

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
March 22, 1961

EXAMINER HEARING

IN THE MATTER OF:)

Application of Sinclair Oil & Gas)
Company for a 240-acre non-standard)
gas proration unit, and for an order)
force-pooling all mineral interests)
therein, and for an unorthodox gas well)
location. Applicant, in the above-)
styled cause, seeks the establishment)
of a 240-acre non-standard gas proration)
unit in the Eumont Gas Pool consisting)
of the NE/4 NE/4 of Section 33 and the)
NW/4 and NW/4 NE/4 of Section 34, Town-)
ship 19 South, Range 37 East, Lea County,)
New Mexico, and for an order force-pool-)
ing all mineral interests therein includ-)
ing those of Robert Roy Taylor, a minor,)
whose guardian is Johnnie S. Taylor, Jal,)
New Mexico. Applicant proposes to dedi-)
cate said unit to the J. H. Williams Well)
No. 3, located on an unorthodox location)
1980 feet from the North line and 660 feet)
from the West line of said Section 34.)

Case 2223

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. MORRIS: Application of Sinclair Oil & Gas Company
for a 240-acre non-standard gas proration unit, and for an order
force-pooling all mineral interests therein, and for an unorthodox
gas well location.

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MR. KELLY: William Booker Kelly of Gilbert, White & Gilbert, Santa Fe, New Mexico, appearing on behalf of Sinclair Oil and Gas Company. I have two witnesses and ask that they be sworn.

(Witnesses sworn.)

MR. UTZ: Are there other appearances in this case?
You may proceed.

R. R. MARMOR

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you please state your name, employer and position, please?

A My name is R. R. M-a-r-m-o-r. I am Assistant Division Engineer for Sinclair Oil and Gas Company at Midland, Texas.

Q Have you previously testified before this Commission?

A Yes, sir.

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

MR. UTZ: Yes, sir, they are.

Q Could you tell the Commission briefly what you propose by your application?

A Briefly, Sinclair applies for expansion of a present 200-acre non-standard proration unit to include an additional

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forty acres. Also, approval of the unorthodox location previously approved for the original 200-acre non-standard unit and for an order force-pooling the interest in the original 200-acre non-standard unit. (Whereupon, Exhibit 1 was marked for identification.)

Q Now, referring to what has been marked as Exhibit No. 1, would you explain that to the Commission?

A In Exhibit 1 we show in yellow the original non-standard proration unit, the present non-standard proration unit which consists of 200 acres and are located as follows: The Northeast Quarter of the Northeast Quarter of Section 33 and the Northwest Quarter of Section 34, Township 19 South, Range 37 East. We also show the 40 acres in pink, the 40 acres which we are asking approval to include in the original non-standard unit.

We show the units, present gas units in the Eumont Gas Pool surrounding the present unit, Sinclair Unit, and we also show the completions of wells surrounding and within the Sinclair leases. We show in green the Eumont Gas Pool gas wells; in red, the Eumont Gas Pool oil wells, and then, in purple the Monument oil wells.

Q The area shaded in pink, that land is owned by the State of New Mexico, is that right?

A Yes, sir.

Q And have you received approval from the Land Office on adding this 40 acres to the proration unit?

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A Yes, sir, we understand they will approve the addition of this acreage to the proration unit upon approval by the Oil Conservation Commission.

Q Have you contacted the other royalty interests for the 200-acre unit which is now existing?

A Yes, sir. We have contacted all the royalty interest owners and we have received the approval of all except one small interest owner who owns 107.252,880ths of 1/8th of a percent. That's approximately 4% of 1/8th.

Q You say you did contact and did not get exception from that interest?

A Yes, sir.

MR. KELLY: Would the Commission like to see the letter, about this, to the royalty owner and the reply?

MR. PAYNE: Yes, sir.

MR. KELLY: I might as well mark this as an exhibit.

Q Now, referring to that royalty interest, that was in the original 200-acre unit, is that not correct?

A Yes, sir, the original 200-acre non-standard proration unit. We requested their approval and, at that time, they did approve the expansion.

