BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1742

TRANSCRIPT OF HEARING

AUGUST 19, 1959

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GENERAL LAW REPORTERS
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BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1742 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 San Juan 27-4 Unit Well No. 21, located in the NW/4 NE/4 of Section 30, Township 27 North, Range 4 West, Rio Arriba County, New Mexico, in such a manner as to produce gas from the Tapacito-Pictured Cliffs Pool and to produce gas from the Blanco-Mesaverde Pool through the casing-tubing annulus and the 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: The next case will be 1742.

MR. PAYNE: Case 1742. Application of El Paso Natural Gas Company for a gas-gas dual completion.

MR. SETH: Same appearance in this case as in Case 1741.

MR. WHITWORTH: Will you please --

MR. PAYNE: Same witness?

MR. WHITWORTH: Same witness as in the previous case. Is it necessary for him to be sworn again?

MR. NUTTER: No, sir, let the record show that it is the same witness used in the previous case and sworn at that time.

JOHN MASON,

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

DIRECT EXAMINATION

BY MR. WHITWORTH:

Q For the record, would you please state your name, by whom you are employed and in what capacity?

A John Mason, employed by El Paso Natural Gas Company as a proration engineer.

Q You are the same John Mason who testified in the previous case, is that right?

A Yes, sir.

MR. WHITWORTH: The witness' qualifications are acceptable for this case as in the previous case, Mr. Examiner?

MR. NUTTER: Yes, sir.

Q Are you familiar with El Paso Natural Gas Company's San Juan 27-4 Unit Well No. 21?

A Yes, sir, I am.

Q Will you please state to the Examiner what El Paso seeks by this application?

A The applicant seeks permission to use a retrievable-type packer in its San Juan Unit 27-4 Well No. 21 Well, which is dually completed in the Tapacito-Pictured Cliffs and the Blanco

Mesaverde Gas Pools.

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

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

A Exhibit No. 1 is a plat showing the location of San Juan Unit 27-4 Well No. 21; shows the well to be located 850 feet from the North line, 1800 feet from the East line, Section 30, Township 27 North, Range 4 West. Also shows that El Paso is the only offset operator in th s area.

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

Q I have another document which has been marked as El Paso's Exhibit No. 2. State to the Examiner what that is.

A Exhibit 2 is a schematic diagram in the dual completion of this well; shows that this well was completed with 10 3/4 inch surface casing set at 174 feet, 7 5/8 inch production strings set at 3999, 5 1/2 inch liner set from 3932 to 6177. Shows the Pictured Cliffs formation to be perforated at various intervals between 3820 and 3890. Production from the Picture Cliffs is through the casing-tubing annulus, and there is 1 1/4 inch tubing landed at 3846 and used as a siphon string. Production from the Mesaverde is from perforations between 6,000 and 6,122. Production is through a 2 inch tubing which is landed at 6,012 feet. This well has a Guiberson "Shorty" model production packer set at 4071.

Q Now, you mentioned a Guiberson type packer. This is a retrievable packer?

A That is correct.

Q You testified previously, in the previous case the Baker "EGJ" type retrievable packer. Would you tell us how this Guiberson packer differs from the Baker Model?

A I might say that this packer is similar in a lot of respects to the Baker type packer -- to the "EGJ" Baker Model type packer. It is listed in the Guiberson catalog as a tension type packer. However, El Paso is running this packer in the well upside down from what it appears in the catalog. The Guiberson recommends using the packer in this manner. However, they just haven't had the opportunity to get the literature up to date as yet. This packer also has a hydraulic holddown assembly run in conjunction with the main packer body, and it operates essentially the same, the lower slips being accentuated by compression from the tubing weight applied, and the hydraulic holddown buttons are accentuated by a differential pressure.

Q Is it retrieved in the same manner as the Baker "EGJ" Model?

A In essentially the same manner. Instead of the sheer rings in the circulating valve, we have pump out plugs. In order to pump out the plugs, there is a run into the setting nipple below the packer -- the tubing is pressured up at 3000 pounds pressure. These plugs will be pumped out, and in that manner you may

equalize the tubing and the casing-tubing annulus, which will release the holddown buttons, and then by rotation of the tubing strings at the surface, you will release the slip from the casing, and it may be pulled in that manner.

