BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 19, 1964

EXAMINER HEARING

IN THE MATTER OF:
Case No. 2742 being reopened pursuant to the provisions of Order No. R-2424, Lea County, New Mexico; and
Case No. 2743 being reopened pursuant to the provisions of Order No. R-2425, Lea County, New Mexico; and
Case No. 2744 being reopened pursuant to the provisions of Order No. R-2426, Lea County, New Mexico.

Case No. 2742, 2743 and 2744

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

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CASE NOS. 2742, 2743 and 2744

BEFORE: ELVIS A. UTZ: EXAMINER

TRANSCRIPT OF HEARING

MR. UTZ: Case 2742.

MR. DURRETT: In the matter of Case No. 2742 being reopened pursuant to the provisions of Order No. R-2424, which order established temporary 80-acre oil proration units for the Fowler-Blinebry Oil Pool, Lea County, New Mexico, for a period of one year.

MR. COOTER: Paul Cooter of Atwood and Malone, appearing for Pan American. Mr. Examiner, for the taking of testimony, we would ask that Cases 2742, 43 and 44 be consolidated. They were

in the original hearing.

MR. UTZ: Cases 2742, 43 and 44 are all pertaining to the Fowler-Blinebry, Tubb and Paddock area and will be consolidated for the purposes of testimony and separate orders will be written.

MR. COOTER: We have one witness, Mr. Rogers.

(Witness sworn)

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

MR. JACOBS: Ronald Jacobs for Skelly Oil Company.

MR. UTZ: Are there other appearances in these cases?

JAMES T. ROGERS,

called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. COOTER:

Q Would you state your name, please?

A James Turner Rogers.

Q And by whom are you employed and in what capacity?

A I am employed by Pan American Petroleum Corporation as Petroleum Engineer in the Lubbock District Office.

Q Mr. Rogers, have you previously testified before the Oil Conservation Commission?

A Yes, sir.

Q First, I will direct your attention to what has been marked as - -

MR. COOTER: Before proceeding, may I first state the position of Pan American in all three cases? It might be a help.

In Case Number 2743, the Fowler-Tubb Gas Pool, Pan American is asking that the temporary rules be continued. In Cases 2742 and 2744, Pan American is requesting that the temporary rules be made permanent.

MR. UTZ: All right, sir.

Q (By Mr. Cooter) Now, Mr. Rogers, directing your attention to Exhibit Number One, would you please tell the Examiner what that is?

A Exhibit Number One - - I would like to add here that I have got these Number 1-R to distinquish them from the numbering system we used at the initial cases. We had some 15 exhibits, and they are numbered numerically. I have got six and all of these have an "R" after them to stand for "reopen", I suppose. Exhibit Number One-R is a base map of the Fowler area. The dark blue line represents the boundary of the South Mattix Unit, which is operated by Pan American. We have shown on here all the wells completed in the various formations in this area. They are color coded to indicate the zone or zones of completion. The zones of interest here, of course, are the Paddock, Blinebry and Tubb. The Paddock is colored light blue, the Blinebry in orange and the Tubb is colored in brown. Also on this exhibit, we have a trace of a cross section which will be introduced as a later exhibit.

Q I next direct your attention to Exhibit Two-R and ask you to discuss that with the Examiner?

A Exhibit 2-R is a tabulation of the production data showing the production of all the water and gas for the month of November, 1963, for all of the wells completed in the subject formation. Also, we have shown on here the status of the wells and the accumulative recovery of either oil or gas,depending on the well, as of December 1, 1963.

Q Would you please relate and discuss Exhibit 3-R?

A Exhibit 3-R is a cross section, AA prime, the trace of which is shown on Exhibit One. This cross section runs from the South Mattix Unit Well Number Six through a number of key wells in the unit, ending with the Gulf Plains Knight Well Number Two, located down in Section 23.

Q Has this exhibit been previously presented to the Oil Conservation Commission?

A Yes, sir, this exhibit was presented in this identical form at the NNOCC Case 2974, whichwas held last month, which was actually on January 22nd. That was the case of the approval of a triple completion of the South Mattix Unit Number 16.

In addition, this cross section is almost identical as presented in the initial subject hearing as Exhibit Number Three, except that we have added the South Mattix Number 16 well to the cross section. It was completed since the prior hearing. This Number 16 is only - - the only new well drilled in the subject

formations.

Q The original hearing to which you refer is January 23, 1963, which established the temporary rules?

A That's correct.

Q All right. Mr. Rogers, would you please next turn your attention to Exhibit Four-R and discuss that with the Examiner?

A Exhibit Four-R is very similar to the Exhibit Number 1-R It is the same base map, except on this exhibit, we have shown the pertinent bottom hole pressure data obtained on the wells in this area, completed in the subject formations. Again, this is color coded using the same coloring system as in Exhibit One, with the Paddock shown to be light blue, the Blinebry as orange and the Tubb in brown. The pressures are underlined by a colored line to indicate which zone or which formation they represent in the subject wells.

Q Now, your attention is directed next to Exhibit Five-R, would you please discuss that with the Examiner?

A Exhibit 5-R is a supplemental exhibit to the hearing last year that we have shown here pertinent data on the wells completed in these formations since the last hearing. This same data was given on each of the completions last year, and as I said, this just supplements that data. The pertinent data on the wells are shown in the order that we will discuss them, as we go through the case.

Q Mr. Rogers, Pan American is requesting a continuation of

the temporary rules in the Fowler-Tubb Gas Pool. For how long a period does Pan American request the continuation of this and why is a continuation asked for?

A We are asking for a continuation in the Tubb, or Fowler Tubb Gas Pool, due to the fact that we have only three months production from this field, and only one bottom hole pressure obtained to date. We were delayed in getting a gas connection, and essentially, we are at a stage of production of sales you might call it, we expected to be at eight to ten months ago. For that reason, we feel that we do not have enough data and we would like to have it continued for a period of one year to 18 months. We are giving a range here because we are coming back next month. We have scheduled a hearing, or requested a hearing be docketed, for temporary field rules for the Lower Paddock Gas, which is a separate one from being heard here today. If granted, we would like to have the Fowler-Tubb reopened at the same time as the Fowler-Lower Paddock, so anywhere in the range of a year and a year and a half, we feel that we would have sufficient data to support the other requests.

Q How many wells have been completed in this pool since the previous hearing?

A Since the previous hearing, we have completed the South Mattix Unit Wells Numbers 3 and 16, or two wells in the Tubb formation.

Q All right. Refer to the exhibits and discuss the data

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thus far obtained on the Fowler-Tubb Gas Pool.

