

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 27, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Sinclair Oil & Gas Company for an order authorizing the dual completion of its Turner "B" SP Well No. 67, located in Unit L, Section 20, Township 17 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Grayburg-Jackson Pool and the production of oil from an undesignated Abo pool through parallel strings of 2-inch tubing.

Case 2022

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. PAYNE: Application of Sinclair Oil & Gas Company for an order authorizing the dual completion of its Turner "B" SP Well No. 67, located in Unit L, Section 20, Township 17 South, Range 31 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Grayburg-Jackson Pool and the production of oil from an undesignated Abo pool through parallel strings of 2-inch tubing.

MR. WHITE: Charles White of Gilbert, White and Gilbert, Santa Fe, New Mexico, appearing on behalf of the applicant. We are very fortunate in having as our witness today Mr. Andy

Anderson.

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(Witness sworn.)

R. M. ANDERSON

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

DIRECT EXAMINATIONBY MR. WHITE:

Q Will you state your full name, please?

A R. M. Anderson.

Q By whom are you employed and in what capacity?

A Sinclair Oil and Gas Company, Senior Petroleum Engineer in their Midland, Texas Division Office.

Q Are you familiar with the application whereby Sinclair seeks to dually complete its Turner "B" SP Well in Eddy County?

A I am.

Q Have you previously testified before the Commission?

A I have.

MR. WHITE: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, sir.

Q Mr. Anderson, will you state the names of the reservoirs in which you propose to dually complete the well?

A The shallow zone will be the Grayburg-San Andres reservoir in the Grayburg-Jackson Field, and the deeper zone will be the Abo Reef in an undesignated Abo Pool.

Q Has the Commission previously approved any dual

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completions in this area involving these two reservoirs?

A No, sir.

Q Do you have an ownership plat of the area?

A Yes, sir. I have prepared an ownership plat of the area. The well that is the subject of this application is Sinclair's Turner "B" Well No. 67. It is circled in red on the ownership plat, which is our Exhibit No. 1. It is located 660 feet from the West line and 1650 feet from the South line of Section 20, Township 17 South, Range 31 East. The Grayburg wells are circled in green on Exhibit 1, the Abo wells, there is just one Abo well, our No. 65 is circled in yellow, and the uncircled wells are in the Fren Pool and are completed in the Seven Rivers formation.

Q Will you discuss the nature of these fluids?

A The Grayburg crude is about 36 gravity crude. Abo crude is 42 gravity, there's considerable difference in gravities.

Q What type are these crudes, sweet or sour?

A I believe the Grayburg-Jackson crude is a sour crude to the best of my recollection. I don't know positively, the Abo crude is sweet.

Q Have you encountered any corrosion problems in either pool?

A No, we have not had a corrosion problem in the Grayburg-Jackson Pool.

~~Q Do you have any further testimony as to the characteristics~~



of the fluids?

A No, sir.

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

Q Will you now refer to what has been marked as Exhibit 2 and explain that diagrammatic sketch?

A This is the diagrammatic sketch showing the proposed dual completion of the well. I have modified the diagrammatic sketch that was originally filed with the application to bring it up-to-date. Many of the items on the original sketch were proposed items and we have progressed further in the drilling of the well and we have some positive data now and I have corrected the proposed data where applicable. So our Exhibit 2 reflects that 13 3/8 surface pipe is set at 470 feet with cement circulated. At this state we do not know of any fresh water existing above the surface of the ground in this area.

We have set an 8 5/8" liner at 3800 feet and the top of the cement behind the liner is 1010 feet, which is in the salt section. That is not a liner, that is an intermediate casing set at 3800 feet. We have set a liner at 3697 to 7221 feet, and that is a 4 1/2" liner and we have circulated cement behind the 4 1/2" liner all the way back up to the top of the liner at 3697. We have perforated the 4 1/2" liner at 7048 to 7054 feet and have potentialized the Abo Reef formation through those perforations.



We propose to set a packer somewhere near the top of the reef at about 6700 feet. We propose to perforate the 8 5/8's inch intermediate string at 3155 to 3180 for the purpose of producing the Grayburg-Jackson Pool. We propose to run parallel strings of two inch EUE tubing as shown on the sketch. We will bottom the tubing somewhere in the vicinity of the perforations of the two zones.

Q Have you logged this well, Mr. Anderson?

A Yes, we have. I have a gamma ray neutron log on this well which I would like to present as Exhibit 3. I have only one copy, if the reporter would mark it, please.

MR. NUTTER: That would be sufficient.

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

MR. NUTTER: Do you need it to testify from?

A No, I don't believe so. I have marked the various tops of the formations as they occurred on the log, and the proposed perforations in the perforated intervals can be found on the diagrammatic sketch for use with the log.

Q What type of solution drives are these reservoirs?

A They're both solution gas drive reservoirs. The Abo is in the very initial stage of depletion, being just penetrated and opened up very recently. Grayburg-Jackson is an old field and is in the later stages of depletion.

Q Do you anticipate that both these reservoirs will flow?



A Yes, they'll both flow.

Q Mr. Anderson, what economic savings would be accomplished by the proposed dual completion?

