

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1686

TRANSCRIPT OF HEARING

JUNE 3, 1959

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BEFORE THE
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IN THE MATTER OF: :

CASE 1686 Application of Skelly Oil Company for the es- :
tablishment of a new gas pool for Atoka pro- :
duction, and for the adoption of Special Rules: :
and Regulations in connection therewith. Ap- :
plicant, in the above-styled cause, seeks the :
establishment of a new pool for Atoka produc- :
tion comprising the E/2 of Section 11 and the :
W/2 of Section 12, Township 16 South, Range 33: :
East, Lea County, New Mexico, and the Estab- :
lishment of Special Rules and Regulations :
therefor including 640-acre spacing for said :
pool. :

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 up next Case 1686.

MR. PAYNE: Case 1686. Application of Skelly Oil Company
for the establishment of a new gas pool for Atoka production, and
for the adoption of Special Rules and Regulations in connection
therewith.

MR. WHITE: If the Commission please, Charles White of
Gilbert, White & Gilbert, Santa Fe, New Mexico, appearing as resi-
dent counsel for the applicant, Skelly Oil Company. I have asso-
ciated with me Mr. George W. Selinger, Tulsa, Oklahoma, who will

present the case. We have one witness to be sworn.

(Witness sworn)

JOE D. RAMEY,

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

DIRECT EXAMINATION

BY MR. SELINGER:

Q State your name.

A Joe D. Ramey.

Q And you are associated with what Company?

A Skelly Oil Company.

Q In what capacity?

A District petroleum engineer, New Mexico District.

Q Mr. Ramey, are you familiar with the Skelly Oil Company's Sombbrero unit in Lea County?

A Yes, sir, I am

Q Have you testified heretofore before the Commission as an engineer?

A Yes, I have.

MR. SELINGER: May his qualifications be admitted?

MR. NUTTER: Yes, sir. Please proceed.

Q I'll hand you what has been marked as Exhibit 1, and ask you to state what that is?

A Exhibit No. 1 is a plat showing the location of the Sombbrero unit colored in yellow. This Sombbrero unit comprises the

E/2 of Section 12, and the W/2 of the E/2 of Section 11, and the W/2 of Section 12 of Township 16 South, Range 33 East, Lea County, New Mexico.

Q Now, is this Sombrero unit adjoined immediately to the Seaman unit to the east and the Humble unit to the north?

A I believe it is diagonal to the Seaman unit and adjoins directly to the Humble unit to the north. It does join the Seaman unit. The Seaman unit includes the SE/4 of Section 12.

Q So that the Sombrero unit does adjoin the Seaman unit on the west and the Humble south, Saunders unit on the north?

A Yes, that is correct.

Q Will you tell the Commission when this well was started for drilling purposes and when it was completed?

A The well was spudded October the 21st, 1956 and completed February the 25th, 1957.

Q Now, at the time this well was drilling, did the Skelly Oil Company file an application with the Commission for the approval of a Sombrero unit composed of 640 acres, containing the E/2 of Section 11 and the W/2 of Section 12?

A Yes.

MR. SELINGER: And we would like to have by reference, Order No. R-922 in Case 1173 issued November 13th, 1956, made a part of this record.

MR. PAYNE: Is that the case that gave approval to the Sombrero unit?

MR. SELINGER: Yes, sir.

MR. NUTTER: Let me get this straight. It is R-922?

MR. SELINGER: R-922 in Case 1173 on November the 13th, 1956, which is the order of this Commission approving the Sombrero unit.

MR. NUTTER: Without objection, Order No. R-922, Case 1173 will be incorporated in the record of this case.

Q (By Mr. Selinger) At the time of the approval of this Order, the well was in the process of being drilled, is that correct?

A Yes, that is correct.

Q Now, again referring to Exhibit 1, does it not indicate the control that you have surrounding in all directions in the Sombrero unit with respect to the production secured from this well?