A As shown by our Exhibit Number 2-R, the tabulation of production, we have had produced,as of the first of December, only approximately 25 million cubic feet of gas. You can also note here that the first month on production was November of '63, and that the November production is the accumulative recovery to December first. Since that time, we have produced two or three times that much gas, which is still a very small volume of gas. We have only obtained one bottom pressure in the Tubb. It is shown on Exhibit Number 4-R, the pressure map. That pressure is initial pressure obtained on the discovery well in the Fowler-Tubb Pool, South Mattix Unit Number 14, located in the Northeast Quarter of the Southwest Quarter of Section 15, and the pressure is 2618 PSI, obtained on October 2, 1962. After completing Number 14 in the Tubb, it was shut in. We have subsequently completed the South Mattix Unit Well Number Three. Number Three is located down in the Northwest of the Northeast of Section 22, and also have completed the South Mattix Number 16, which is located in the Southwest of the Southeast of 15, in the Tubb. This Number 16 is still shut in awaiting a pipeline connection. Number Three was placed on production and produced only a small amount of gas, as shown by Exhibit 2-R, produced only 2,000 MCF during November of '63. This well is currently shut in and equipment has been pulled for repairs, and expected to be back on the line shortly.

We plan to obtain bottom hole pressure on the South Mattix

Wells Three and 16 as soon as we can obtain them. The reserves or economics of development in the Tubb were presented at the hearings last year and the reserves were shown as Exhibit Number Ten in the previous hearing, whereby we showed that on 160 acre spacing, we could expect a pay out of 35 months and return on the investment of 1.2. On 320 acre spacing, we would expect pay out of 17 and a half months and return on the investment of 3.66. These reserves and economics now appear to us to be somewhat optimistic due to the apparent low capacity of the South Mattix Unit Number Three well in the Tubb. This well did not perform as well as we expected it to and we are somewhat concerned now about our economics. Even under the reserves as presented with our poor volume, it is essentially unchanged this year. The minimum reserves for Pan American to develope were not met by the 160 acre economics presented. I might add here that one reason we were delayed in obtaining a gas sales contract, we had a contract, or have one in existence, for the east half of Section 15, which is New Mexico Federal Unit acreage. That was under a general contract that would apply to the Tubb. Our discovery well, the Number 14 well, was located in the West Half, and that section did not fall in that contract. We negotiated for some months to obtain a contract on the Number 14 with the same minimum take clause in the contract we had in the East Half of 15. The only thing we could get was a ratable clause, and in some cases, a less favorable minimum take. So, we decided we would wait until we completed

Number 16 in the Tubb and it would fall under the minimum take clause of the current contract, the ratable take clause would force the remaining minimum takes in the field to be equal to the one in the East Half of 15. This minimum take clause we have is based strictly on acreage, and the minimum take is 550 MCF per day on 160 acres as opposed to 1100 MCF on 320, so that the drilling of additional wells, or you might say wells, on 160 acre spacing would not result in any increase in gas sales from the field.

Q Mr. Rogers, being in the initial phases of production, do you believe additional time is needed to support any request for permanent rules?

A Yes, sir, I do.

Q Mr. Examiner, this completes our testimony on this phase, this particular case, 2743. Do you have any questions before proceeding?

MR. UTZ: Do you intend to run any interference tests in this Tubb zone in this field, or what type of data do you intend to gather within the next 12 or 18 months that you are requesting?

A We don't intend to run any interference tests as you normally think of a normal, or prolonged test. We intend to periodic bottom hole pressure and compare with that accumulative recoveries from the well. Essentially, the same day - -

MR. UTZ: Then, you would base your rate of recovery on calculation?

A Yes, sir.

MR. UTZ: Are there any other questions? You may proceed.

Q (By Mr. Cooter) Mr. Rogers, Pan American is requesting that the temporary rules in the Fowler-Paddock Gas Pool, being Case Number 2744, be adopted as the permanent rules. What is Pan American offering in support of this request?

A I would like to again refer to Exhibit 4-R, the pressure map, on which we show the pertinent bottom hole pressure data obtained in the Paddock Gas zone. These pressures are all underlined by light blue, as presented at last year's hearing. The initial pressure in the Paddock has been taken to be 2,000 PSI, as determined on drillstem test run in 1949 in the South Mattix Unit Well Number One. This well is located in the Northwest of the Southeast of Section 15.

The first completion in the Paddock was in South Mattix Number 10 in the Southeast Quarter of the Northeast Quarter of Section 15. On initial completion in this well, we recorded an initial bottom hole pressure of 1930 PSI. This 1930 is less than the initial field pressure that we have taken as 2,000, as obtained on DST. The reason we felt that the 2,000 was more representative, as we stated last year, in the difficulty in completing Number Ten, and the fact that Number Ten, or in Well Number Ten, we were unsuccessful in obtaining built up or static pressures within reasonable shut in times. This is further shown by the low pressure of this well run in August of '62, and in

January of '64, of fourteen two PSI and thirteen and four PSI respectively.

In completing Number Ten, as we stated last year, we perforated at the, or near the water-oil contact or gas-water contact in the Paddock and the well made- - - waterlogged up, and required swabbing several times to get it flowing back and finally went and squeezed it off and reperforated at the top of the original perforated interval, but stayed as far from the water as we felt we could. After that, we could not get good pressure data. We were afraid to stimulate the well with any large volume treatment because of communicating again with the water. So, in effect, this well, we don't consider it representative. As a matter of fact, we have drilled and completed the South Mattix Unit Number 16, located also in the East Half of 15, to be a replacement well for Number Ten. We feel we are going to disconnect Number Ten after - - from the Paddock and connect Number 16 and assign the East Half of Section 15 to 16.

Going on down chronologically, we completed the South Mattix Unit Number 11 as a second well, and 5-18-61, a little over a year after completing Number Ten, we recorded initial pressure of 1876 PSI in 11. This pressure is 124 pounds less than the original pool pressure of 2,000 PSI. This initial pressure recorded in Number 11 is subject to question. As You can see in August of '62, we got a bomb pressure of this well of 1925 PSI, which indicates a pressure build up. Obviously one of these pressures

are in error. We, of course, reviewed our bottom hole pressure data obtained from the field and can find nothing wrong as far as arithmatic is concerned or calculations, so anything we did to try to justify one or the other of the pressures would be speculation. The latest pressure obtained in this well Number 11 was on January 23, of '64, measured a pressure of 1821 PSI. The distance from Well Number Ten to Well Number Eleven is some five thousand, six hundred feet. The low pressure measured in Number 11- - by low, I mean less than the original pool pressure, indicates that Number 11 had been drained to some extent by production from Number Ten. If we assume that well could drain a radius of 5600 feet, it would drain 3,200 acres.