Q It essentially operates in the same manner as --

A That is correct.

Q Does it compare in cost to the Baker Model?

A This packer, in fact, is cheaper, the Baker Model "EGJ." This packer costs complete with the holddown buttons and the circulating valve, this packer costs four hundred dollars.

Q What would you say prompted the decision to use this Guiberson type packer rather than any other?

A Well, the choice of the Baker "EGJ" packer, I'm sure was induced by the difference in price. Now, we haven't used as many of these packers in the past, but we are beginning to use more because of the price differential.

Q Has El Paso used this Guiberson type retrievable packer before?

A Yes, they have. I might add that it is in four or five wells in the same vicinity as the No. 21 Well; it is used in that vicinity.

Q Has this type packer proved effective to prevent communication between the two zones?

A To my knowledge, it has thus far proved effective.

Q And has it in all other respects proved satisfactory?

A Yes, sir, it has.

Q To your knowledge, has there been an instance in which this type of a packer has had to be removed?

A Not to my knowledge.

Q As far as material is concerned, how does this packer compare with the Baker Model?

A Some of the material in the "Shorty" model packer is of a drillable type, not all of it, but part is drillable, and the remainder can be milled out whereas in the "EGJ" Model, most of it, I believe, is completely non-drillable.

Q Do you have any potential data with respect to this particular well?

A As to potential data, on the Pictured Cliffs zone, on a three-hour with 3/4 inch choke test, this well tested 2,356 MCF per day, with a calculated open flow of 2,442 MCF per day. Shut-in pressure at the surface was 1,019 PSIA. This calculated bottom hole pressure calculated from shut-in pressure is 1140 PSIA. The Mesaverde zone on three-hour 3/4 inch choke test, tested 2,708 MCF per day with a calculated open flow of 3162 MCF per day, had a shut-in pressure at the surface of 1124 PSIA, which calculated to bottom hole pressure of 1312 PSIA. I might add here that the temperature is encountered in these two zones on the Pictured Cliffs, the temperature is 113 degrees Fahrenheit, the Mesaverde, 152 degrees Fahrenheit, temperature at the packer setting depth, 117 degreed Fahrenheit. The differential pressure

between these two zones, bottom differential and bottom hole pressure is 172 pounds.

Q In your opinion, should this application be granted, would it prevent waste?

A Yes, sir, it would.

Q And, to your knowledge, would it violate or prejudice correlative rights?

A No, sir.

Q Were El Paso's Exhibits 1, 2 and 3 -- do you have a log of this well?

A Yes, sir, I do.

Q Will you explain to the Examiner what this log shows?

A This is an electrical log run by Schlumberger on the 21 Well, the well itself, on the log; the top and base of the producing formation, and the perforated intervals are indicated.

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

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

MR. WHITWORTH: We ask that El Paso's Exhibits 1, 2 and 3 be accepted and put into evidence.

MR.NUTTER: El Paso's Exhibits 1, 2 and 3 will be entered.

(Thereupon, El Paso's Exhibits 1, 2 and 3 were received in evidence.)

Q Is there anything else that you would like to add to your testimony, Mr. Mason?

A Only that this well is so completed that we may conduct any tests that the Commission may desire.

MR. WHITWORTH: That's all we have.

MR. NUTTER: Anybody have any questions of Mr. Mason?

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Mason, how does it prevent waste to use this packer rather than permanent type packer?

A Well, considering the aspect of economic waste and the well being two zones, it can be separated just as effectively, we consider it just as effectively with a lower cost packer.

Q So, the waste you are talking about is economic waste rather than physical waste?

A That is correct.

Q Why do they call it a "Shorty?"

A Because the length of it, I believe, is shorter than most packers. The length is around 30 inches, I believe. Just that it is shorter than most of their other packers.

Q Now, the fact that it is shorter, does that interfere

with its efficiency or effectiveness?

A To my knowledge, that does not have any effect.

Q Do you anticipate any problem in this well, the tubing strings moving, thereby shaking the pump loose and causing communication?

A No, sir.

Q Now, I believe you testified that this packer also is accuated by differential in pressure?

A That is correct.

Q And the differential is 172 pounds?