A Yes, it does. The three wells to the north, which are Humble wells, I don't know the formal name for those, but those wells all indicated to be too impermeable in the Atoka to produce, and the wells to the south, the Seaman units Nos. 1 and 3, which are shown, the No. 1 had, I believe, a fair show of gas from the Atoka. However, the water percentage was fairly high, and the Well No. 3 was water productive only in the Atoka.

Q This Exhibit shows the datum of the particular pay that the Sombrero unit is producing from indicating that while some of these wells were successfully completed in other zones, but insofar as the particular zone that the Sombrero unit is completed in, it

was dry or nonproductive --

A That is correct.

Q -- or uneconomical?

A That is correct.

Q Generally, you have indicated where water has been encountered. Like the Humble well in the northeast of 3 and the two wells in the Seaman unit, you've indicated by a small symbol of "w", is that correct?

A That is correct, yes.

Q And the two Humble wells to the northwest penetrated the particular zone and were completed in shallower pays as oil wells?

A That is correct.

Q Now, I'll ask you with respect to this particular well, were you present at the time of the approval of the unit?

A Yes.

Q Were you the witness?

A No, I was not.

Q But you were present at the time?

A Yes.

Q And this was a development unit which was sought to be approved by the Commission?

A That is correct.

Q Did you encounter any particular difficulties in drilling the well, or was it just normally drilled?

A Outside of threat of blowout when we encountered this

Atoka pay, why it would be considered a normal well.

Q Have you had bottom hole pressures taken periodically on this particular well?

A Yes, we have.

Q Now, I'll hand you what has been marked as Exhibit 2. Is that a summary of the pressure taken on this well?

A Yes, Exhibit No. 2 is a pressure decline curve for the Sombrero No. 1. It reflects the pressure divided by the S factor versus cumulative time production.

Q How many pressure points do you have on this well?

A We have a total of eight.

Q Eight pressure points. Is that sufficient to give you a particularly good indication as to the probable remaining life of the particular well?

A It appears to be, yes.

Q And from that, have you made an estimation of the reserves of the particular pay?

A Yes, we have. The reserves for the Sombrero unit are one million six hundred thousand MCF, and an estimate of the eight thousand barrels of distillate.

Q Now, does this reserve encompass the entire field or pool in aerial extent?

A Yes.

Q What would happen with respect to additional wells, with particular reference to assigning it to this particular well?

A Essentially all it would do would be to take reserves away from this well.

Q So that the estimated reserves is the total reserves of this small pool and the additional wells would not increase the reserves as you have estimated here?

A That is correct. It would not.

Q Now, at the time of the approval of the Sombrero unit, the Exhibits showed at that time, from our shooting picture, that the small pool would be approximately under the 640 acres. Does this information bear this out?

A Yes, I think it would.

Q Now, I'll hand you what has been marked as Exhibit 3, and ask you to state what that is?

A This is a sheet showing the economics for 640-acre spacing for the Sombrero unit.

Q And the reserves that you have taken were taken from your bottom hole pressure decline point on your Exhibit 2?

A That is correct, yes, sir.

Q What does it indicate the per well development cost?

A Four hundred and one thousand, one hundred nine dollars and eighty cents.

Q What was the total depth of this well, and where was it perforated?

A The well was perforated thirteen thousand one sixty-six to thirteen thousand one sixty-eight, and the total depth of the

well was thirteen thousand seven hundred feet.

Q And was plugged back to thirteen thousand two hundred twenty-five feet?

A That is right.

Q Now, with respect to the operating expense and the estimated salvage value of the lease equipment, what does that indicate the amount to be?

A The estimated operating expense would be \$23,760, and the salvage value would be \$18,840.

Q What do you estimate the ultimate gross income to be with respect to the recovery of the reserves as you have estimated both gas and condensate?

A Skelly's ultimate gross income would be three hundred fifty-six thousand ,three hundred seventy.

Q Now, getting down to dollars and cents without theory, what is the payout as of April the 1st, 1959?

A Payout to April 1st, 1959 was three hundred sixty-one thousand five dollars and sixty-nine cents in the red.

