BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1457

TRANSCRIPT OF HEARING

May 28, 1958

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

BEFORE THE
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IN THE MATTER OF:

Application of Sinclair Oil & Gas Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its State Lea Well No. 1, located 660 feet from the South and West lines of Section 24, Township 16 South, Range 33 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Kemnitz-Wolfcamp Pool and from the Pennsylvanian formation adjacent to the Kemnitz-Pennsylvanian Pool through parallel strings of tubing.

CASE NO. 1457

BEFORE:

ELVIS A. UTZ, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The next case on the docket will be Case 1457.

MR. PAYNE: Case 1457. Application of Sinclair Oil & Gas Company for an oil-oil dual completion.

MR. BURTON: Mr. Examiner, I am Horace Burton, Midland, Texas, representing Sinclair Oil & Cas Company, the applicant. We would like for the record to show a minor correction on the name of this well. The application states it to be State Lea Well, and the correct name is State Lea 692 Well No. 1.

MR. UTZ: That should read what?

MR. BURTON: State Lea 692 Well No. 1.

MR. UTZ: All right.

MR. BURTON: Mr. Anderson will give engineering testimony in support of the application.

(Witness sworn.)

R. M. ANDERSON

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

DIRECT EXAMINATION

BY: MR. BURTON:

Q Give your name and employment.

A R. M Anderson, Division Proration Engineer, Midland, Texas, Sinclair Oil & Gas Company.

Q Have you previously appeared before the Commission to give testimony as an engineer?

A I have.

Q Are you a registered engineer in the State of New Mexico in the field of petroleum engineering?

A I am.

Q Is the Kemnitz area of Lea County under the direction of your office in Midland?

A It is.

Q Have you familiarized yourself with the data pertinent to this proposed dual completion?

A I have.

Q And have you prepared exhibits to illustrate your

testimony?

A I have.

Q At this time I will ask you to proceed in narrative form to describe such exhibits as you have, and let them be identified, and give your opinion as to whether the proposed dual completion is mechanically feasible and whether granting this application will be in the interest of prevention of waste and --

A The subject well, Sinclair's State Lea 692 Well No. 1 is presently a drilling well. It is drilling below seven thousand feet at this time, and I have indicated the well's location on what I have marked Exhibit 1, which is an ownership map of the area in the vicinity of the Kemnitz Pool. All of the Sinclair Lease in this area I have colored in yellow for identification. The hatched-checked area in the center of the map is the Seaman Unit, which is operated by Sinclair. The other operators having interest in the Seaman Unit are shown at the bottom of Exhibit 1. That portion of Sinclair's State Lea Lease No. 692 that is outside of the Seaman unit area is outlined in red on this map, and is composed of 160-acres. The subject well is located 660 feet from the South and West lines of Section 24, Township 26 South, Range 33 East. It is identified on this map by a green circle and a larger red circle, double circles. The red circles on this map identify the Kemnitz-Wolfcamp wells as classified by the Commission. The green circle in the northern portion of the development in the Seaman Unit is the Seaman Unit Well No. 1,

and it is presently producing from the Cisco pay in the Pennsylvanian formation and has been since its completion.

The two blue circles to the east of the map are two wells that are presently classified in the Kemnitz-Cisco Pool; the easternmost of which is the Pure well, and is producing from the same correlative interval in the same Seaman zone as the Seaman Unit Well No. 1. The Tennessee Well No. 2 with the blue circle just to the west of the Pure well is producing also from the Cisco formation, but in an interval approximately two hundred feet higher in that formation. One other well in this area has successfully tested and indicated commercial production in the Cisco zone of the Pennsylvanian formation, and that well is the Forest Oil Company's State "A" No. 1. It is identified by a red circle and is located 660 Feet from the North and East lines of Section 26, and is a diagonal offset to the subject well of this hearing.

Other wells on this map, down in the southwest portion of the map there is a well, Neville G. Penrose Well. It is in the San Mal-Penn Pool, one well pool. In the northeasterly portion of the map there are about four wells, in Section 8, that are currently in the Eumont Pool.

I would like to refer to our Exhibit No. 2 now, which is a diagrammatic sketch of the proposed dual completion installation. Presently we are drilling this well below seven thousand feet. We have intermediate casing, as shown on this exhibit, and we propose to set 7 inch casing at TD as indicated on this exhibit.

The details of that 7-inch casing will be found on a later exhibit, when I come to it.

You'll note from this Exhibit that the long string will be set in a Baker Model D packer, set at approximately 11,250 feet. It will be 2-3/8 inch EUE tubing, and we'll produce the oil from the Pennsylvanian formation, the Cisco pay. I've indicated with green on this exhibit the flow pattern from the Pennsylvanian formation. The short string will consist of 2-3/8 inch Hydril "CS" tubing, and will be hung in the well with the bottom of it approximately opposite the perforations in the Wolfcamp zone. Both zones are expected to flow for some time. We don't anticipate pumping either zone for some time. I have indicated on this exhibit the approximate perforations in the Wolfcamp-Pennsylvanian zones, and from that we see that we have approximately six or seven hundred feet of separation between those perforations. We intend to cement 7-inch string with approximately six hundred sacks of cement, which should, based on our experience in other wells in this immediate area, should bring the top of the cement to approximately 7,300. We, of course, will ascertain that with a temperature survey at the time that the work is done, and I have indicated that on this Exhibit No. 2.

Exhibit No. 3 is an electric log ran on the Forest State "A" Well No. 1, which is a diagonal offset of our drilling well. On this exhibit I have marked the formation tops of the principal formations found in the well. I have shown the perforated

intervals in the Forest Well on this Exhibit just as an indication of those particular pays that Sinclair proposes to perforate in their own wells. We anticipate that our well will run approximately a hundred feet higher structually in both zones, and therefore, these zones will be found further up the hole than they were found on the Forest Well.