Going to the next completion, the South Mattix Number 14, which is in the Northeast of the Southwest Quarter of Section 15 in the Paddock and recorded on October 7, 1962 a pressure of 1876 PSI. This pressure is again some 120 or 24 pounds less than the original pool pressure, and indicated drainage at this, or in this vicinity by production from both wells, Number Ten and Number 11. Little over a year later, then, we completed the South Mattix 16 in the Paddock. This well also had a pressure of 124 pounds less than the initial pool pressure. All of these pressures are bomb pressure, bomb measured bottom hole pressures, with the exception of those shown for Well Number 14. These are extrapolated surface pressures, as we have discussed last year. We have plastic coated tubing in the Paddock, as Paddock gas is

sour. We have preferred thus far not to run instruments in that tubing and chance damage to the internal lining. This is a dry gas. We have little or no distillate production. Consequently, extrapolation or extrapolating the surface shut in pressures would be expected to yield fairly reasonable value.

MR. UTZ: You have no liquids in the hole?

A No, sir. On all of these bomb pressures, we have never obtained a liquid level. We have always had gas to the bottom depth.

Going further with this, if you will refer back to Exhibit Number Two, we have had a considerable amount of production from the Paddock, relatively speaking. We have, as you can see here, three wells or four wells that have actually produced from the Paddock, three of them within the South Mattix Unit area, 10, 11 and 14 and also Gulf has the Gulf Plains Knight Number Three completed as a Paddock gas well.

Q (By Mr. Cooter) Okay. Would you now state what is shown by Pan American's Exhibit Number 6-R?

A Exhibit 6-R is a calculation of the ultimate gas recovery anticipated or expected or shown to be present in the Paddock based on pressure accumulative performance to today, utilizing three pressures in the calculation, 2,000 PSI, the pressure on January 1, 1964 of 1818 PSI, and this 1818 is an average of three wells completed in the Paddock in the South Mattix Unit, wells Numbers 11, 14 and 16. I did not use the

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pressure on South Mattix Number Ten. They are not representative. Using a gas material balance, which is the equation essentially of a straight line plot of gas accumulative versus pressures over permeability factor, we come up with an ultimate gas recovery factor of twelve billion eight hundred million cubic feet.

On Exhibit 14 of the case last year, we presented pool volume reserves, which are unchanged. They were based on log calculations of 8.75 million cubic feet per acre, utilizing this pool volume reserve number and dividing it into the ultimate pool gas recovery as shown as the material gas balance, we have a total acreage represented of 1460 acres with four completions, all on 320 acre spacing. This includes the Gulf well. This results in an average acreage per well of 365 acres, which indicates positively that the current completions in this Paddock zone are capable of draining at least 320 acres.

The reserves shown by the pressure accumulative data are very nearly the same as calculated by pool volume. If they had been exactly the same, the acres per well would have come out to be exactly 320. Either the ultimate gas recovery of twelve billion eight hundred million or our value of 8.75 MCF per acre as determined by pool volume is slightly in error. We have an increase actually shown in reserves by pressure performance of about 14% over the reserves that we have previously shown by pool volume. This slight increase does not essentially change our economics of development in this zone.

Q What are the economics of development on 160 acres versus 320 acre spacing for this pool?

A We presented the economics of the Paddock development on 160 versus 320 as Exhibit 15 in our previous hearing last year and as I have stated, they are essentially unchanged from our comments then.

Q Well, in addition to the border line reserves for economic development on 160 acre spacing, what is the primary reason Pan American prefers the development on 320 acre pool basis?

A Again, in the Fowler-Paddock as in the Fowler-Tubb we discussed a few minutes ago, we have a gas contract with minimum take rate based on acreage, 550 MCF minimum take per day per well of 160 acre spacing and 1100 MCF per day for each well for 320 acre spacing. Historically, from the Paddock, we have sold gas at a minimum take rate, and unless there was some change or increase in the demands in the future, development on 160 acre spacing would not result in any increased gas sales. Based on this, our economics on 160 versus 320, you might say really is outdated, that essentially there is no pay out on wells on 160. We can't increase the gas rate.

Q Do you have any further testimony to offer on the Fowler Paddock Gas Pool?

A No, sir.

MR. COOTER: That completes our testimony on this case.

MR. UTZ: Are there questions of the witness?

MR. DURRETT: Yes, sir, I have a question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. Rogers, the minimum take contract that you are speaking of or contracts that you are speaking of, were entered into voluntarily by the operators, were they not?

A Yes, sir, they were.

Q So, if you cannot increase your gas sales by drilling additional wells, it is strictly because it is the way the operators contracted to do business?

A Yes, sir, that is right.

Q Also, along that same line, don't you feel that the Commission should be extremely cautious in letting its decision be influenced by whether, or not there is a certain type of a contract in the area on gas takes;in connection with that, don't you think that the Commission should be much more concerned with the area that can be efficiently and economically drained and very little concerned with the contracts that have been made in the area for takes of gas?

A Yes, sir, I do. We offer this knowledge, you might say, the fact of this minimum take strictly as a supplemental to economic data. We certainly consider our pressure data as proof of the communication would be much more important from the standpoint of the Commission's decision.

MR. DURRETT: Thank you.

CROSS EXAMINATION

BY MR. UTZ:

Q Do you know when the Gulf Plains Knight Number Three was completed?

A Yes, sir, I can get it here. It was- - There is a pertinent data sheet on that well attached to Exhibit Number 13 of the initial hearing. The completion date on that well was 4-24-62, and it was connected to sales in December of '62, so it was shut in for eight months prior to being connected. I have no pressure data on that well at all.

Q When was your Number 11 connected?

A Again, referring to the same exhibit, 11 was connected in March of '61.

Q What is the initial potential or ability to produce of the Number 11 and the Number Three, Plains Knight Number Three; are they about the same size well?

A All right. The South Mattix 11 had a calculated absolute open flow of two million one hundred thousand. The South Mattix 14 had a calculated absolute open flow of eight million. I don't have a calculated open flow on the Gulf well. However, I have a test on it, indicating that it flowed 366 MCF per day on a 15/64ths inch choke, with a flowing tubing pressure of 360 PSI. I am not

familiar with what Gulf has done to that well recently, however, I have noticed in the last couple of months there production has jumped up over a million a day. So, apparently, they are making close to 11 MCF. I would assume they have performed some work on this well, because it was low capacity.

Q They have the same purchaser as you?

A Yes, sir. Referring to this minimum take, I don't know that they have this minimum take in this contract, but I am sure they have a ratable take, which would essentially put them in the same place or on the same basis.

Q This newer well has produced more than any other Paddock well in the field, correct?

A The Gulf well?

