BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 3, 1961

IN THE MATTER OF:

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. 116, located in Unit C, Section 11, Township 26 North, Range 10 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Gallup formation adjacent to 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. Case 2201

BEFORE:

Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. MORRIS: Application of El Paso Natural Gas Company for a gas-gas dual completion.

MR. WHITWORTH: Garrett Whitworth, representing El Paso Natural Gas Company, with the local counsel, the Seth Montgomery firm, who has entered a written appearance in this case. We have one witness to be sworn.

(Witness sworn.)

GERALD A. HICKSON,

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

DIRECT EXAMINATION

BY MR. WHITWORTH:

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

A Gerald A. Hickson, Proration Engineer, El Paso Natural Gas Company.

Q Mr. Hickson, have you previously testified before this Commission as an expert proration engineer?

A I have.

Q And have you been accepted in that capacity, and is that made a matter of record?

A Yes, sir.

MR. WHITWORTH: Are the witness's qualifications accepted?

MR. NUTTER: Yes, sir.

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

A Yes, sir, I am.

Q What does El Paso expect with this application?

A We are seeking approval of a slimhole completion utilizing two strings of 2 7/8-inch casing, the bottom in the Dakota and Gallup formations.

Q Where is this well located?

A The well is located in 990 feet from the North line, 1652 feet from the West line of Section 11, Township 26 North, Range 10 West.

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

A Yes, sir, I do.

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

A Yes, sir.

Q Is this a Federal unit here, Mr. Hickson?

A Yes, it is.

Q Who is the operator of the unit?

A El Paso Natural Gas.

Q What acreage has been dedicated to each well?

A The W/2 of Section 11 has been dedicated in both the Dakota and Gallup formation.

Q This well was completed to the Dakota and to the Gallup; is that right?

A Yes, sir.

Q By slimhole completion?

A Yes, sir.

Q As you stated?

A Yes, sir.

Q Will you tell the Examiner the reason for completing this well as a slimhole completion?

A Well, it is economics. We save approximately between 30 and 35% on this slimhole completion over a conventional dual, and had we used a conventional dual it would have been uneconomical to make a completion in the Gallup the way the Gallup turned out to be.

Q Do you have a schematic diagram showing just how this well was completed and the separation of the two zones?

A Yes, sir.

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

A It is.

Q Would you please explain this exhibit?

A It is a schematic diagram of the completion. It shows the 9 5/8-inch casing, surface casing, set at 304 feet with 300 sacks of cement; two strings of 2 7/8-inch casing, set at the Dakota string, set at 7,029 feet, cemented with 81 sacks of cement, and the Gallup string, set at 6276, cemented with 326 sacks. The top of the cement on the Dakota section is 6575 and the top of the cement in the Gallup section is 4815.

Q What is the packer in this case, the means of separating the two zones?

A It is cement.

Q You consider that this is an effective separation?

A Yes, sir, I do. We have found the tops and bottom of the cement sections by a temperature tool, and we have a total of 349 feet of cement separating the perforations in the Gallup, and the perforations in the Dakota.

Q Has a packer leakage test been run on this well?

A Yes, sir, it has.

Q What did that test reveal?

A It revealed no communication between the two zones.

Q When was the test run?

A It was taken December 20, 1960.

MR. PAYNE: Rather than packer leakage you mean communication test?

A Yes, sir, that is what it is. It is on a packer leakage form.

Q (By Mr. Whitworth) What kind of production is there from the two zones you mentioned?

A The Dakota had an A.O.F. of 3,084 MCF, based on a flowing rate of 2994 MCF per day; in the Gallup, it tested 272 MCF with 7.8 barrels of oil in 24 hours.

Q So you consider both these wells gas wells?

A Yes, sir, I do.

Q And what data are you using to determine that?

A I am using two tests submitted to us from our field personnel, the open flow test on the Dakota and an oil well test on the Gallup.

Q That is all shown on a document you have in your possession; is that right?

A Yes, sir.

Q Is that El Paso's Exhibit No. 3?

A Yes, sir.

Q Will you please explain this exhibit?

A I have given the potentials on both wells; that is about all these two exhibits reflect.

Q The exhibit is 3 A and 3 B; 3 A is what?

A 3 A, test taken in the Dakota formation, and 3 B test taken in the Gallup.

Q Did you give the gas-oil ratio in each well?

A There was no oil produced in the Dakota, so there is no gas-oil ratio;34,871 cubic feet per barrel in the Gallup.

Q When was this dual completed?

A December 5th, 1960.

Q Do you have pressure data from the two zones; have you given that?

A Yes, sir. It is on the packerleakage test.

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

A Yes, sir. The shut in pressure on the Dakota was 2,015 psia, and the shut in pressure on the Gallup 989 pounds psia.

Q Is there anything else that that exhibit shows you would like to explain?

A This exhibit shows the normal; we ran this communication test as a normal packer leakage test with the exception of shutting in both zones between the flowing period of 15 days. There is a correction to be made on that exhibit, if you would like to make it on yours. It is on the official exhibit. The shut in pressure data, before flow test No. 2, upper completion shut in for 25 days instead of 10.

