BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 1715
Order No. R-1452

APPLICATION OF EL PASO NATURAL
GAS COMPANY FOR AN ORDER AUTHOR-
IZING A GAS-GAS DUAL COMPLETION
IN THE AZTEC-PICTURED CLIFFS
POOL AND IN THE BLANCO-MESAVERDE
POOL, SAN JUAN COUNTY, NEW MEXICO,
UTILIZING A RETRIEVABLE-TYPE
PACKER

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m. on July 8, 1959, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 31st day of July, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, El Paso Natural Gas Company, is the owner and operator of the Hancock Well No. 3, located in the SW/4 SW/4 of Section 22, Township 28 North, Range 9 West, NMPM, San Juan County, New Mexico.

(3) That the applicant proposes to dually complete said Hancock Well No. 3 in such a manner as to produce gas from the Aztec-Pictured Cliffs Pool and to produce gas from the Blanco-Mesaverde Pool through the casing-tubing annulus and through 2-inch OD EUE, 4.7-pound, J-55 tubing, respectively, effecting separation of the zones in the well bore by means of a Baker Model "EGJ" retrievable-type packer to be set at 3488 feet.

(4) That the temperature which is expected to be encountered at 3486 feet in said Hancock Well No. 3 is approximately 103° Fahrenheit, and the proposed packer should be able to efficiently withstand a temperature of this magnitude.

(5) That the pressure differential between the two producing zones in the subject well is approximately 350 psi, which differential the proposed model "EGJ" packer should be able to efficiently withstand; further, that said differential should be adequate to effectively actuate the hydraulic hold-down buttons on said packer.

(6) That the weight of the proposed tubing string above the proposed packer setting-depth should be adequate to hold said packer in place effectively.

(7) That while said packer is not of a drillable nature, it can be milled out, which operation the applicant has expressed a willingness to undertake should the necessity arise.

(8) That the testimony indicates that the producing characteristics of each zone in the proposed dual completion are such that there will be no significant tubing movement which would tend to unseat said packer.

(9) That packer-leakage tests should be conducted on the subject well semi-annually.

IT IS THEREFORE ORDERED:

That the applicant, El Paso Natural Gas Company, be and the same is hereby authorized to dually complete its Hancock Well No. 3, located in the SW/4 SW/4 of Section 22, Township 28 North, Range 9 West, NMPM, 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 Blanco-Mesaverde Pool through the casing-tubing annulus and through 2-inch OD EUE, 4.7-pound, J-55 tubing, respectively, effecting separation of the zones in the well bore by means of a Baker Model "EGJ" retrievable-type packer to be set at 3486 feet.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Deliverability Test Period for the Blanco-Mesaverde Pool. Applicant shall also take packer-leakage tests semi-annually midway between the aforesaid Deliverability Test Periods.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

vem/

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

August 3, 1959

Mr. Oliver Seth
Seth, Montgomery, Federici & Andrews
P. O. Box 828
Santa Fe, New Mexico

Dear Mr. Seth:

On behalf of your client, El Paso Natural Gas Company, we enclose two copies of Order No. R-1452 issued July 31, 1959, by the Oil Conservation Commission in Case No. 1713.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

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Enclosures

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1713

TRANSCRIPT OF HEARING

JULY 8, 1959

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
JULY 8, 1959

IN THE MATTER OF:

CASE 1713 Application of El Paso Natural Gas Company for a gas-gas dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Hancock Well No. 3, located in the SW/4 SW/4 of Section 22, Township 28 North, Range 9 West, San Juan County, New Mexico, in such a manner as to produce gas from the Aztec-Pictured Cliffs Pool and to produce gas from the Blanco-Mesaverde Pool through the casing-tubing annulus and tubing respectively. Applicant proposes to utilize a retrievable-type packer in said well.

BEFORE:

Daniel S. Nutter, Examiner.

T R A N S C R I P T  O F  P R O C E E D I N G S

MR. NUTTER: Take next Case 1713.

MR. PAYNE: Case 1713. Application of El Paso Natural Gas Company for a gas-gas dual completion.