Q Yes, sir.

A No, sir. Referring to Exhibit Two-R, last column on accumulative,to December it has produced less than any other well. The largest production has been from our Number 11. The second largest is our Number ten and our Number- -

Q This is just for one month?

A You might notice in that month there they average about a million and a half a day out of that Gulf well. Obviously, it is a better well than that test I gave you awhile ago.

Q Yes, sir. And then, the sum and substance of your testimony here regarding the radius of drainage is pressure drop versus reserves in production calculated; is that correct?

A That and the fact that as we subsequently completed wells in the Paddock, we had pressures less than initial indicating that those,vicinity of those wells had been drained previously.

Q Except for one pressure which you were not able to explain?

A Yes, sir. Either one of those pressures are less than initial pool pressure, so if we average them or take either one of them, we still possibly indicate, or do indicate that some drainage had occurred. The 1925 is still 75 pounds less than original because- - of course, it was also taken a year later.

Q This initial pool pressure was taken on DST in 1949?

A Yes, sir.

Q Do you have any opinion as to how accurate that pressure might have been?

A No, sir, I don't. In answer to that, I would say that the initial pressure could be somewhere between 1930 and 2,000, actually. On Number Ten we produced that well and tested it prior to obtaining that initial pressure and then, the subsequent history on the failure to get a build up, we just feel the 1930 was too low. We had nothing else to go on. Even with the one drillstem test, even if we use 1930 as the initial pressure, that is the second highest pressure we have recorded. So, as you can see, that every pressure after that was still less than that, would still indicate the same thing that the 2,000 does, but not quite as large a magnitude.

Q Would you agree that many DST pressures are not within the realm of accuracy?

A Yes, sir.

Q For this type of study?

A Yes, sir.

MR. UTZ: Are there other questions of the witness? You may proceed.

REDIRECT EXAMINATION

BY MR. COOTER:

Q Mr. Rogers, Pan American is requesting permanent field rules in the Fowler-Blinebry Oil Pool identical to the temporary rules. What data do you have in support of this request?

A I don't want to wear you out on Exhibit 4-R, but I will refer back to it. I have the pressure shown on here also for the Blinebry. They are again essentially showing the same thing here as we have completed a couple of wells in this field. We have recorded lower pressures. The initial completion in the Fowler-Blinebry Pool was the Gulf Plains Knight Well Number Two, which is located down in Section 23. We have no pressure information on it. And as stated last year, it is a low capacity marginal producer. Referring to Exhibit Number 2-R, the Gulf well has accumulative recovery of only 30,000 barrels. That well is approximately ten years old. Whereas, our Number 14 in the neighborhood of two years old has recovered 32,000 barrels. So,

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with no other information than this, just- -

Our first completion was the Number 14 well in the Northeast Quarter of the Southwest Quarter of Section 15. In this well, we recorded an initial pressure of 2241 PSI, on October 4, 1962. After producing this well for - - well, to the day, one year, we completed the South Mattix Unit Number Three well in the Blinebry. This Number Three is located in the Northwest Quarter of the Northeast Quarter of Section 22. This initial pressure in the South Mattix Number Three, on October 4, 1963 was recorded as 1996 PSI. This is some 245 pounds less than the initial pressure recorded in Number 14. As a matter of interest, all of these pressures are at a common datum for each formation. The distance from Number 14 to Number Three is about 3,000 feet, and with a circle with a radius of 3,000 feet, 650 acres certainly is in excess of 80 acres for drainage.

The next completion in the Blinebry was our South Mattix Number 11. This was an existing Ellenburger well in the- - that we dualed in the Blinebry, located in the Northwest Quarter of the Southeast Quarter of Section 15. We have a pressure anomaly here that all we can do is speculate. The initial pressure in this well is 2295 PSI, on November 7, 1963. This is 54 pounds greater than what we previously thought was initial pressure of the reservoir. If we refer back to our Exhibit Number Three, a cross section through this area, the third well from the left on the cross section is the South Mattix Unit Number One well, which

recorded the high pressure. The Blinebry zone is essentially in the center of the cross section there. If you notice right immediately below the top of the Blinebry pay, we have a section of ten to eleven feet in thickness indicating very good porosity. This was what we had initially considered the main Blinebry pay zone. It was essentially to lead us to perforate Number 14 in the Blinebry. The log to the left of the Number One well is the Number 14 well. This well is completed in that upper, or high porosity Blinebry pay, along with other lower intervals. When we got to the number One, we didn't perforate that top, higher pay zone, and by that time, we were getting concerned about high GORs and subsequent allowable penalties in the Fowler-Blinebry Pool, and we hesitated to perforate at the top. We don't know if this has anything to do with our pressure recorded in Number One being higher. We feel that Number 14 is probably drained, or has received a large percentage of its production from that upper zone. we didn't complete in the Number One. We think we would have possibly recorded a low pressure in Number One had we been perforating in this zone. As I said, this is strictly speculation. I would like to call your attention to the 4th well from your right, South Mattix Unit Number 16. We attempted a Blinebry completion in this well. This well is one of the highest structural wells in the area. We certainly anticipated a good Blinebry completion and we got a dry hole. If you notice on that log,upper pay interval is not present in that well. This is a

sonic log, whereas the other logs are nuetron, which has lead us to believe- - But, nevertheless, we could not make a well on Number 16.

Referring back now to Exhibit 4-R, the pressure map, there is another interesting observation we can make on these pressures were respect to Well Number One and Well Number 14 in this so-called anomaly. We are concerned about that pressure in Number One and two months later, on January 13, 1964, we bombed again and got a pressure of 2065 PSI. This is a decrease in a two month period of 230 PSI. During that period of time, production from Number One was approximately 4,000 barrels of oil, so that we had a production during that period, that two months, from that well of about 17 and a half percent PSI drop in pressure. We go right to the direct offset, Number 14, we have a drop in pressure over almost two years, October '62 to January of '64, little in excess of one year, 2241 down to 1735, or 506 PSI. During that period of time, this well produced in excess of 30,000 barrels of oil and recovered about 69 barrels of oil per PSI drop in pressure. We have recovered 69 barrels of oil for every pound. In the Number One we have a recovery of 17 barrels of oil. This leads me to suspect that the pressure in Number One, referring to this initial pressure of 2295, was probably an erroneous pressure. Unfortunately, the well was placed back on production before the chart was interpreted on the bomb and we couldn't rebomb it to check it. That is all we can offer in explanation for this.

In summing this pressure data then, the rapid decrease in one during that two months period of time, and even more important the low pressure, or lower than initial pressure, recorded on initial completion of the South Mattix Unit Number Three, indicates that we are effectively draining that Blinebry zone.