A If this application were granted, it would not be necessary to drill twin wells in order to develop both zones, and I estimate that the savings would be approximately \$34,500.

Q What are your plans as to taking any packer leakage tests?

A We will take packer leakage tests as required by the Commission, and this is a normal type dual completion installation of which there are many similar types in the state, and we will test it in the same manner as we did. I consider it a routine type dual completion.

Q Have similar types of installations been approved by the Commission?

A Yes, they have.

MR. WHITE: We now offer Exhibits 1 through 3.

MR. NUTTER: Sinclair's Exhibit 1, 2 and 3 will be entered.

MR. WHITE: That completes our direct testimony.

MR. NUTTER: Does anyone have any questions.

MR. PAYNE: Yes.

MR. NUTTER: Mr. Payne.

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CROSS EXAMINATION

BY MR. PAYNE:

Q What type packer are you going to use on this dual, Mr. Anderson?

A I believe we are going to use a Model D packer. I'm not certain about that, but it will certainly be a packer that will be approved by the Commission.

Q It will be a permanent type packer?

A I believe so. It is not, it is my understanding that it is not necessary to install a permanent type packer. I believe that is our plans. I believe the Commission has approved temporary type packers under certain conditions.

Q So long as we know what type they are, whether they will withstand the particular pressures involved.

A Yes, sir.

Q Along that line, do you have any information on bottom hole pressures that may be encountered in each zone?

A The Empire-Abo wells, which are several miles to the West, have been testing pressures 22, 2300 pounds. We have a drill stem test pressure on our No. 65 Well, reflected bottom hole pressures in the neighborhood of 26, 2700 pounds. The Grayburg-Jackson reservoir pressures, I would estimate there's not a considerable number of pressures available on that reservoir, due to its age recent pressures have not been taken to my knowledge,



but the pressures there are running around 1500 pounds.

MR. PAYNE: Thank you.

BY MR. NUTTER:

Q Mr. Anderson, when will you know what kind of packer you propose to use in the well?

A Well, I should know that right now.

Q Has the company determined yet the type of packer they'll use?

A I imagine they have.

Q Could you write us a letter and advise us of the packer you propose to install?

A I'm almost certain it will be a Baker Model D packer. If I do not advise you differently, would it be satisfactory to leave it as a Baker Model D packer?

Q Well, the Commission would probably hold the order up until they knew for sure just what kind of packer would be installed. So we wouldn't know how long to wait for silence to give us an indication.

A I'm trying to save the necessity of writing if I can. Could I specify that we will use a Baker Model D packer, and if there is going to be any change on that we'll let you know immediately.

Q We'll hold the order up for a few days waiting to hear from you, or waiting not to hear from you, as the case may be.

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A In that case, I'll write to you.

Q Mr. Anderson, how far does this overlapping of the 4 $\frac{1}{2}$ " liner and the 8 $\frac{5}{8}$ "s inch casing extend?

A One hundred three feet.

Q There's cement in the interval of overlap?

A Yes.

Q Do you have any knowledge as to the GOR's of these two respective zones?

A Yes. The Abo zone GOR was 1810 to 1 on the potential test. The Grayburg-Jackson GOR's vary considerably. The area to the South of our well has been coming in at around a thousand to twelve hundred cubic feet per barrel. However, this far North up in the more depleted area the ratios could run higher, could run possibly around two thousand.

Q Where is the general location of the Abo trend here? Would it be to the North of your well or to the South of it, Mr. Anderson?

A The general trend is rather narrow and we have already determined that it is not existing in Well 58, which is to the South of the three locations to the South of the well that's subject to this application. It is not present in Well 58, it is present in Well 65, and it is present in Well 67. I do not anticipate that it will extend much to the North of Well 67.

Q You have determined the Southern limit of it, though?



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A Yes.

Q Somewhere between 55 and 58?

A Yes, sir.

Q Now, this well has been drilled and logged but hasn't been perforated, is this correct?

A Yes, the Abo formation has been perforated and the well has been potentialized in the Abo formation. We have not as yet perforated the Grayburg-Jackson and we will hold up perforating that until we get the approval of the application.

Q This interval that is perforated, this 7048 to 7054 --

A Yes.

Q -- does that represent the entire pay or is there more above?

A The top of the Abo Reef is indicated on the electric log. I would have to refer to that. There's not much pay above those 7048.

Q You have six feet of perforations there and that's about it?

A Yes. May I refer to the electric log, please?

Q Yes.

A We have got the top of the Abo as 6542, but the top of the Abo Reef is at 7045, so there is three feet of Abo Reef above our uppermost perforation; nothing above 7045 will be productive in this Abo reservoir.



MR. NUTTER: Any further questions of Mr. Anderson?

Mr. Anderson, you may be excused, and thank you for coming.

A Thank you.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. White?

MR. WHITE: That's all.

MR. NUTTER: Does anyone have anything further for Case 2022? We will take the case under advisement and recess the hearing until one o'clock.

STATE OF NEW MEXICO)
: SS
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 1st day of August, 1960.

Ada Dearnley
Notary Public-Court Reporter

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. 2022 heard by me on 7/27, 1960.

Asuarez, Examiner
New Mexico Oil Conservation Commission

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