MR. HANNAHS: Fred Hannahs, Seth, Montgomery, Federici & Andrews, Santa Fe, representing El Paso Natural Gas Company. Mr. Garrett C. Whitworth, counsel, will conduct the interrogation.

MR. WHITWORTH: We have one witness, Mr. John Mason,

to be sworn.

(Witness sworn)

JOHN MASON,

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

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q Please state your full name, by whom and in what capacity you are employed.

A My name is John Mason, employed by the El Paso Natural Gas Company as proration engineer.

Q Have you testified as a proration engineer in previous hearings before this Commission?

A Yes, I have.

MR. WHITWORTH: We ask that the witness' qualifications be accepted.

MR. NUTTER: Mr. Mason's qualifications are acceptable.

Q Are you familiar with El Paso Natural Gas Company's Hancock No. 3 Well, which is the subject matter of the application in this case?

A Yes, I am.

Q What does El Paso seek by this application?

A The applicant seeks an order authorizing us to complete its Hancock No. 3 Well as a dually completed well in the

Aztec-Pictured Cliffs and the Blanco-Mesaverde well utilizing a retrievable type packer instead of a permanent type packer.

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

Q Now, I hand you a document which has been marked as El Paso's Exhibit No. 1, and ask you what it is?

A Exhibit 1 is a plat showing the location of this Hancock No. 3 Well.

Q Where is the well located?

A This well is located 990 feet from the West line, 890 feet from the South line in Section 22 of Township 28 North, Range 9 West.

Q This document shows the offset operators?

A Yes. This plat shows the offset operators to be El Paso Natural Gas Company, also shows that Southern Union has some acreage in Section 16 to the northwest, but they have no wells in the southeast corner of that section. The plat also shows the Hancock No. 3 Well being encircled in red. The single completion wells, by one circle, they are completed in the Pictured Cliffs, and dually completed wells are indicated by a circle within a circle.

Q You propose to dually complete in the Pictured Cliffs and the Mesaverde, is that correct?

A That is right.

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

Q I hand you another document which has been marked as El Paso's Exhibit No. 2, and ask you to state to the Examiner what that is?

A Exhibit No. 2 is a schematic diagram of the physical equipment in the Hancock No. 3.

Q What does this schematic diagram show?

A This diagram shows that there has been surface casing, 10 3/4 inch surface casing set at 171 feet, and 7 5/8 inch production stringer set at 3453, 5 ½ inch liner run from 3388 to 5774. Also shows the Pictured Cliffs formation to be completed with perforations at various intervals between 3258 and 3290 to have been fractured with water and sand. Also shows that there is a 1 ½ inch tubing which is used as a syphon string that is landed opposite the Pictured Cliffs formation. Mesaverda formation is -- has been completed in the Menefee and Point Lookout. The Menefee perforations are at various intervals from 5374 to 5454, fractured with water and sand. Point Lookout perforations from 5546 to 5706 and also fractured with water and sand. Production from the Mesaverde is through a 2 inch tubing, which has been landed at 5686. The well also has a Baker Model EGJ packer set at 3488.

Q Now, what type of packer is this Baker Model EGJ?

A This is a retrievable type packer.

Q And is this the necessity for having a hearing concerning this dual completion?

A That is correct.

Q How does this type of packer differ from a permanent type?

A In memorandum No. 10-59 the Commission has defined what it regards a permanent type packer as being a non-retrievable permanently set packer preferable of drillable materials which may be set by electric line and/or tubing drilling line and so forth. This Baker Model EGJ packer is a retrievable packer and is not set permanently so it differs in those respects.

Q What are the advantages of using this type of packer?

A Well, the retrievability itself is one advantage and also there is an advantage in the cost, the initial investment is cheaper and less costly to run this packer and to maintain it also.

Q To your knowledge, has El Paso used this type of packer previously?

A Yes, referring to Exhibit No. 1, this type of packer was run in the Stoery No. 6-C and the Stoery No. 7-C, and then there are several other wells within the immediate vicinity which have also run this packer. The Lackey No. 10-B, which is in Section 21, Township 28 North, Range 9 West. And also in the Mitchner No. 4-A which is in Section 28 of the same Township and Range and these packers were run in 1957 and have performed satisfactorily.