You will note from Exhibit 3 that we propose to perforate the lower portion of the Wolfcamp, which is the Kemnitz pay in this area, and is the same pay that all of the other wells in the pool are opening.

MR. UTZ: The so-called Kemnitz pay is part of the Wolfcamp?

A The very lower part of the Wolfcamp. I have the Pennsylvanian top on the Forest well marked at 10,868 feet, and you will note that the Kemnitz pay occurs immediately above that in the very bottom of the Wolfcamp.

MR. UTZ: And the Cisco pay is part of the Pennsylvanian?

A Yes, sir. It occurs about 700 feet below the top of the Pennsylvanian. It is a formation development in the Pennsylvanian formation.

Exhibit No. 4 is a statistical data sheet wherein I have tabulated all of the pertinent data that I believe applies to this application. I have shown the date that the well was spudded, the casing program, or the location of the well, the casing program, both the surface and intermediate has been set as indicated, the

producing string will be 7-inch, and this is our proposed program. It will be something similiar to that program. Shown there, as a matter of interest, is the ID of the various weights of 7-inch casing, and in the proposed tubing program I have described the long string as 2-3/8 inch EUE, and the short string, or Wolfcamp string, 2-3/8 inch "CS" Hydril. I've shown the ID of those two strings, and they are identical nine nine five inches, and I have shown the joint OD's, and have added them and they show that the maximum OD of these two strings of tubing opposite the joint will be 5.765 inches, which in my opinion gives us plenty of clearance in running through all of the 7 inch pipe I have listed above, which incidentally is a standard casing string design I have used.

The lower portion of Exhibit 4 merely lists the characteristics of the two formations. I've shown the perforations that we intend to make in each zone, depending, of course, upon the logging of the well upon reaching TD. The gas-oil ratios shown are the same. We anticipate that they will be pretty close, 1400 to 1. We have two degrees difference in gravity. The Wolfcamp zone is about 41.6 degrees, the Pennsylvanian zone is about 39.3 degrees. These gravities were obtained from recent pipeline gauger ran tickets, and reflect what we are actually selling this oil at. There is a small price differential. The Pennsylvanian zone is below forty degree gravity, and we get paid for over forty on the Wolfcamp zone. Both crudes are sweet. There is a color distinction in the two crudes. The Wolfcamp crude is brown and the Pennsylvanian crude is

green. The BS & W content of the two crudes are about the same, very small. The estimated bottom hole pressures are very similiar. I referred those pressures to the packer, and I find we will have about a three hundred and sixty-four pound differential across the packer. I have checked with the Baker people who make the packer and they have assured me that in their tests of their packer, that it will not, if properly set, will not leak nor will it creep or move when subjected to pressure and differentials up to the bursting pressure of the pipe it is set in, and in this case, it would be in excess of 9,000 pounds, so we certainly are safe from a differential pressure standpoint.

I have shown the cost of twin wells; single zone Wolfcamp zone, and single zone Pennsylvanian wells were twinned. I have shown the cost of each well, I have shown the cost of dual completion, with 7 inch casing, and we see from that cost comparision, that the granting of this application will save Sinclair an estimated $136,000 in drilling well costs, and I believe that in view of the production history from the Pennsylvanian zone in the Forest Well which diagonally offsets our well, that it would not be feasible to drill a single zone well at a cost of $216,000 to develop the Pennsylvanian zone under or well. We anticipate that this is indeed a small development in the Pennsylvanian formation, and in producing 13,000 barrels of oil in two months' period, February and March of this year, the Forest well suffered a loss in static bottom hole pressure in the Pennsylvanian zone

of approximately 800 pounds, so we feel that that indicates a small reservoir in this vicinity, and that we do not believe that there are sufficient reserves to justify drilling a single well. I believe that if this application is granted, it will not impair the correlative rights of any of the interested operators in the area, and I believe that if it is not, if the application is not granted, that waste will occur in that the reserves in the Pennsylvanian zone will not be recovered from this well unless it is dualed or unless it is deferred until the Wolfcamp zone is depleted. I believe that's all I have.

MR. BURTON: The applicant offers the exhibits in evidence which have been identified.

MR. UTZ: Without objection, Exhibits 1 through 4 will be accepted in evidence. Are there any questions of the witness?

CROSS EXAMINATION

BY: MR. UTZ:

Q Why did you use Hydril 2-3/8 inch on the Wolfcamp side, and EUE on the Pennsylvanian side?

A The reason for that selection is that we feel that we would be giving ourselves just a little more clearance in running these two strings inside the 7 inch. We feel that the difference in cost between the Hydril and the EUE is justified by virture of the additional clearance that we will get. 2 inch EUE tubing can be modified by purchasing the N 80 collars and turning them down in a shop, making them smaller OD, and bevelling them so they will

pass each other easily and without sacrificing the necessary strength required to run those collars, but we felt it would be a little better installation to use standard equipment, and we preferred to use the Hydril, giving us just a little bit more clearance in running this material in and out of the well.

MR. UTZ: Are there any other questions of the witness? If not, the witness may be excused. Do you have anything further in this case?

MR. BURTON: No, thank you Mr. Examiner.

MR. UTZ: Are there any other statements to be made in this case? If there are none, the case will be taken under advisement.

C E R T I F I C A T E

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 19th day of June, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Jose G. Trujillo
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. 1957, heard by me on May 28, 1958.

, Examiner
New Mexico Oil Conservation Commission