Q They did?

A Yes, sir.

Q Sinclair has also asked for permission for an un-orthodox well location. In the existing 200-acre proration unit

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is the well location unorthodox as it now stands?

A Yes, sir. Well No. 3, which is the Williams Well No. 3 which is located 1980 feet from the North line and 660 feet from the West line of Section 34, was the original well and it still is the producing well to which all this acreage is allocated. At the original request for the non-standard proration unit consisting of 200 acres, the Commission also granted the unorthodox location, it approved the unorthodox location.

Q According to the rules as promulgated by the Commission, would the addition of 40 acres to this proration unit make the well unorthodox in any additional sense?

A No, sir, it shouldn't affect the situation in any manner.

MR. KELLY: I ask that the Commission take administrative notice of Order R-643 which was promulgated June 13, 1955 in which the Commission set up the original 200-acre unit.

Q Does your information show that the Williams No. 3 Well will be capable of producing the extra allowable if the extra 40 acres is added to the proration unit?

A Yes, sir, we feel sure that the well is more than capable of producing the allowables that have been granted to Well No. 3 and would be granted if the additional 40 acres are included. For example, just recently, in January of 1961, the allowable was 11,000,521 MCF; the actual production was 14,000,787 cubic feet, I meant cubic feet in the first instance.



That meant that the well produced 128% of its allowable in twenty-one days during January. The additional 40 acres would be an increase of 120% to the acreage. So, we can see immediately that the well can easily do it and there is no question in our minds.

Q Now, Exhibit No. 1 was prepared by you or under your direction?

(Whereupon, Exhibit No. 4 was marked for identification.)

A Yes, sir.

Q And the letter which has been marked Exhibit 4, would you examine that and tell me if it is a letter sent out by Sinclair to the Taylor interest and returned?

A Yes, sir, this is the same letter.

MR. KELLY: I ask for the introduction of Exhibits 1 and 4.

MR. UTZ: Without objection, the Exhibits 1 and 4 will be admitted into the record in this case.

MR. KELLY: That's all we have from Mr. Marmor. Mr. Murphy, our other witness, will testify on other phases of the application.

MR. UTZ: Will Mr. Murphy testify as to the productivity of the 40-acre extension as well as the vertical limits?

MR. KELLY: Yes. He will be our geological witness.

MR. UTZ: Are there questions of Mr. Marmor?

CROSS EXAMINATION

BY MR. MORRIS:



Q This non-consenting interest exists only in the area of the presently established 200-acre unit, is that correct?

A Yes.

Q There are no non-consenting interests in the 40 acres that you seek to have established in the existing unit?

A No, sir, that's a State lease.

Q And the State has consented to join in this unit?

A Yes, sir, upon approval of the Oil Conservation Commission.

Q So, the only reason that you are bringing a forced-pooling application at all is for the interest that's already in the 200-acre unit that's presently established?

A Yes, sir.

Q At the time Order No. R-643, to which you referred, was entered, it was found that it was impractical to pool any other acreage with a 200-acre unit. What has changed the situation since that time, do you know?

A Well, basically the recent approval of the Chambers and Kennedy 160-acre proration unit, which is located in the South Half of the Northeast Quarter and the North Half of the Southeast Quarter of Section 34.

Q In other words, there was a possibility before that the subject 40 acres might have been taken into another unit. Now ~~that that possibility is more or less extant, you seek to bring~~

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it into your unit?

A Yes, and besides, we own 100% of the working interest in all that acreage in question, which will facilitate operations.

Q Now, I notice that your Well No. 5 here appears to be shut in, is that correct?

A Yes, sir.

Q Why is that?

A That's because Well No. 3, the well was completed in the Eumont Gas Pool, and since Well No. 3 is more than capable of producing the allowable, we have never tied in the well to the gas line.

Q Is No. 5, were it connected, would it also be capable of producing the allowable?

A Yes, I believe it would. I have the potential of that if you would like to have it.