Q You are familiar with the manner in which they have

performed?

A I have been advised that there has been no difficulty whatsoever.

Q Do you have any data showing potential shut-in pressure?

A Yes, sir, I do. The Pictured Cliffs formation was tested May the 13th, with an initial potential of 2,956 MCF per day with a calculated open flow of 3300 MCF, and shut-in pressure of 726 PSI. The Mesaverde had an initial potential of 2,199 MCF per day with an absolute open flow of 2,496,and shut-in pressure of 961 PSI.

Q Do you have a log of this well in which the dual completion is proposed?

A Yes, sir, I do.

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

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

A Yes, sir.

Q What does this log show?

A This log shows the tops of the Pictured Cliffs and the Mesaverde formation and perforated intervals.

Q Will you state to the Examiner approximately when this well was completed?

A About May the 13th of 1959.

Q To both formations?

A Yes, sir.

Q In your opinion, should the Commission grant El Paso's application, would that prevent waste?

A Yes, sir, it would.

Q And would the granting of this application violate or prejudice correlative rights?

A No, sir.

Q Were El Paso's Exhibits 1, 2 and 3 prepared by you or under your direct supervision?

A Exhibits 1 and 2 were prepared by our Farmington office at my request, and Exhibit 3 is a standard Schlumberger electrical log.

MR. WHITWORTH: We ask that El Paso's Exhibits 1, 2 and 3 be admitted in evidence.

MR. NUTTER: Without objection, El Paso's Exhibits 1 through 3 will be admitted in evidence.

(The documents heretofore marked El Paso's Exhibits 1, 2 and 3 were received in evidence.)

Q (By Mr. Whitworth) Is there anything else you wish to add to your testimony?

A Only that this well is so equipped that any tests that the Commission may require could be run.

MR. WHITWORTH: That's all I have.

MR. NUTTER: Any questions of Mr. Mason?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Mason, what is the temperature of the producing formations under consideration here today?

A Well, according to the log, the maximum temperature is 105 degrees Fahrenheit.

Q Where is that temperature encountered?

A It is not indicated on the logs, so I am afraid I don't know.

Q What is the calculated pressure of the bottom of the hole as far as the Mesaverde is concerned?

A Well, we have a shut-in pressure of 961 pounds.

Q That was surface pressure?

A Yes, sir. We don't have a calculated bottom hole pressure on that.

Q What is the bottom hole pressure for the Pictured Cliffs formation?

A Again I have a surface pressure of 726 pounds.

Q What is the mechanism that the Baker Model EGJ retrievable type packer utilizes for holding it in place?

A Well, the packer has slips on the bottom that are actuated by a "J" slot mechanism which prevents the downward movement with the packer.

Q How many slips are employed there, Mr. Mason?

A I'm sorry, but I can't tell you that. They completely

surround the packer, I am sure.

Q Now, those prevent the downward movement?

A They prevent the downward movement and then in preventing upward movement, there are some hydraulically operated buttons which are actuated by the differential in pressure of the tubing, which prevent the upward movement.

Q How much differential pressure is required to actuate those hydraulic buttons?

A I think that it is only necessary that there is some differential, there is no specific amount.

Q In the production of gas from the Mesaverde and the Pictured Cliffs formations in a dual completion, is there any noticeable tubing movement, Mr. Mason?

A No, sir, it hasn't been encountered previously, I am sure.

Q How is this packer removed in the event the mechanism which is built into the machine fails to work when you want to retrieve it?

A Well, the Baker catalog says that it is easily retrievable.

Q Have you ever heard of a retrievable packer failing to retrieve?

A Yes, sir, I have.

Q How do you remove the thing, then?

A Well, in some cases, I guess, you back off the packer

with your tubing and try to drill it out.

Q Is the Model EGJ packer built of materials which are referred to as drillable materials?

A The specifications in the catalog don't refer to them as drillable, so I can't answer that definitely one way or the other.

Q Now, you stated, Mr. Mason, that cost was a factor in the selection of this packer. What is the cost of this packer installed?