A The differential is 172 pounds. I might add that the differential required to secure these buttons is 150 pounds. And I have been advised that these buttons will hold against a differential either from the casing-tubing annulus or from the tubing either direction as long as there is a differential.

Q Now, this is a differential required to initially activate these holddown buttons?

A This is the differential required to hold the buttons in place.

Q Now, once activated, if the pressure is equalized, would, the holddown buttons remain where they had been, would it still hold the packer in place?

A No, the holddown buttons will not perform at that time. However, your tubing weight on your packer would then hold, would prevent upward movement of the packer, and your slips on the bottom

portion of the packer will prevent the downward movement.

Q Those slips will remain operative even if the pressures were the same?

A That is correct.

Q Mr. Mason, I'm still somewhat confused as to how you decide what packer you are going to use in a particular well. Now, this one is cheaper than the "EGJ," yet you are going to use the "EGJ" in the other well. Now, why is that?

A Well, Mr. Payne, in some of my experience in the oil field they try to spread the business around a little bit, and try to keep the competition a little keener so that the various companies will continue to try to improve upon their materials, and perhaps offer better prices. And as far as this particular well is concerned, an "EGJ" Model probably could be used just as effectively as a "Shorty" type.

Q It is kind of like buying Fords and Chevrolets? Both are effective. One is as good as the other?

A That is correct, and it is my understanding that this short, this Guiberson "Shorty" was put in the market in order to compete with the "EGJ" Model.

Q Now, I believe that you testified that this was a tension type packer. What do you mean by that?

A Well, it is described in the catalog as a tension type packer. The packer is run as indicated in the catalog. You apply a pressure, or you pull up on your tubing. You have your

tubing in tension, you have your packer anchored at the point where you want it set, and then you pull up on the packer, pull up on the tubing, thereby causing your slips to become more firmly embedded in the casing itself. As opposed to a completion type packer, you put weight on the packer by letting off weight from the tubing, and then the weight from the tubing will cause the slips to become embedded in the casing.

Q What did you say the temperature was at the packer setting depth?

A I believe it was 113 degrees Fahrenheit; that is correct.

MR. NUTTER: 113 degrees in the Pictured Cliffs; 117 in the packer?

A I'm sorry, that is correct, 117.

Q Now, I believe you testified that you had put this packer in upside down, --

A Yes, sir.

Q -- so to speak?

A Yes, sir.

Q Is that a recommended practice?

A Yes, sir, it is. Now, in turning the packer upside down, it makes a compression type packer instead of a tension type, and Guiberson does recommend this, and, as I stated previously, it is just that they hadn't had the opportunity to revise their catalog as yet. That's the reason it doesn't appear in their

catalog as a compression type packer.

Q Does Guiberson recommend that this "B" type packer be used on dual completions to effectively prevent communication between the two zones?

A Yes, sir, they do. I might add that there are a number of other operators, I don't know specifically who, but I have beem advised by the Guiberson representative that there are a number of other operators using this type of packer also.

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

QUESTIONS BY MR. NUTTER:

Q Mr. Mason, how much does a permanent type packer cost?

A Well, as I stated previously in answer to one of Mr. Payne's questions, I don't know the cost of a Guiberson type packer, but, permanent type packer, but the Baker Model "D" which seems to have more common use, is five hundred and seventy-eight dollars. No, I'm sorry. Just a moment. Six hundred forty dollars to run on the tubing,and approximately nine hundred dollars to run on wire line.

Q This packer costs four hundred dollars installed?

A Four hundred dollars complete, yes.

Q What is the difference in -- between the cost of the two types of packers, Mr. Mason?

A Two hundred forty dollars.

Q What does one of these wells cost to drill and complete?

A There, again, it is in the neighborhood of one hundred

thousand dollars.

Q The difference in the cost is a minor part of the total cost of the well, is it not?

A It appears to be, yes, sir.

Q How many slips does this packer have, this Guiberson "Shorty?"

A I believe it has four. Just a moment, I'll find out. It doesn't cover the entire circumference of the packer as a permanent type does. It appears that there may be five slips on it.

Q Are they five narrow slips, do they cover the circumference of the packer, or just a portion thereof?

A It looks as though they would cover eighty percent of the circumference.

Q How many sealing elements does the packer have, or the rubbers that separate the zones?