The economics of development in the Blinebry were very poor as presented in Exhibit Six last year for 40 acres. We had a 25 month pay out and return on investment of only 0.62. This is far from meeting Pan American's minimum requirement. Our economics now are apparently much worse than this, as evidenced by failure to complete Number 16. It was high structurally, and as I had said, we anticipated a completion there and we couldn't make a well. We now feel that the Blinebry will be economical only as a zone for dual or multiple completion, or salvage zone in a well that is currently completed at a greater depth. We doubt very seriously we will be drilling to the Blinebry. We have only drilled one new well in the area since last year. That was Number 16, and it was a triple completion.

Q Does that complete your testimony on the Fowler-Blinebry or do you have other evidence to offer?

A Yes, sir, that completes my testimony.

Q Were all of these exhibits, being marked One through Six, either prepared by you or at your direction and request?

A Yes, sir, they were.

MR. COOTER: We offer Exhibits One through Six into evidence, Mr. Examiner, and that completes our direct testimony on this case.

MR. UTZ: Without objection, Exhibits One through Six, that is, 1-R through 6-R, will be accepted into the record of this case. Are there questions of the witness?

RECROSS EXAMINATION

BY MR. UTZ:

Q In the Paddock zone as in the Blinebry zone, you have resorted to time pressure points- - Well, you didn't actually calculate your reserves versus pressure drop on this radius of drainage?

A No, sir. This being oil reserves, we didn't have the necessary data to perform that type of calculation.

Q Just your pressure drop versus production is basically your proof of drainage?

A Yes, sir, plus the lower pressure on Number Three, indicating drainage at that location.

Q Now, the Tubb zone is a gas zone, is it not?

A Yes, sir.

Q The other two are oil zones?

A No, sir, the Paddock is a gas, also.

Q The Paddock is also a gas?

A Tubb and Paddock are both gas.

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MR. UTZ: Any further questions of the witness? The witness may be excused. Statements to be made in this case?

MR. JACOBS: Skelly Oil Company, as an interest owner in the area concurs in the recommendations of Pan American for permanent 80 acre spacing for the Blinebry, temporary320 for the Tubb and permanent 320 for the Paddock.

MR. UTZ: Are there other statements?

MR. DURRETT: If the Examiner please, the Commission has received telegrams from Delhi-Taylor, Atlantic Refining Company and Continental Oil Company stating that they support Pan American's application and requests in these cases.

MR. UTZ: Other statements? The case will be taken under advisement.

* * * *

STATE OF NEW MEXICO)

COUNTY OF BERNALILLO)

I, ROY D. WILKINS, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal of Office, this 28th day of February, 1964.

My Commission Expires:
September 6, 1967

2742-43-44

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. ..... heard by me on Oct 19, 1964

..... Examiner
New Mexico Oil Conservation Commission

NOTARY PUBLIC

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 23, 1963

EXAMINER HEARING

IN THE MATTER OF:

Application of Pan American Petroleum Corporation for special temporary pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of temporary pool rules for the Fowler-Blinebry Oil Pool, Lea County, New Mexico, including a provision for 80-acre proration units. — Case 2742

Application of Pan American Petroleum Corporation for the creation of a Tubb Gas Pool, for approval of a non-standard gas unit, and for special temporary pool rules. Applicant, in the above-styled cause, seeks the creation of a new Tubb gas pool, and the establishment of temporary special pool rules therefor, Lea County, New Mexico, including a provision for 320-acre spacing units. Applicant further seeks establishment of a non-standard unit in said pool, comprising the NE/4, E/2 NW/4, and the N/2 SE/4 of Section 22, Township 24 South, Range 37, East. — Case 2743

Application of Pan American Petroleum Corporation for special pool rules and approval of a non-standard gas unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of temporary special pool rules for the Fowler-Paddock Gas Pool, Lea County, New Mexico, including a provision for 320-acre spacing units. Applicant further seeks establishment of a non-standard unit in said pool, comprising the NE/4, E/2 NW/4, and the N/2 SE/4 of Section 22, Township 24 South, Range 37 East. — Case 2744

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: The hearing will come to order, please. Before proceeding with the docket there has been some changes. I will call the docket for you if you want to make notes of it. We will take Case 2742, 2743, 2744 first, and then Case 2734 fourth. We will take Case 2742.

MR. DURRETT: Application of Pan American Petroleum Corporation for special temporary pool rules, Lea County, New Mexico.

MR. BUELL: May it please the Examiner, for Pan American Corporation, Guy Buell. With the Examiner's permission I would like to consolidate, only for purposes of testimony and the record, Cases 2742 and 2743 and 2744. All three of these cases relate to a formation that is on a common structural feature. They have other items in common, and I believe that we can save time by consolidating these three cases.

MR. UTZ: There will be some testimony in all three cases that will be common to all three?

MR. BUELL: Yes, that is true, and some exhibits that is common to all three cases.

MR. UTZ: For the purposes of testimony only, Cases 2742, 43, 44 will be consolidated. However, there will be

separate orders written on each case.

MR. BUELL: Also, Mr. Examiner, with your permission we would like to, in our testimony, cover them in the order that they are numbered, 2742 relating to Blinebry; 2743 relating to the Tubb; and 2744 relating to the Paddock formation.

MR. UTZ: That will be all right.

MR. BUELL: We have one witness, Mr. Rogers, who has not been sworn.

(Witness sworn.)

MR. UTZ: Are there any other appearances to appear in any of these three cases?

JAMES TURNER ROGERS

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

DIRECT EXAMINATION

BY MR. BUELL:

Q Will you state your complete name, by whom you are employed, in what capacity and at what location, please?

A James Turner Rogers; employed by Pan American Petroleum Corporation in Lubbock as a reservoir engineer.

Q You testified at a prior Commission hearing and your qualifications as a petroleum engineer are a matter of record, are they not?

A Yes, sir.

MR. BUELL: As our Exhibit Number 1, Mr. Examiner, it is a brochure containing pertinent factual data on the Blinebry formation. Also included in this brochure are pertinent completion data on the wells completed in this formation. We won't attempt to cover each and every item in this brochure in our testimony, but we will cover the more important phases.

(Whereupon, Applicant's Exhibits 1 and 2 were marked for identification.)

Q (By Mr. Buell) In connection with the Blinebry formation, I wish you would look at what has been marked Pan American's Exhibit Number 2, and state for the record what that exhibit reflects.

A It is a structural map, contoured on top of the Blinebry marker. It reflects a symmetrical anticlinal structure with a northwest-southeast trend and a pay closure of approximately 150 feet.

Q At the present time how many wells are completed in and producing from the Blinebry Oil Pool?

A There are two wells completed in this pool now.