Q Yes, I would, please. If that's not readily available, you can furnish us with that information.

A I will have the information ready in a few minutes. It's some place in here.

Q All right. I would also like to know the date of that test if I might, please.

A All right.

MR. MORRIS: That's all I have.

MR. UTZ: Are there other questions?

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BY MR. PAYNE:

Q Do you think you might drain this 240 acres more efficiently if you dedicate 120 to your No. 5 well and 120 to your No. 3 well?

A No, sir, I think No. 3 can efficiently drain this acreage because it's still much less than the 640 that the Commission permits.

Q You feel perhaps that Sinclair, for some reason or other, drilled an unnecessary well in either the 3 or 5?

A Well, as of this date it probably is, but we're thinking of doing some workovers, possibly deepening the well.

MR. UTZ: It's now presently completed in the vertical limits of the Eumont?

A Yes, the Eumont Gas Pool.

Q Capable of producing, did you say?

A Yes, sir. I'll have that potential in just a minute.

MR. KELLY: Would the Commission like to hear Mr. Murphy's testimony and then when Mr. Marmor is able to find it, put that in the record?

MR. UTZ: Yes, the witness may be excused.

(Witness excused.)

JAMES P. MURPHY

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



DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, employer and position, please?

A James P. Murphy, employed by Sinclair Oil and Gas Company at Midland, Texas in the Division Office, and I am a geologist on the Division Staff.

Q You haven't testified before this Commission previously?

A No, I haven't.

Q Could you give the Commission your professional background?

A I was graduated from Texas Christian University in 1952 with a Bachelor's degree in geology. Since that time I have been employed by Sinclair Oil and Gas Company as a geologist.

MR. KELLY: Are the witness's qualifications acceptable to the Commission?

MR. UTZ: You have worked in this area for how long?

A Seven and a half years.

MR. UTZ: His qualifications are acceptable.

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

Q I hand you what has been marked Exhibit 2 and ask you to explain what that is to the Commission.

A This is a structure map of the acreage in question and the surrounding area on the Yates. It is designed to show that there is no anomalous features such as faulting that would preclude the free flow of hydrocarbons in the area in question.

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It also shows AA₁ which is the line-off section with a cross section which will be introduced later. This map is contoured on top of the Yates which reflects the Queen formation, which is the formation in question here. (Whereupon, Exhibit No. 3 was marked for identification.)

Q Now, referring to Exhibit 3, would you show the Commission the relation between the cross section and the structure map?

A Yes, line AA₁ on the structure map is the line-off section of this cross section. It covers the wells Ohio No. 1 State D, the Sinclair Nos. 1, 3, 5 and 4 Williams as well as the Sinclair No. 2 State 373.

Q If you'll explain Exhibit 4 to the Commission.

A This is a correlative and structural cross section of the aforementioned wells which covers all of the wells under the acreage in question. The Sinclair No. 1 G. H. Williams is shown as a line with a casing seal in it because no electrical surveys were run on this well. However, we included the Ohio No. 1 State D to the Northwest to show that the conditions existing in the Sinclair No. 3 Williams, and the other wells upon this acreage, do exist to the Northwest and, therefore, could be presumed present in our No. 1 Williams upon which we have no electrical survey.

The cross section shows the correlative horizons of the Yates and Seven Rivers and Queen within the Queen formation. It also shows the perforations through which the wells under consideration here are completed, within the Sinclair No. 3 J. H.



Williams. That well is completed through perforations 3534 to 3544, 3618 to 3638 and 3648 to 3654. The uppermost set of the perforations is shown on this cross section and the dashed line running through that set of perforations is the correlative line for the porosity zone from which this set of perforations falls.

The lower perforations fall at the top of what is known as the Penrose Zone of the Queen formation, and the Penrose top is shown as a solid line. This porosity zone is located at the top of the Penrose section in each of the wells shown on this cross section.

