?

A Gerald A. Hickson. Proration engineer for El Paso Natural Gas Company.

Q Mr. Hickson, have you previously testified before this Commission as a proration engineer and have your qualifications been made a matter of record?

A Yes, they have.

MR. WHITWORTH: Are the qualifications of the witness acceptable?

MR. NUTTER: Yes, sir.

Q (By Mr. Whitworth) Are you familiar with El Paso's application in this case?

A Yes.

Q What does El Paso seek by this application?

A We're seeking a gas-gas dual completion, a slim hole method in the Basin-Dakota and the Angels Peak-Gallup.

Q Where is this well located?

A The well is located in Unit C of Section 33, Township 27 North, Range 10 West.

Q Do you have a plat depicting the exact location of the well?

A Yes, I do.

Q Is that El Paso's Exhibit No. 1?

A Yes.

(Whereupon, El Paso's Exhibit No. 1 was marked for identification.)

Q This well is located in what Unit?

A Huerfano.

Q Who is the operator?

A El Paso Natural Gas Company.

Q What acreage will be dedicated to each zone?

A The west half of Section 33 in Township 27, Range 10 West.

Q Would you repeat what two zones this well is completed in?

A It will be completed in the Gallup formation of the Angels Peak-Gallup Pool and the Dakota Pool formation of the Basin-Dakota.

Q When was the well completed?

A Sometime in the middle of December, about the 15th of December, 1960.

Q Do you have an Exhibit depicting the physical equipment

that has gone into the well?

A Yes. We have a schematic diagram of the dual completion.

Q Is that El Paso's Exhibit No. 2?

A Yes.

(Whereupon, El Paso's Exhibit No. 2 was marked for identification.)

Q Would you explain what the Exhibit shows?

A It shows the casing program, the cement program, and the perforations of the well. We have 10 3/4 inch casing set at 292 feet. Cement to the surface with 340 sacks. We have the Pictured Cliff covered with an inch and quarter J-55 tubing set at 1904 feet with 170 sacks. We cut off the inch and quarter tubing at 1290 feet, which is approximately 500 feet above the top of the Pictured Cliff. The Pictured Cliff formation is from 1806 feet to 1882 feet. It's covered by 400 feet on the top and about 20 feet below.

MR. NUTTER: What's the bottom of the Pictured Cliff?

A 1882 feet. The Gallup completion, we have 2 7/8 inch tubing set at 5950, set with 326 sacks of cement. The well was perforated 5678 to 5698; 5709 to 5714, and fractured with oil and sand. The top of the cement is at 4810 feet, which will be 868 feet above the perforations.

The Dakota was set at 6525 feet with 81 sacks of cement. The top of the cement is at 6100 feet. The Upper Dakota perforations

are at 6286 to 6291; 6318 to 6324; 6371 to 6376, fractured with water and sand. The Lower Dakota perforations are at 6418 to 6434. They are also fractured with water and sand. The cement is 186 feet above the top of the perforations on the Dakota. We have 572 feet of cement separating the two zones of perforations.

Q You used cement as a means of separating production from the two zones?

A Yes.

Q Was any kind of test taken to determine whether this was effective?

A Yes, sir. We have a separation test, which is recorded on a packer leakage test form.

Q Is that El Paso's Exhibit No. 4?

A No. 3.

(Whereupon, El Paso's Exhibit No. 3 was marked for identification.)

Q What does this test reveal?

A It shows the shut-in pressures on the two zones of completion and the flowing zone; two test periods, one flowing zone and the shut-in pressures taken on the upper zone with the lower zone flowing, and also the upper zone flowing and the lower zone shut-in pressures. It shows a build-up in both zones as the alternate zone was being produced.

Q This well is a gas well, is it not --

A Yes.

MCF per day. The shut-in pressure was 2,011 pounds.

Q Mr. Hickson, was a similar case heard before this Commission involving a well in the same unit recently, being Huerfano No. 116?

A Yes, it was.

Q Was that a slim hole completion gas-gas dual?

A Yes, it was identical completion as the 113.

Q And the Commission has granted your relief requested in that case --

A Yes.

Q -- by order?