Q Mr. Hickson, in your opinion, would the granting of this application for this dual completion prevent waste?

A Yes, sir, I believe it would.

Q Would it violate or prejudice any correlative rights, to your knowledge?

A No, sir.

Q Do you have anything you would like to add to your testimony?

A I have one or two things here. A statewide hearing has dedicated the N/2 in the nomenclature, has dedicated the N/2 of Section 11 -- I mean, it is proposed to call the N/2 in the Angels Peak Gallup. We have dedicated the W/2. That leaves the SW/4 which is dedicated to this well out of the Angels Peak-Gallup.

MR. PAYNE: However, it would be within a mile?

A Yes, sir. Otherwise, the NW/4 would be in the Angels Peak and the SW, which is dedicated, would not be. It would be operated with those rules, but would not be in the pool.

Q (By Mr. Whitworth) Mr. Hickson, were El Paso's Exhibits 1, 2, 3 A and 3 B, and 4 prepared by you or under your direct supervision?

A Yes, sir, they were.

MR. WHITWORTH: We offer these in evidence.

MR. NUTTER: El Paso's Exhibits 1 through 4 will be admitted. Does anyone have any questions?

BY MR. PAYNE:

Q I thought on your Exhibit No. 4 you showed the upper completion as an oil completion. Was the Gallup completion originally

an oil well?

A No, sir. From the original test, they originally set it out as an oil well, but the well flowed seven barrels of oil per day with 272 MCF, which, under the Angels Peak-Gallup rules classifies it as a gas well.

Q What is the GOR?

A 34,871 to one, which is 4,000 above the breaking point between a gas well and an oil well.

Q The dividing line on that pool is 30,000?

A Yes, sir.

Q You are not producing either side now, are you?

A No, sir. We have no connection.

Q Did you use centralizers or turbilizers in the completion of this well?

A Yes, sir. We used centralizers on the Dakota and turbilizers on the Gallup.

Q What intervals?

A Dakota, 15 centralizers at the intervals 7,025 feet, 7,019 feet, 6,988, 6,957, 6936, 6,901, 6,870, 6,839, 6,808, 6,770, 6,740, 6,709, 6,679, 6,648, and 6,618. On the Gallup we used ten Baker turbilizers, 6,264, 6,233, 6,202, 6,170,6,139, 6,108, 6,077, 6,046, 6,015, 5,984.

Q Are any fresh waters in this area, Mr. Hickson?

A No, sir, not to my knowledge.

Q If there are they are probably shallower than 300 feet?

A Yes, sir. That is the purpose of this.

Q Are your tubing strings plastic-coated internally?

A Not to my knowledge; they are not.

Q Could you tell me if the gas-oil ratio is rising in the Gallup formation on this well?

A We have only taken one test on the well. That was this communication test, and at this time we are still recovering frack oil. I would say it would be rising.

BY MR. PORTER:

Q You would anticipate the GOR's would go up?

A Yes, sir, I would, as soon as the frack oil is recovered I think there would be probably a small amount of oil produced.

BY MR. PAYNE:

Q It is not likely it would go the other way and become an oil well?

A I would say that would be very remote.

BY MR. MORRIS:

Q You show on your schematic diagram 1 1/4-inch tubing set at 1457. I am not an engineer. Would you explain to me the purpose of that?

A The purpose of using the 1 1/4-inch string, going back to the original cement process, which we went through to cement the hole, we ran the Dakota string in the hole and the Gallup string, and the 1 1/4, and then cemented the Dakota string and recirculated through the Gallup string. Then we went in and cemented the Gallup

string and recirculated through 1 1/4, and then we went in and cemented the Pictured Cliff off through the 1 1/4, and circulated through, actually, the annulus.

Q So you used that string just for cementing purposes?

A That's right.

MR. NUTTER: Any other questions?

REDIRECT EXAMINATION

BY MR. WHITWORTH:

Q Would you say that the completion in the Gallup is a marginal well?

A Yes, sir, I would, and I would recommend to the Commission that if this is approved that the well be classified as a marginal from the beginning. It is making 272 MCF a day, and a top gas well in the Angels Peak-Gallup is allowed, I think, February's, approximately 1500 MCF.

MR. NUTTER: Any further questions? Witness may be excused. Do you have anything further, Mr. Whitworth?

MR. WHITWORTH: That is all I have.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2201? Case will be taken under advisement and we will take a 15-minute recess.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, JUNE PAIGE, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 8th day of March, 1961.

June Paige
Notary Public - Court Reporter

My Commission expires:

May 11, 1964.

I N D E X

E X H I B I T S

NUMBER	EXHIBITS	IDENTIFIED	OFFERED	RECEIVED
Ex.#1	Plat	3	7	7
Ex.#2	Schematic Diagram	4	7	7
Ex.#3	Production Data	5	7	7
Ex.#4	Test Data	6	7	7

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2201, heard by me on 5/3, 1961.

, Examiner
New Mexico Oil Conservation Commission