STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I, LEWELLYN NELSON, 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, 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.

DATED this 4th day of September, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lewellyn Nelson
NOTARY PUBLIC

My Commission Expires:

June 14 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2055, heard by me on 8/24, 1960.

....., Examiner
New Mexico Oil Conservation Commission

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Daniel S. Nutter

Santa Fe , NEW MEXICO

ILLEGIBLE

REGISTER

HEARING DATE September 21, 1960 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
Garrett Whitworth	EPNG	El Paso
[illegible]	EPNG	El Paso
[illegible]	[illegible]	[illegible]
[illegible]	EPNG	El Paso
J. C. Gorsol [illegible]	[illegible]	[illegible]
W. R. [illegible]	"	Midland
Burns Errebo	Modrall, Seymour, Sperling, Roehl + Harris	Albuquerque
[illegible]	Aztec Oil [illegible]	Farmington
K A Swanson	"	Dallas
T. F. McKenna	Chambers + Kennedy	Santa Fe
W. J. Alexander	Chambers + Kennedy	[illegible]
F. C. [illegible]	Phillips Pet. Co.	[illegible]
[illegible]	[illegible]	[illegible] N.M.
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Roswell
John E. Collins	Standard of Texas	Houston
Fred C. Hannify	[illegible]	[illegible]

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Daniel S. Nutter

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE September 21, 1960 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
C. C. Loveless, Sr.	[illegible]	Roswell
[illegible]	[illegible]	[illegible]
William [illegible]	Gulf	Roswell
J H Hoover	✓	✓
[illegible] C. Smith	✓	Hobbs
S. L. [illegible] Jr.	[illegible]	Dallas [illegible]

ILLEGIBLE

the dual completion of its Hanks Well No. 16-D, located in Unit K, Section 6, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 1½-inch casing cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.	CASE NO. 2074
IN THE MATTER OF: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hanks Well No. 15-D, located in Unit B, Section 6, Township 27 North, Range 9 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Fulcher Kutz-Pictured Cliffs Pool through parallel strings of 2 7/8-inch and 1½-inch casing cemented in a common well bore. Applicant also proposes to install a 2 3/8-inch tubing to produce the Dakota gas.	CASE NO. 2075
IN THE MATTER OF: Application of Aztec Oil & Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hare Well No. 15-D located in Unit D, Section 10, Township 29 North, Range 10 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from the Aztec-Pictured Cliffs Pool and the production of gas from the Dakota Producing Interval through parallel strings of 2 7/8-inch and 1½-inch casing cemented in a common well bore. Applicant also proposes to install 2 3/8-inch tubing to produce the Dakota gas.	CASE NO. 2076

BEFORE:

Daniel S. Nutter, Examiner
Oliver E. Payne

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: The hearing will come to order.

MR. PAYNE: Case 2055. Application of Aztec Oil & Gas Company for a gas-gas dual completion utilizing two strings of casing.

MR. WHITE: Charles White of Gilbert, White and Gilbert, appearing as local counsel for the Aztec Oil & Gas Company. We have with us Mr. Kenneth Swanson, the attorney out of Dallas, who will present the testimony. And if the Examiner please, may the record show the same appearance in Cases 2073 through 2076.

MR. NUTTER: Do you anticipate consolidating for the purpose of the hearing?

MR. WHITE: We will also call cases 2073 and 2074.

MR. NUTTER: All these cases are for dual completion, and the appearances are the same as in the first.

MR. SWANSON: We have one witness to permit testimony for Aztec is all these cases, he is Mr. Elliot Stevens.

(Witness sworn.)

ELLIOT STEVENS

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

DIRECT EXAMINATION

BY MR. SWANSON:

Q Mr. Stevens, will you state by whom you are employed and your position with the company?

A District Engineer with the Aztec Oil & Gas Company.

Q Have you previously testified before this Commission?

A Yes, I have.

Q Do you wish to have the witness further qualified?

MR. NUTTER: No. How is your name spelled?

A S-t-e-v-e-n-s.

MR. NUTTER: Your initials, please?

A L. M.

Q (By Mr. Swanson) These five cases are involved with applications for approval of dual completions for the Fulcher Kutz-Pictured Cliffs and for the Fulcher Kutz-Pictured Cliffs, Aztec or South Blanco Pools. The completion procedures requirements for all cases are similar, we believe they are feasible, they will effect considerable savings.

Mr. Stevens, if you will please outline in general the practice that we plan to follow in completing these wells?

A We propose to set about 300 feet of 13 3/8-inch service casing and drill out from under that with 12 1/4-inch hole, continue with that size hole to about 100 feet below the base of the Pictured Cliffs with holes reduced to 7 7/8-inch hole and drilled through the Dakota formation. 4 1/2-inch casing will be run through the Dakota formation with a DV end 4 1/2 space about 50 feet below the Pictured Cliffs then this casing is mounted on the mandrel, then 2 7/8-inch is run along side the 4 1/2-inch and run through the Pictured Cliffs down to around 2500 feet. We then

cement the 4 1/2-inch with about 200 sacks of cement and 100 sacks of neat cement which gives us fill of about 950 feet. After waiting twelve hours on the first state of the cement job we then cement the 2 7/8-inch casing and the job is timed so that the first cement that leaves the bottom of the 2 7/8 and could insure the arrival at the shoe of the level of cement which is being displaced off the DT Tool in the 4 1/2. We displace 100 sacks through the DV Tool and 100 sacks through the 2 7/8 which gives us 200 sacks of neat cement and gives us about 350 feet. We then wait forty-eight hours on the cement and then perforate the 2 7/8-inch casing with a oriented gun with four jets per foot. After perforating we pressure up on the 4 1/2 to be sure there are no leaks and then if everything is in order we perforate the Dakota formation with four jets per foot. The Dakota is fracked with 2,000 gallons of water, 80,000 pounds of sand, tubing is run and swabbed in. We then frack the Picture with 1400 gallons of water and 60,000 pounds of sand.