A Yes.

Q Why is it advantageous to have a slim hole dual completion?

A Well, I think in this area it's strictly a matter of economics. There's quite a savings as to a slim hole completion over a normal dual due to the rig time. Move this rig off and put on a smaller unit to complete the well, we save on the casing string. Normally we set a 7 inch casing string in completion of this matter, normal completion, so it's purely economics. The 116 could not have been completed on normal dual. This well might have been. We did get a little better test in the Gallup, but there's a savings here of some thirty to forty thousand dollars.

Q In your opinion, would the granting of the application in this case prevent waste and protect correlative rights?

A Yes, sir.

Q Were Exhibits 1, 2, 3, 4-- 4 (a) and 4 (b) prepared by you or under your direct supervision?

A Yes, they were.

MR. WHITWORTH: We ask that the Exhibits be admitted.

MR. NUTTER: El Paso's Exhibits 1 through 4 (a) and 4 (b) are admitted.

(Whereupon, El Paso's Exhibits 1 through 4 (a) and 4 (b) were admitted in evidence.)

Q (By Mr. Whitworth) Do you have anything further to add to your testimony?

A Yes, sir. I have one more Exhibit that we might ought to add at this time. It's the location of the centralizers and turbulizers on the two strings.

Q That will be El Paso's Exhibit No. 5?

A Yes, sir.

(Whereupon, El Paso's Exhibit No. 5 was marked for identification.)

MR. WHITWORTH: We ask that El Paso's Exhibit No. 5 be admitted also.

MR. NUTTER: El Paso's Exhibit No. 5 will be admitted.

(Whereupon, El Paso's Exhibit No. 5 was admitted in evidence.)

Q (By Mr. Whitworth) Does that complete your testimony?

A Yes, sir.

A No, sir, I don't. I think that's very remote.

MR. NUTTER: Are there any questions of Mr. Hickson?

MR. PAYNE: Yes.

MR. NUTTER: Mr. Payne.

BY MR. PAYNE:

Q Do you feel that you set your surface casing deep enough to protect any fresh waters in the area?

A Yes, I do. I think it was checked out in the area.

Q And that depth is 292 feet --

A Yes.

Q -- with cement circulated to the surface?

A Yes.

Q Both zones are flowing at present, is that correct?

A Yes.

Q I realize this is a gas-gas dual, but in this type of installation, is it possible to have artificial lift?

A Well, yes, sir, I think we could. I don't think we have that problem in this well.

Q Did this type installation give you any workover problem, Mr. Hickson?

A Not at the present time. At one time wire line equipment was such that there were some hazards and problems involved, but they're improving every day, you might say, and coming up with new equipment to workover wells of this type.

Q Are there any particular corrosion problems in this area

that might make this type of installation undesirable?

A No, sir. This gas is sweet in both cases, and the oil.

Q You feel that the cement will adequately segregate the two producing higher zones?

A Yes. We have 570 feet separating the two zones of production.

MR. NUTTER: Did El Paso find it better operational practice to cement the Pictured Cliff with the string of inch and quarter rather than to use a D.V. tool on the string of one of the casing?

A I can't testify to that except in the past two wells we have operated that way.

Q (By Mr. Payne) By having the string of inch and quarter, if you had any fluids above and below this cement plug in the Pictured Cliff, they could migrate to the other side of the plug, though, could they not?

A You mean through --

Q Through the inch and quarter tubing?

A No, I don't think so. I imagine that the lower half of this tubing is sealed off with cement; I am certain.

Q You feel that the bottom portion would be full of cement?

A Yes, I am sure they didn't wash the tubing out, I would say 300 feet of it, anyway.

MR. NUTTER: Any further questions? He may be excused.

(Witness excused)

MR. NUTTER: Do you have anything further?

MR. WHITWORTH: Nothing further.

MR. NUTTER: Does anyone have anything further to offer in Case 2230? We will take the case under advisement and call Case 2231.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, 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 machine shorthand and reduced to typewritten transcript 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 11th day of April, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

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. 2230, heard by me on 4-5, 1961.

, Examiner
New Mexico Oil Conservation Commission