Q In other words, the payout of this well has three hundred sixty-one thousand plus in the red?

A Right. We have recovered some forty thousand dollars of the four hundred thousand invested.

Q When this well was drilled, was the perforated zone the only zone that was productive in the well?

A Yes.

Q And there is a well to the south, the Phillips Well, producing. Was this well completed in the same zone or horizon that the Phillips Well is producing from?

A The Phillips Well was also completed in the Atoka. However, we do not think that the sand lens we are producing from is perforated in the Phillips Well.

Q Now, the Phillips Well, the M-i-c-h-e-l is producing from four sets of perforations, is that correct?

A That is correct.

Q Did these wells encounter any of those four perforations --

A No.

Q -- as to pay, I mean?

A No, they were not.

Q And was the Phillips Well encountering any production from the single perforated zone that the Sombrero well is?

A In my opinion, no.

Q Your request here is for the establishment of a 650 acre unit for this small aerial pool. Do you believe that this well, in the absence of time, can drain the particular set of perforation zones and efficiently and economically drain it?

A Yes, I do.

Q With all of its economic and efficient drainage, the well still will not pay out, is that correct, --

A That is correct.

Q -- according to your calculations?

A My calculations indicate a net loss of forty-nine thousand, sixty fifty-nine twenty.

Q And the drilling of additional wells would merely divide up the estimated reserves, as you have indicated, --

A That is correct.

Q -- resulting in a greater loss to the Skelly Oil Company, and a definite and certain loss to any other operator that might want to drill?

A Yes.

Q Would you recommend the establishment of this pool as -- to be known as the Atoka Sombrero Pool?

A Yes.

Q Mr. Ramey, with respect to the Seaman unit and the Humble South Saunders unit, are those Federal leases or State leases, or are you familiar with them?

A I am not familiar with those.

Q Skelly Oil Company has an interest in the Seaman unit, does it not?

A That is correct, and also in the Humble unit.

Q And the Sombrero unit is composed of State lands, is that correct?

A Yes.

Q Now, how are these divided up, into how many leases?

A I believe there are three leases.

Q Will you indicate for the record the three particular

leases?

A One lease is the W/2 of Section 12, and the Section lease would be the SE/4 of Section 11, and the third portion would be the NE/4 of Section 11.

Q I'll hand you what has been marked for -- by the Reporter as Exhibit 4, and ask you to state what that is?

A Exhibit No. 4 is a portion of the Schlumberger gamma ray neutron log, which was run on this well, and on this log from an interval of 13172 to 13176, it is colored in red, and that designates the Sombrero Atoka gas pay.

Q Now, I'll hand you what has been marked as Exhibit 5, and ask you to state what that is?

A That is a portion of the Schlumberger induction electric log which was run on the same well.

Q How many feet of pay does this well at its over 13,000 foot depth have?

A It indicates to be about five feet of net effective pay.

Q Looking at solely the Exhibits 4 and 5, its net effective pay would indicate that the well was an economical one at its particular depth?

A No, it would not.

MR. SELINGER: We would like to offer in evidence Exhibits 1 through 5 both inclusive.

MR. NUTTER: Without objection, Skelly's Exhibits 1 through 5 inclusive will be entered in evidence.

MR. SELINGER: I believe that's all we have of this witness.

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

MR. PAYNE: Yes, sir.

MR. NUTTER: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Ramey, would you recommend to your management in the event this application were not approved, that another well be drilled on this 640 acres?

A No, I would not.

Q Do you think it would be self evident to any other operator that a gas well on 320 in this section would not pay out?

A I don't see how he could justify their management that a gas well to this depth would pay out.

Q That being the case, why do you need the 640-acre unit? This gas well is not prorated, is it?

A No, it is not.