The cross section shows a gas-oil contact of minus 181. It will be noticed that this gas-oil contact is shown as a dashed line. We do not feel that we can pin this contact down to a foot or two. Therefore, we have shown it this way. Through our studies of the logs and production tests of the wells in the area, we feel that, if anything, this gas-oil contact would be lower. It will be noted that the porosity zones across this acreage can be correlated and that they are present in all of the wells, including the Sinclair No. 2 State 373, which falls in the 40 acres we are asking to be added to this unit. It also will be noticed that these porosity zones in this well on the 40 acres we are asking to be added does fall above the gas-oil contact. Therefore, we feel that this would be gas productive.

Q To sum up your testimony, you feel that there's no

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question but you would drain gas from the 40 acres through Williams No. 3?

A That's correct.

Q And that there is no danger of oil?

A No. We feel certain that it would be gas since it is located well above what we have established as a gas-oil contact for the area.

Q Now, in your opinion, will the granting of Sinclair's application be in the best interest of conservation and efficiency and for the prevention of waste?

A It will.

Q Were Exhibits 2 and 3 prepared by you or under your direction?

A Yes, they were.

MR. KELLY: I move the introduction of Exhibits 2 and 3.

MR. UTZ: Without objection, Exhibits 2 and 3 will be admitted into the record in this case.

MR. KELLY: That's all we have. If the Commission has any questions of Mr. Murphy, after you get through we have the information you requested from Mr. Marmor.

MR. UTZ: All right.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Murphy, referring to your cross section, your



Sinclair State No. 2 373 is a Eumont oil well?

A That is correct.

Q And the No. 4 is also a Eumont oil well?

A That is correct. Both of these wells produce from perforations considerably lower in the section and the zone that would be gas productive under this 40 acres.

Q Do you have your GOR's handy for the wells on this cross section?

A No, sir, I don't.

MR. KELLY: Mr. Marmor has that information.

MR. UTZ: All right.

Q Your No. 5, which is the shut in well I believe, is it not?

A That's correct.

Q Appears to be perforated just about across what you say is the gas-oil contact.

A That bottom perforation is no longer open to the bore oil.

Q Did they produce oil when they were open?

A They produced, we attempted to complete that well as an oil well and we had excess of gas-oil ratio there. So the well was finally abandoned in that zone. However, the set of perforation that is open produced dry gas in that well, and that's the uppermost perforations from 3724 to 28.

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Q Even with the two bottom perforations open, you had a GOR of 2,000 to 1?

A I don't recall what it was, but it was an excessive GOR.

Q The No. 3 is the gas well which you seek to dedicate to this unit?

A It is.

Q And the Ohio State No. 1 is a Eumont gas well?

A That's right. The Ohio State No. 1 is a Eumont oil well. Oh, Eumont gas well, you are right.

Q Now, the difference in interval subsea between your No. 2 and your No. 3 is how much?

A The No. 2 State 373 and the No. 3 Williams?

Q Yes.

A On top of -- it's approximately 25 feet.

Q Have you run any DST's on completing your No. 2 above your minus 181?

A No, sir, we made no production tests on that well as we were drilling it.

Q So far as tests were concerned on that 40-acre tract, you can't say for sure whether it's productive of gas?

A We will assume that, through a study of electrologs, that the porosity and permeabilities are extremely similar to those in the wells that do produce gas. Therefore, since we can see no barrier between this well and the gas-producing wells, we feel

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that it would produce gas, that the conditions in the No. 2

State 373 are very similar, if not the same, as the conditions existing in the wells producing gas.

Q In your contour Exhibit No. 2, the top of the Yates in your No. 2 well, what is that figure, plus 859, is it?

A That is correct.

Q And the well in the 40-acre tract just East is plus 858?

A That is correct.

Q In other words, those two wells are just about level?

A From our electrolog interpretations, that is correct.

Q Now, if you were to draw your gas-oil contact from your cross section here across this 40-acre tract, where would it fall? In other words, could you sketch in a gas-oil contact on top of the Yates shown on this?

A Well, I would have to have a map contoured on top of the Queen formation I think.

Q Don't you show the top of the Yates on this cross section?