Q How have you designated them on Exhibit 2?

A These are designated by the orange triangles.

Q What is the significance of the area on Exhibit 2 that's outlined in the solid blue line?

A That's the unit boundary of the South Mattix Unit operated by Pan American.

Q This formation and the other formations which are the subject matter of this consolidated hearing, they're all in a multi-pay area, are they not?

A Yes, sir.

Q The conventional blue dots that show up on this exhibit, as well as others, simply relate to wells that are completed in other formations on this same structural feature, is that correct?

A Yes, sir, that's right.

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

Q I wish you would look at Exhibit Number 3, it's the exhibit over here behind the Examiner, and state for the record what that exhibit reflects?

A Exhibit 3 is a cross section through six wells in the Fowler area. We have shown on this the correlation of the top of each of the three subject formations here today, the Paddock, Blinebry and Tubb formations. This cross section runs from Pan American's South Mattix Well Number 6 to Gulf Plains Knight Number 2 Well.

Q There's an insert and the surface trace of the cross section is shown on the insert?

A Yes, sir, it is.

Q With respect to the Blinebry formation, what does this cross section reveal, Mr. Rogers?

A The main point of interest here in the Blinebry is this

upper perforated or pay interval in our South Mattix Unit 14. This interval is what we consider our best pay, and it is correlated through the South Mattix Unit Number 1, South Mattix Unit Number 3. We lose it to a certain extent in South Mattix 13, although we still have what appears to be a pay section. Very little evidence of it in Gulf Plains Knight Well Number 2.

Q With respect to the Gulf Plains Kinght Number 2 Well, actually that well is located in the southeastern extremity of the reservoir, is it not?

A Yes, sir, it is.

Q It's on the edge, you would say?

A Yes.

Q Based on your subsurface evaluation of this formation, as reflected by your Exhibit 2 and Exhibit 3, is it your opinion that the geological opportunity exists for one well completed in this reservoir to drain in excess of 80 acres?

A Yes, sir, it is. It appears here that we have favorable structure and a good continuity of correlation in our pay zones. The correlation offers no impediment to drainage in excess of 80 acres and we have no apparent structural limitations or barriers.

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

Q Would you look now at what has been marked as our Exhibit Number 4, Mr. Rogers? What does that exhibit reflect?

A Exhibit 4 is a tabulation of the average production

from the wells in the subject fields, for the month of October, 1962 and accumulative recovery for the same wells. In the Blinebry we have two wells presently completed and producing, the Gulf Plains Knight Number 2 and the South Mattix Unit Number 14. The Gulf Well had recovered a cumulative, as of November 1, 1962, of 27,000 barrels. The South Mattix recovered approximately 3,000.

Q For a total reservoir cumulative of approximately 30,000 barrels?

A Yes, sir.

Q When was this Blinebry Oil Pool first discovered, Mr. Rogers, do you recall?

A Yes, sir, this field was discovered by Gulf with their Plain's Knight Number 2 in 1954.

Q So we've known it was there for about nine years, but as of this time there are only two wells completed in this reservoir?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 5 was marked for identification.)

Q Would you look now at what has been marked as our Exhibit Number 5 and state what that exhibit reflects for the record?

A Exhibit 5 reports a reserve data summary of the values used to arrive at oore volume reserves for the Blinebry in the vicinity of our South Mattix Number 14. These data indicate an ultimate recovery of 1,375 barrels per acre, based on solution

gas drive.

Q Mr. Rogers, I see we refer to the data on Exhibit 5 more or less as average data for the reservoir, but let me ask you this; from which well did you use data, principally, in making your pore volume calculation?

A From the South Mattix Well Number 14, our present completion.

Q Looking back at Exhibit 2, it's obvious that that well is in the better portion of this Blinebry reservoir?

A Yes, sir.

Q Still looking at that exhibit, Exhibit 2 and to the Gulf well down at the southeastern end which is on the edge of the field, do you feel that that Gulf well would have the same magnitude of reserves as you show on your Exhibit 5?

A No, the Gulf well, based on the current decline has an approximate recovery of 39,000 barrels.

Q So its reserves in that portion of the pool are not any where near 1,375 barrels per acre?

A No, sir.

Q In looking at your reserves as set out on Exhibit 5 we could certainly say that they are optimistic reserves and that in all probabilities wells outside of the better portion of the reservoir will not have that magnitude of reserve?

A That's right.

(Whereupon, Applicant's Exhibit No. 6 was marked for identification.)

Q Go now to your Exhibit 6 and state for the record what that exhibit reflects.

A Exhibit 6 is an economic comparison of development on 40 acres versus 80 acres, based on the reserve data presented in Exhibit 5.

Q You have all data on Exhibit 6 which are necessary to make a complete economic evaluation of 40's and 80's, but in the interest of time, and since the exhibit is more or less self explanatory, would you just briefly, for the record, summarize the comparison of 40-acre development versus 80-acre development?

A Yes, sir. On 40 acres the profit per well is $43,450.00, with an investment of $70,000.00, pay out of 25 months and a return on investment of .62. For 80-acre development we would have a profit per well of $168,400.00, requiring a 13-month pay out, with 2.4 return on investment.

Q Based on these data, in your opinion would development to a density of 40 acres in this Blinebry formation be economic?

A No, sir, it would not.

Q Do you feel that development on 80 acres would be an economic venture?

A Yes, sir.

Q So then, solely from an economic standpoint, 80-acre development should be adopted for this Blinebry Oil Pool?

A Yes, sir, it should.

(Whereupon, Applicant's Exhibit No. 7 was marked for identification.)

Q Now, go to what has been marked as Exhibit Number 7. What is that exhibit?

A Exhibit 7 is a list, or group of rules, proposed rules for this pool.

Q You are recommending at this time that only temporary rules be adopted for the Fowler-Blinebry Oil Pool?

A Yes, sir, I am.

Q Now, with respect to these rules again in the interest of time, let's don't read them word for word, but would you just briefly summarize them? Would you summarize Rule 1?

A Rule 1 defines the limits covered by these rules as being wells completed in the Fowler-Blinebry Pool, or within one mile of the pool, unless the well is in another designated field.

Q Now, Rule 2?

A Rule 2 defines a standard proration unit as being 79-81 acres composed of either the north half, south half or east half or west half of a single governmental quarter section.

Q Now, with regard to your Rule 3, the well spacing or well location rule, are you making two recommendations to the Commission in that regard?

A Yes, sir, we have two proposals for Rule 3.

Q Would you summarize your first proposal?

A The first proposal provides for wells to be drilled or completed in the Fowler-Blinebry Pool within 150 feet of the center of a quarter-quarter section. It grants an exception to this location for wells currently drilled to or through the subject formation or existing location or existing well bores.