A There is only one rubber.

Q Approximately what is the width of it, the height of it, approximately, Mr. Mason?

A Oh, probably eight to ten inches.

Q Eight to ten inches?

A Yes, sir. That is just looking at the sketch.

Q How do you remove this packer if it doesn't retrieve?

A Well, this packer has a safety release coupling on the top which enables you to back off from your tubing, and it has a

fishing neck on it also in -- which you could run in.

Q Now, after you have equalized your pressures and released the hydraulic buttons, do you unset it by rotation of the tubing?

A Yes, sir.

Q Is that rotation to the right or left?

A I believe it is to the right.

Q Regardless of whether you run the packer upside or right side up?

A Well, it would probably make a difference. I am not sure of which direction you rotate the tubing.

Q What is the weight of the tubing string in this particular installation down to the packer?

A To the packer, about 16,000 to 17,000 pounds, I believe.

Q Is that sufficient weight --

A Yes, sir.

Q -- to engage these slips?

A Yes, sir. And in order to expand the packing element, only 6,000 pounds is required. And we generally set down with 12,000 to 14,000 pounds tubing weight.

Q Mr. Mason, you stated that you weren't sure whether the tubing rotation would be to the left or to the right, if the packer was run upside down, I believe, didn't you?

A Yes, sir, I did.

Q Could you find that out and let us know?

A Yes, sir, I could.

MR. NUTTER: Does anyone have any further questions of Mr. Mason?

QUESTIONS BY MR. PAYNE:

Q Mr. Mason, what advantages does a permanent type packer have, if any, over a retrievable type packer?

A Well, it is my understanding that the sealing element in the permanent type packer may be more reliable. I think that's -- from what I've heard, from my field personnel, that is questionable as to whether or not it actually holds better. Also, it does have the two sets of slips which prevent differential pressures from either above or below the packer.

Q I believe you said this Guiberson "Shorty" has one rubber, is that right, in it?

A Yes, sir.

Q What about the "EGJ" and the Baker Model "D?"

A I believe the "EGJ" only has one also, and I'm sure about the Model "D."

MR. PAYNE: Thank you.

MR. NUTTER: Any further questions?

MR. WHITWORTH: I have one.

MR. NUTTER: Yes, sir.

REDIRECT EXAMINATION

BY MR. WHITWORTH:

Q You say that the retrievable type packer is just as

effective to prevent communication of gas between the two zones as a permanent type packer?

A It has been the experience of El Paso that it is just as effective.

Q Now, it has been indicated that the major advantage of retrievable type packer is not the cheaper initial cost. What would you say is the buying advantage?

A Well, the idea that the packer can be retrieved in itself; should a leak develop the packer could be retrieved and redressed. Also, it might, the packer would be available for use in other wells in the future, considering it was still in good condition.

MR. WHITWORTH: That's all I have.

RECROSS EXAMINATION

BY MR. PAYNE:

Q Why do they make a permanent type packer if these are just as effective and they are cheaper?

A Well, I think -- my understanding, anyway, is that the two sets of slips in preventing the movement either upwardly or downwardly was one of the main features, but now they have developed their holddown buttons which can prevent movement in both directions, that they are just as effective under certain conditions. There are other conditions, I am sure, in a deeper well with higher pressure to be encountered that a permanent type packer would be more effective.

Q You feel that in this particular well that this type= packer would be more effective?

A Yes, sir.

QUESTIONS BY MR. NUTTER:

Q Mr. Mason, do I understand you to say that you feel that under some conditions a retrievable packer would be satisfactory and under other conditions maybe a permanent type packer would be more desirable?

A That is correct.

Q I see. Anything further? Any further questions? Mr. Mason may be excused.

(Witness excused)

MR. NUTTER: Have anything further, Mr. Whitworth?

MR. WHITWORTH: Nothing further.

MR. NUTTER: Does anyone have anything further in Case 1742? Take the case under advisement and take Case 1743.

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 5th day of September, 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. 1742, heard by me on 8-19, 1959.

New Mexico Oil Conservation Commission, Examiner

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

COPY

September 17, 1959

Mr. Oliver Seth
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-1486 issued by the Oil Conservation Commission on September 17, 1959, in Case No. 1742.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

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Enclosures