A Well, installing the packer there is about three hundred to four hundred dollars difference in the cost of the packer itself and the installing of the packer.

Q What is the cost of the packer?

A The packer itself sells, plus the installation cost, for $578 for this EGJ Model, and to run a Baker Model D permanent type packer, it would cost between $900 and $1,000, and on drill pipe $850.

Q Now, the actual cost of the EGJ is $578?

A Yes, sir. That's correct.

Q That's just the packer at the well site?

A No, that's the installation of the packer also. It is run in on a tubing string, so there is no additional cost there.

Q So the cost of the packer, then, installed, is the cost of the packer?

A That is correct.

Q Because the installation comes free when you run the tubing in the hole?

A Right.

Q Supposing you run a permanent type packer on tubing, is there an additional cost for the installation of that packer?

A I have no figures on that, and it is my understanding, in the past where we have run permanent type packers, that they have been run either on wire line or drill pipe.

Q And they cost from $900 to $1,000, --

A Yes, sir.

Q -- installed?

A Yes, sir.

Q That's wire line?

A That's wire line service, and your equipment that is required to run it in on the wire line.

Q Now, Mr. Mason, is it El Paso's practice upon removing a retrievable type packer and reinserting it in the hole, to dress the packer prior to running it the second time?

A I'm sure it is, sir.

Q In other words, the packer is never run with rubbers on it that have been used before?

A Well, I can't say definitely, but I'm sure that if the rubbers -- I don't know whether it is a common practice to automatically replace those rubbers, or only in case that they

appear to have been damaged, and in that event this will be replaced, I can't answer that definitely.

MR. NUTTER: Any further questions?

MR. PAYNE: Yes, sir.

QUESTIONS BY MR. PAYNE:

Q Mr. Mason, you don't feel that there is any more danger of communication using this retrievable type packer than if you use a permanent type?

A They have not experienced any more communication in the use of these packers than they have through the permanent type.

Q What is the relative number of each that you have used?

A Well, I don't know definitely how many of these EGJ packers we have used. I know we have used five or six in the near vicinity of this particular well. I didn't make the survey throughout the area to determine the amount overall.

Q Do you have any literature on this particular type packer?

A Yes, I do. I have it in the Baker catalog.

Q There are many different types of retrievable packers, is that not right?

A That is correct.

Q Do you feel this is superior to a bean bag?

A Yes, sir.

Q If the Commission saw fit to grant this application, would you be willing to take packer leakage tests every six months instead of every year?

A Yes, I am sure we would.

MR. PAYNE: That's all. Thank you.

MR. NUTTER: We will take a fifteen minute recess.

(Short recess)

MR. NUTTER: The hearing will come to order, please.

QUESTIONS BY MR. NUTTER:

Q Mr. Mason, what does the Baker Model EGJ packer depend on to hold it in place?

A I think it probably depends upon the tubing weight, but I don't know just what is required on that.

Q Can you find out for us and determine the actual weight that is required to hold the thing in place --

A Yes, I will.

Q -- to withstand a differential such as we have in this well?

A Yes, I will certainly do that.

Q Can you also determine what the actual bottom hole pressures are in this well and submit that information to the Commission?

A Yes, sir, I can and will.

Q And can you also find out what the temperature is in this well in the zone that that packer is set?

A Yes, sir, I certainly can, and I will submit that as soon as possible.

Q Can you also find out what the actual drilling ability of the packer is?

A Yes, sir.

Q Can you also find out the differential that is required to actuate the buttons on the top of the packer --

A Yes, sir.

Q -- and submit that information to the Commission?

A Yes, sir, I certainly will.

MR. NUTTER: Are there any further questions of Mr. Mason? If not, he may be excused.

(Witness excused)

MR. NUTTER: Does anyone have anything further they wish to offer in Case 1713? We will take the case under advisement.

STATE OF NEW MEXICO )
) ss
COUNTY OF BERNALILLO )

I, J. A. Trujillo, 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 by me, 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 17th day of January, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1773, heard by me on 1-8, 1959.

, Examiner
New Mexico Oil Conservation Commission