Q Could we summarize that it provides for rigid spacing with a "grandfather" clause that excepts wells now completed in, or wells that have penetrated the Blinebry and later on may be re-completed in the Blinebry?

A Yes, that's correct.

Q What is your alternative proposal?

A The alternative proposal provides that any well projected or completed in this pool shall be located no nearer than 330 feet from an outer boundary line.

Q Could we summarize that is a flexible well spacing rule?

A Yes, sir.

Q This is a multi-pay area, Mr. Rogers, would you anticipate that quite a few of the ultimate completions in this formation will be recompletions from wells that are now completed at a deeper depth?

A Yes, sir.

Q Would you also anticipate that some new wells will have to be drilled to fully develop this Blinebry formation?

A Yes, sir.

Q Do you feel that the adoption of either of your proposed

Rules 3, will avoid numerous unnecessary unorthodox well location hearings?

A Yes, sir, I do.

Q What is your Rule 4, Mr. Rogers?

A Rule 4 provides for administrative approval of non-standard proration units due to variation in legal sub-division with notice and waiver of offset operators, and also provides for the allocation of allowables on an acreage basis.

Q That's a rule that's common to many of the pools that the Commission has adopted rules for?

A Yes.

Q Again in the interest of saving unnecessary hearings, What about Rule 5?

A Rule 5 states that the proportional factor for allowable purposes shall be 2.33 for the 80-acre spacing and also that if an operator has more than one well on any 80-acre proration unit that he can produce his allowable in any proportion from the wells.

Q Again that's a common rule for oil pools where the Commission has adopted 80-acres.

A Yes.

Q Hasn't the Commission recently adopted 80-acre unit Rules for a Blinebry formation in the Southeast New Mexico?

A Yes, sir, in the Oil Center Blinebry Pool.

Q Do you have anything else you would care to present at

this time with respect to the Blinebry portion of this consolidated hearing?

A No, sir.

MR. BUELL: Mr. Examiner, would you care to ask any questions now with regard to the Blinebry, or would you like for us to go through all of them and then ask all questions?

MR. UTZ: I think it might be well to have cross examination after each pool.

MR. BUELL: That's all we have in the way of direct on the Blinebry.

CROSS EXAMINATION

BY MR. UTZ:

Q This is a designated pool at the present time, is it not?

A Yes, sir.

Q The discovery well was between five and six thousand feet?

A Yes, sir.

Q Do you have any permeabilities on your South Mattix Number 14?

A No, sir, we do not have any core data at all.

Q You didn't take a microlog either?

A No, sir.

Q Do you have any idea what the permeabilities are?

A No, sir, I don't. I might add on that that the initial

potential on our Number 14 was 144 barrels per day, flowing with 400 pound tubing pressure, which would indicate to me that we have good permeability.

Q In regard to your Exhibit 6,this double asterisk on your net income column --

A Yes, sir.

Q I note that you are charging off $125.00 a month per well for operating costs.

A Yes, sir.

Q Does that include the estimated work-over, or not?

A No, sir, it does not.

Q That's just for operating costs?

A Just for operating costs.

Q These are flowing wells?

A Well, the Gulf wells on pump and our wells flow.

Q Is this an estimate for a flowing or a pump?

A This is estimated for the average between a flowing well and a pumping well over the respective life of the field, in order to arrive at economics based on ultimate recovery. I would say here we range from a hundred to one hundred fifty from flowing to pumping status.

Q Do you have any idea how many wells are now drilled in the Fowler-Blinebry Pool that are as close as 330 feet from the proration boundary, 80-acre boundary?

A No, sir, I haven't counted them. I believe we can

arrive at a figure pretty quick. On 330 locations, we have two wells on the South Mattix Unit, and apparently Gulf has two wells on their acreage I'm assuming it has this because the map shows all the wells in this field.

Q That would be five wells to the best of your knowledge that would be drilled 330 on the 80-acre unit boundary?

A Yes, sir.

Q Under your first proposed Rule 3, these five wells would receive the so-called "grandfather" clause permit?

A Yes, sir.

Q All other wells would be drilled then within 150 feet of the center of either 40-acre tract?

A That's right.

Q Referring to your Exhibit 3, I note that this Number 14 Well is the second well from the left, is it not?

A Yes, sir.

Q I note that you have perforations through the probably upper two-thirds of the Blinebry zone; no perforations in the lower third of the Blinebry zone. Is it your opinion that this zone below the perforations is impermeable enough to prevent vertical migration from the Tubb to the Blinebry?

A Yes, sir. I don't think we'll have any vertical migration. Our Tubb completion in that well is a gas well. Right now we have a thousand to one gas-oil ratio on that Blinebry well. I certainly don't anticipate any problems.

Q It's highly unlikely since the Tubb is a gas producer.

A Right.

MR. UTZ: Any other questions of the witness?

CROSS EXAMINATION

BY MR. KASTLER:

Q I would like to ask Mr. Rogers to please read his proposed Rule Number 3.

A All right.

Q Number 3.

A Do you want both Number 3s?

Q Yes, the proposal as he has offered it.

A The first one that was given awhile ago for Rule 3, each well projected to or completed in the Fowler-Blinebry Pool shall be located within 150 feet of the center of the quarter-quarter section in the 80-acre unit. Any well that was drilling or completed in the Fowler-Blinebry at the date of this order is granted the -- from a deeper formation, on the date of this order, is granted a similar exception when being completed into the Blinebry.

Q Now, your alternate?

A Alternate, each well projected or completed in the Fowler-Blinebry shall be located no nearer than 330 feet to the outer boundary of the proration unit.

Q Are you offering either of these rules, or stating a preference of Pan American for either of these rules, or simply

offering it to the Commission to pick the rule that it finds most suitable?

A We are offering it to the Commission to pick the one most suitable. They are equally recommended.

MR. BUELL: Let me say this on behalf of Pan American. Pan American would recommend the more flexible spacing rule which is the second Rule 3 in that exhibit, Mr. Examiner, as an engineer might have a different recommendation, but that is the one that Pan American would prefer. Do you agree with Pan American, Mr. Rogers?

A Yes, I agree with Pan American.

MR. UTZ: Are you testifying that you agree with management?

A I am testifying that I would.

MR. KASTLER: That's all.

MR. BUELL: We feel that either rule will avoid a lot of unnecessary hearings.

MR. UTZ: Are there any other questions? You may proceed.

MR. BUELL: Mr. Examiner, Exhibit Number 8 is a brochure on the Tubb formation, similar to the brochure on the Blinebry, and we give it to you simply as a codification of factual data.

(Whereupon, Applicant's Exhibit 8 was marked for identification.)