A Well, I do. It would fall, I think it would fall somewhere Northeast of our 2-373.

Q What would the subsea be at the top of the Yates, the top of the Yates on your No. 2 Well?

A Yes, it's plus 859.

Q I believe your gas-oil contact would fall across the

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Northeast Northeast of this section somewhere?

A Well, it's hard to say exactly where it would fall with a structure map on top of the Yates. If we had a structure map on top of the Queen it would fall some place to the Northeast of Section 34 I believe.

Q It would be possible to calculate that from your cross section map in this contour here, isn't that right?

A I believe so, yes, sir.

MR. UTZ: Any other questions of the witness? Incidentally, do you have the GOR information now?

MR. KELLY: Yes, we do.

MR. MARMOR: The gas-oil ratio report filed during the months of May, June and July, 1960, State Lea 373 Well No. 2 had a GOR of 10,462. Is that the only one that you want?

MR. UTZ: Now, do you have your No. 4?

MR. MARMOR: Williams 4, the gas-oil, same period as the 373 No. 2, was 13,714.

MR. UTZ: And do you have a GOR for your No. 5 or was it shut in?

MR. MARMOR: Well, it was dry gas. That's the one that the calculated open flow was 2,410,000.

MR. UTZ: 2,410,000?

MR. MARMOR: And the test was conducted on December 20, 1957. There was no liquid produced, it was dry gas.

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MR. UTZ: How about your No. 3 Williams?

MR. MARMOR: The production during January 1961 was 14,787,000 cubic feet and no fluids produced.

MR. UTZ: No fluids recovered at all?

MR. MARMOR: No fluids.

MR. UTZ: Do you have a separator on this well?

MR. MARMOR: I don't believe so.

MR. UTZ: Apparently dry gas?

MR. MARMOR: Yes, sir.

MR. UTZ: Any other questions of the witness?

If not, the witness may be excused.

(Witness excused.)

MR. UTZ: Any other statements in this case? The case will be taken under advisement.

MR. KELLY: We would like to open the Case 2223 to qualify the statements made on the gas-oil contact. If you would let us reopen to put that in, we would appreciate it.

MR. UTZ: The Commission will reopen Case 2223 for the purposes of taking the testimony in connection with the gas-oil contact in the area in question.

MR. KELLY: Mr. Murphy is already sworn.

MR. MURPHY: In your question, you asked where the gas-oil contact would fall on Exhibit 2, which is the structure map. The interval between the top of the Yates and top of the Queen is approxi-



mately 810 feet, therefore, by subtracting 810 feet from the contour line values we would have an approximation of a Queen contour map. Therefore, the plus 900 foot contour would read plus 90 and the plus 850 would read plus 40. And the 800 foot contour plus 600. The 800 plus contour would read a minus 10. It is apparent that the minus 18, the contour which is our estimated gas-oil contact, would be encountered further downdip in the outside of the area shown on Exhibit 2.

MR. UTZ: And further to the Northeast?

MR. MURPHY: That's correct, which is in the downdip direction.

MR. UTZ: That's right, minus 181.

MR. PAYNE: Would you estimate that that contour would pass through the Northeast Quarter Northeast Quarter of Section 34?

A No. I estimated it would be past Northeast of Section 34.

MR. PAYNE: So you consider the Northeast of the Northeast of 34 productive of gas from the Eumont Gas Pool?

A I do, yes, sir.

MR. PAYNE: Thank you.

MR. UTZ: Any other questions of the witness? If not, the witness may be excused.

(Witness excused.)

MR. KELLY: I would like to thank the Commission for

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reopening the case.

MR. UTZ: We'll take a ten-minute recess.

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 24th day of March, 1961.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

My commission expires: 2223,
Mar. 22 1961
John A. [Signature]
Notary Public-Court Reporter

NEW MEXICO OIL CONSERVATION COMMISSION
Examiner
I do hereby certify that the foregoing is a true and correct record of the proceedings before me on the 24th day of March, 1961.
John A. [Signature]
Notary Public-Court Reporter

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