MR. SELINGER: I don't know whether this witness can answer that question or not, but I might advise the Oil Conservation Commission that these are State lands, and the State Land Office has suggested the drilling of additional wells or the formation of the 640-acre unit by filing this application to the Oil Conservation Commission, and as is quite evident in the oil business, we may be able to control our own operations, but we have no control over any

erstwhile neophyte coming into the oil business to drill additional wells, and our main interest in preventing the drilling of additional wells to the detriment to all the business is the fact that it will increase the loss on our well. And even though an erstwhile neophyte might enter into the oil and gas business, with the self-evident fact that there is a loss, there is nothing to prevent them from doing so, and resulting in a loss to all concerned without the recovery of additional foot of gas or additional barrel of condensate.

Q (By Mr. Payne) The only way you could lose would be through -- if another well were drilled on this 640, is that right?

A That is correct.

Q Now, has the Land Office cancelled this unit, or do you still have this?

A The unit is still in effect.

Q Have you received any communication from the Land Office relative to this unit?

MR. SELINGER: This witness is not -- does not know that, but we were given thirty days' notice with the expiration on June 8 of the abolishment of the Sombrero unit, and --

MR. PAYNE: Does that apply even if this Commission approves your application?

MR. SELINGER: No, sir, it does not apply except if this Commission does not approve the unit, 640-acre unit.

MR. PAYNE: I believe that's all. Thank you.

MR. NUTTER: Any questions? Mr. Utz.

QUESTIONS BY MR. UTZ:

Q Mr. Ramey, on Exhibit No. 2, the eight pressure points that you have shown there, what were the periods of shut-in on those points?

A Those range to -- I believe the minumum was fifty hours, and the maximum was seventy-two hours. I believe the seventh point was shut-in total of ninety-six hours, shows stabilization after seventy-two hours. We ran a pressure build-up on it after that time.

Q That was the seventh point, did you say?

A Yes.

Q Did you take periodic pressure points on these build-ups?

A Yes, we did. We had a bomb in continuously. We left it in seventy-two hours, pulled it out and ran it back in.

Q That record showed that the pressures were stabilized --

A Yes, it did.

Q -- all these pressures were stabilized?

A Yes, I think so. We have one pressure point which certainly appears to be out of line, and I think that was probably mechanical failure.

Q You would have built that up to show stabilization on all these points?

A We have the one build-up that was taken on the seventh pressure point.

Q On the seventh pressure point?

A Yes.

Q That would be the only one that you showed definite stabilization?

A Yes. The other points were shut-in approximately the same number of hours that we obtained a build-up.

MR. UTZ: I believe that's all I have.

MR. PAYNE: One further questions.

QUESTIONS BY MR. PAYNE:

Q I believe you testified that, in your opinion, this well would drain 640 acres, in the absence of time. Is that right?

A Yes.

Q How long do you think it will take this well to drain the 640 acres?

A I don't believe we have enough information on the well as yet. We haven't had enough production to come up with a good educated guess on that.

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

MR. NUTTER: Any further questions? Mrs. Rhea.

MRS. RHEA: The State Land Office, I do not believe, suggested a 640-acre spacing. We suggested that they go to the Oil Conservation Commission for whatever spacing the Oil Conservation Commission wished to give.

MR. NUTTER: Thank you.

QUESTIONS BY MR. NUTTER:

Q Mr. Ramey, you stated that the three Humble Wells up north and west of your Sombrero Well there were impermeable in this same zone?

A Yes.

Q Did they encounter the same zone?

A Not as such. The Atoka is comprised of -- it is a massive shale bed and has sand stringers, and evidently the sand we are producing from was shaley in those wells.

Q Well, I note that the productive interval on your logs is very definitely shown as a kick on both the electrical log and on the radioactive log?

A Yes.

Q Have you observed the logs on the Humble wells?

A It has been some time since I observed them, but I looked at them after they were drilled, yes.

Q And is this same kick present or is it all shaled out?

A It is shaled out.

Q How about the Phillips Well directly south of your Sombrero unit? Have you observed the log on that well?

A Yes, I have.

Q And it's got four sets of perforations?

A That is right.

Q And is this same kick that is evident in your logs of the

Sombrero Well No. 1 evident in the log of Phillips Well?

A No.