Q The result of this type of completion procedure would be that you have the casing landing below the proceeding interval in each case and have cement fill up raising from 900 feet approximately to 300 feet above the top of the formation?

A That is correct.

Q In your opinion you effect complete separation of the formation?

A Yes, sir.

Q Is it anticipated that a savings in cost will be obtained from this proceeding?

A It is more economical, we would save about $7500.00 over single completions and about $3500.00 over a dual completion in the regular manner.

Q This will conclude our testimony in the cases.

MR. NUTTER: Any questions of Mr. Stevens?

BY MR. NUTTER:

Q Mr. Stevens, you stated that you would have a 950 foot fill up on the cement job in the 4 1/2?

A Yes, sir.

Q Where will all this cement be in relation to the bottom of the Dakota?

A That brings it up to well into the lower bank of this perforation shale, the lamus, lower mancos shale.

Q Taking one well as typical, the Hanks 18-D, you expect your perforations would be 7500 to 7625, total depth would be. Now is the 4 1/2 set at total depth?

A Yes, sir.

Q So your total depth would be approximately 7730, you would have 950 fill up?

A Yes, sir.

Q Which would be approximately 6780 feet, be the top of the cement, assuming the Dakota perforation would be 7500 feet, how many feet would be of the uppermost perforation?

A About 700 feet.

Q Now, where will the bottom of the cement be that is displaced through the DV Tool?

A They will go to the shoe of the 4 1/2, right to the bottom. We run an automatic fill up collar and a guide shoe usually.

Q And you will have a continuous cement sheath then from below the DV Tool to a point --

A You are speaking of the DV Tool?

Q Yes, sir.

A The cement will go approximately one joint below the DV Tool, we set a cement basket one joint.

Q One joint below?

A Yes, sir.

Q You will have a continuous cement sheath from that basket to approximately 350 feet above the shoe of the 2 7/8?

A Yes, sir.

Q Is there any Mesa Verde production is this area?

A No, sir, none at all.

Q What about centralizers, Mr. Stevens?

A We run usually three centralizers through the Dakota section and one centralizer below the DV Tool on the 4 1/2. We can't run any below, it interferes of the running of 2 7/8 inch.

Q No centralizer on the 2 7/8?

A None run on it.

Q You are not using centralizers on turbolizers then in the upper section of the pay?

A No, sir.

MR. SWANSON: Does the Commission feel that is advisable in dual cases?

MR. NUTTER: Yes, sir. In many instances prior to this application the Commission has required centralizers or turbolizers throughout the pay, usually one centralizer or turbolizer on each joint of pipe throughout the pay and three joints above the pay.

MR. SWANSON: I am sure we will be glad to comply with any such instructions from the Commission.

Q (By Mr. Nutter) What type of oriented gun does Aztec propose to use?

A Lane wells or Schlumberter.

Q Radio-activity that determines the orientation. And all of these dual completions are for the Pictured Cliffs and the Dakota formation, is that correct?

A That is correct.

Q What average pressure do you expect in the Pictured formation?

A Bottom hole will be around five or six hundred pounds.

Q How about the Dakota?

A The Dakota will average about 2300 pounds bottom hole pressure.

Q What is the possibility of having oil in the Dakota in that area?

A There will be oil, I am sure, in the Dakota. All the rest of our Dakota wells do have oil in them. It is a gas distillate rather than crude.

Q If this develops in the oil area, would it be possible to efficiently lift the oil from the Dakota with this type of installation, if that would become necessary?

A Yes, it would.

MR. NUTTER: Any further questions of Mr. Stevens? Mr. Payne.

BY MR. PAYNE:

Q Do you anticipate any corrosion problems in either one of these?

A No, sir, we anticipate none.

MR. NUTTER: Any further questions of Mr. Stevens? You may be excused.

(Witness excused.)

MR. NUTTER: Do you have any further testimony?

MR. SWANSON: No, sir.

MR. NUTTER: Does anyone have anything in Cases Numbers 2055, 2073, 2074, 2075 or 2076? If not, we will take these cases under advisement and call Case 2077.

STATE OF NEW MEXICO)
: ss
COUNTY OF BERNALILLO)

I, LEW NELSON, 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 Oil Conservation Commission was reported by me in stenotype and reduced to typewritten transcript by me and/or 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 28 day of September, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lew Nelson
NOTARY PUBLIC

My Commission Expires:
June 1, 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2055 2073 2074 heard by me on 28th 2075, 1960, 2075 and 2076

....., Examiner
New Mexico Oil Conservation Commission

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