Q Is it shaded out there?

A It appears to be shaded out there.. They are producing from what appears to be separate sand stringers.

MR. SELINGER: How much lower structurally is that Phillips Well?

A It is approximately fifty feet lower structurally.

Q In other words, Mr. Ramey, these logs of these other wells substantiated your claim that this is a very small structure or small zone of permeability in this particular interval?

A Yes.

Q Then, what evidence do you have that this little zone extends out to cover 640 acres? It appears that the Phillips Well is a 660-foot location away from the boundary of the unit?

A That's right.

Q And you are asking that 640 acres be dedicated to your well that is 660 feet from another well that does not even have the same formation?

A Yes.

Q Do you think there is a good possibility that your pay does shale out prior to the time it reaches the boundaries of the proposed 640-acre unit?

A I don't think I can be definite on that statement. However, I do think that the pressures certainly indicate that this is

a shale reservoir.

Q Have you made any calculations as to the reserves underlying your well or your unit on a pore volume basis?

A No, I have not.

Q The only reserve figure you have is based on these pressure declines?

A We have no core data, and consequently, we have insufficient porosity and water saturation data, so it would be impossible to make an accurate determination by volumetric methods.

Q You didn't take any cores?

A No, we did not.

Q Could you furnish the Commission with copies of these pressure build-ups --

A Yes.

Q -- that you have available on the wells?

A Yes, we could.

Q Is this well connected to a gas purchasing pipeline?

A Yes, it is.

Q What is the daily average rate of production from the well?

A I believe it is running now a little less than half a million a day. I think for the month of -- we had a connection in March.

MR. SELINGER: Is that our first connection?

A That is our first connection. We had previously been

selling gas to drilling rigs from that well.

Q So the fact that you are three hundred sixty-one thousand five hundred sixty-nine dollars in the red is an indication, more than anything else to date, of a lack of market for your gas, isn't it?

A That is correct, yes.

Q What is the average daily rate of liquid production from the well, Mr. Ramey?

A It runs about -- roughly right now, I think it is forty-four barrels. I believe that was the average, the last available seven-day period. And our gas volume is a little less than a half a million a day cubic feet.

Q Now, Mr. Ramey, you stated in your direct testimony, and in your opinion, this well can economically and efficiently drain this 640 acres. What do you base that opinion on?

A It certainly can economically drain the 640 acres in -- providing the pay is continuous, and disregarding time, I think we will efficiently drain 640 acres, too.

Q You don't have any knowledge of what the actual permeability of this sand is, though?

A No, we do not.

MR. NUTTER: Anyone else have any further questions?
The witness is excused.

(Witness excused)

MR. SELINGER: I might add for the record that there is

some question with respect to whether the Commission should issue a unit for one well in the pool. We think the evidence clearly demonstrates that this is such a small pool that there is probably none existing like it in the State, particularly at this great depth. In view of perhaps some hesitancy on the part of the Commission to issue a one-unit one-well pool spacing order, a check of the records indicates that perhaps there has not been -- that has not been done in New Mexico, but it has been done in various other States. We had a 440-acre unit which contained the entire productive area for production of gas and gas distillate in the Pawnee Hills in Logan, Colorado, which we would like to have a photostatic copy of marked as Exhibit No. 6.

Similarly, as Exhibit 7, is a typewritten copy of an order in Calcasieu Parish, Louisiana, which covers the entire productive area of a single pool, and merely by reference, the Louisiana Commission on May 26th issued, on application of Carter Oil Company in the Atoka Field of Webster Parish, a drilling unit composing the entire productive area.

And also as Exhibit 8, a notice of hearing by the Louisiana Commission on the Riceville Field which is seeking to establish a single drilling unit comprising all of the productive area of that particular pool. There have been several instances in Oklahoma, and I think by pointing these out to the Commission, that while it has not been done as a matter of general practice in this State, I believe that by sheer coincidence the situation has never

arisen, and it has now arisen here for the first time, and I merely point out that it has been handled by other state regulatory bodies.

MR. PAYNE: Do you believe that approval of this application would prevent an erstwhile neophyte from losing money?

MR. SELINGER: The approval of this order would eliminate the necessity of any erstwhile neophyte of entering into the business in attempting to complete a -- a wellin fivefeet of net pay over 13,000.

MR. NUTTER: Exhibits Nos. 6 and 8 are reproductions of orders or notices; Exhibit No. 7 is a typewritten copy of an order?

MR. SELINGER: Yes.

MR. NUTTER: Was this typewritten order prepared under your supervision?

MR. SELINGER: It was prepared by me from an original notice.

MR. NUTTER: If there are no further questions of Mr. Ramey, he may be excused.

MRS. RHEA: May I ask a question of Mr. Selinger? Mr. Selinger said that in case this order is granted, the unit would continue. I would like to ask Mr. Selinger if he thinks that the order would change the terms of the unit, or wouldn't they have to come in for communitization?

MR. SELINGER: Well, I will put it this way, Mrs. Rhea, if the Commission issues this order, we will file the order as a

supplemental to our February 11th plan of development.

MRS. RHEA: Which would cover no development?

MR. SELINGER: Which would be the development program of this particular unit for the foregoing year, from February 1958 to February 1959. And we have to file a plan of development, which we will every year, in accordance with our requirement.

MRS. RHEA: Well, it was more or less my understanding that you would go to the Commission and get a spacing order, and then if you received a 640-acre spacing, you would come in for a gas communitization.

MR. SELINGER: Yes, ma'am.

MRS. RHEA : And we would terminate your unit?

MR. SELINGER: I don't know about the termination of the unit. You would merely substitute this order for the unit agreement. It doesn't make any difference which way it is handled. If you desire to substitute the 640-acre drilling and spacing unit for this particular pool, it would cover the same area as a unit agreement. The same area would be covered by either order.

MRS. RHEA : I am speaking about the State Land Office in this instance.

MR. SELINGER: Well, in this particular instance, if the Commission issues the order, we would file this order, and if you desire to replace your unit agreement by this order, we would have no objection.

MRS. RHEA : We couldn't do that; it would have to be

in the form of a communitization --

MR. NUTTER: The separate leases, as I understand it, would have to be communitized under one 640-acre communitized tract.

MRS. RHEA: Yes, and approved by the Commission.

MR. NUTTER: Do you wish to offer these three Exhibits?

MR. SELINGER: Yes, I would like to offer the Exhibits 6 through 8.

MR. NUTTER: Without objection, Skelly's Exhibits 6 through 8 will be admitted in evidence.

Does anyone have anything further they wish to offer in Case 1686?

MR. SELINGER: May I state that in view of Mrs. Rhea's observation, that we would like to have the order, if it is issued by this Commission affirmatively, to indicate that all interests therein be communitized, and we will prepare that and send it to the Land Office.

MR. NUTTER: Anything further in Case 1686?

MR. PAYNE: Mr. Examiner, we received a communication from Sinclair Oil & Gas Company stating that it has no objection to the formation of a 640-acre Atoka gas proration unit consisting of the E/2 of Section 11 and W/2 of Section 12.

"Regarding Case 1686, June 3, 1959. This is to advise that Sinclair Oil & Gas Company has no objections to the formation of a 640 acre Atoka gas proration unit consisting of the E/2 Section 11 and the W/2 of Section 12 in T-16-S R-33-E, Lea County, New Mexico, to

be assigned Skelly Oil Companys Sombrero unit Well No 1 H. F. Defenbaugh Division Production Superintendent."

MR. NUTTER: Just as a matter of interest, is Sinclair a working interest owner in this?

MR. SELINGER: No, Skelly is a hundred percent. Skelly is the operator of the Seaman unit adjoining this to the East.

MR. NUTTER: If there is nothing further in Case 1686, we will take this 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 11th day of June, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Lutz
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. 1286
heard by me on 6-3, 1959.

heard by me. _____, Examiner.
New Mexico Oil Conservation Commission