DIRECT EXAMINATION

BY MR. BUELL:

Q With regard to the Tubb formation now, Mr. Rogers, that we're going into, is that a gas pool currently designated by the Commission?

A No, sir, it's not.

Q What is your recommendation as to a pool name for this Tubb gas pool?

A We recommend that it be classified as the Fowler-Tubb Gas Pool.

Q That would correspond to the other pool designations on this common structure and avoid confusion as far as pool names are concerned?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 9 was marked for identification.)

Q Would you look now at what has been marked as Exhibit Number 9 and state for the record what that exhibit reflects?

A Exhibit Number 9 is a structural map contoured on top of the Tubb in the Fowler area. Again this is very similar to the one we were looking at in the Blinebry, it's an assymetrical anti-cline between the northwest-southeast. Again we have a pay closure within 150 feet.

Q How many wells are currently located in the Tubb Gas Pool at this time?

A One well.

Q How have you shown it on this exhibit?

A By the brown triangle.

Q Is it producing as of this minute?

A No sir, it's shut in.

Q You expect a connection shortly, and the opportunity to produce, market and sell gas from the Tubb formation?

A Yes, sir, we do.

Q Again is the South Mattix Unit designated by heavy blue checkered line to show the area of the unit?

A Yes, sir.

Q Let's go back to Exhibit 3 now, Mr. Rogers, and describe for the record what that exhibit reveals with regard to this Tubb gas formation?

A Again Exhibit 3 is this cross section. As with the Blinebry we can correlate our pay intervals in the Tubb through the wells represented by this cross section. Again we get to the Gulf Plains Knight Number 2. We have what appears to be a poor development of pay.

Q Again you are getting with that well on the southeastern extremity of the reservoir?

A Yes, sir.

Q All right. Now, with regard to the Tubb, based on your sub-surface evaluation of this formation, do you feel that the geological opportunity exists for one well completed in this

reservoir to drain in excess of 320 acres?

A Yes, sir, structurally we have no apparent impediment. Again we have what appears to be good continuity of pay and we should be able to drain in excess of 320 acres.

Q We have had no production of gas from this reservoir. Let me ask you this, do you recall the calculated absolute open-flow of this one well that has been completed in the formation?

A Yes, sir, I believe the South Mattix Number 14 has a calculated open-flow of 2.9 million.

(Whereupon, Applicant's Exhibit No. 10 was marked for identification.)

Q Look now at your next exhibit, which is Exhibit Number 10, and state for the record what that exhibit reflects.

A Exhibit 10 is a summary of data used to arrive at pore volume reserves for the Tubb. Using these data the ultimate gas reserves are 7.6 million cubic feet per acre, with an ultimate condensate reserve of 129 barrels per acre.

(Whereupon, Applicant's Exhibit No. 11 was marked for identification.)

Q Now, go to Exhibit 11, what is that exhibit?

A Exhibit 11 is a tabulation comparing the economics of development on 160 acres versus 320 acres. This is again based on the reserves presented in the previous exhibit.

A Again in the interest of saving time, you don't need to cover each and every detail on this economic comparison, but I wish you would summarize the result of 160-acre development as

compared to 320-acre development.

A On 160-acre development we would have a profit per well of $96,300.00. Based on an investment of 80,000, we have a 35-month pay out and 1.2 return on investment; for 320-acres, profit $292,600.00, pay out 17 and a half months, return on investment of 3.66.

Q In your opinion, do these data reveal that it would be uneconomical to develop this Tubb Gas Pool on 160-acre spacing?

A Yes, sir, they do.

Q Do you feel that development on 320-acre spacing would be economical?

A Yes, sir.

Q So, again, as was the case with the Blinebry, from an economic standpoint, well, not the case with the Blinebry because that was oil on 80. Again from an economic standpoint this pool should be developed to a density of not greater than 320 acres?

A Yes, sir.

(Whereupon, Applicant's Exhibit No. 12 was marked for identification.)

Q Would you look now at Exhibit 12?

MR. BUELL: Let me state here, Exhibit 12 contains the pool rules that we are recommending for what we will call the Fowler-Tubb Gas Pool. We will recommend identical rules for Fowler-Paddock Gas Pool, since this Fowler Gas Pool was already designated by the Commission, we used that nomenclature in these

rules so that we could have a pool name in the rules, but we will recommend identical rules for the Tubb and the Paddock.

Q (By Mr. Buell) What is your Rule 1, on Exhibit 12?

A Again Rule 1 defines the limits as covered by the rules as being wells completed in the sub-formation, or within one mile of the limits, if not in another designated pool.

Q All right, Rule 2?

A Rule 2 defines a proration unit as being composed of 316 to 324 acres of any two contiguous quarter sections.

Q With respect to Rule 3, the well location rule, or well spacing rule, are you making the identical recommendation for these two gas pools that you made for the Blinebry?

A Yes. We have two proposals.

Q One of your proposed Rule 3 is more or less rigid spacing with a grandfather clause, and your alternate rule is straight 330 foot, or flexible well location?

A Yes, sir.

Q Again, let me ask you this, with respect to both the Paddock and the Tubb, do you anticipate with regard to these two reservoirs, that many of the ultimate completions in these zones will be recompletions from deeper wells?

A Yes, sir, we do.

Q What is your Rule 4?

A Rule 4 provides for administrative approval of non-standard proration units, comprising less than 320 acres, and also

states that the acreage factor assigned to any such non-standard unit shall bear the same ratio to a standard acreage factor in the Fowler-Paddock Gas Pool as the acreage in such non-standard unit bears to the 320 acres.

Q It's a common rule in gas pools that have rules?

A Yes, sir.

Q What is your recommended Rule 5?

A Rule 5 states that in the event of subsequent proration, that the acreage factor, or allowable should be based on acreage factors.

Q You are not recommending that this pool be prorated at this time, but in the event it is ultimately prorated, you wish to get on the record that you would recommend one hundred percent acreage allocation?

A Yes, sir.

Q In addition to our pool designation request and our temporary request for pool rules, which you have just covered, we are also requesting at this hearing a non-standard Tubb gas unit, are we not?

A Yes, sir, we are.

Q Would you go back to Exhibit Number 9, which is your structure map of the Tubb, and would you state for the record the acreage that we are asking to be included in this non-standard unit? Come over here, and as you describe this acreage would you outline in red on the Examiner's copy of Exhibit 9 this

proposed non-standard unit?

A We are proposing the 320-acre non-standard unit be comprised of the northeast quarter and the east -- Excuse me, the north half of the southeast quarter, and the east half of the northwest quarter of Section 22.

Q And you are now outlining on the official copy of Exhibit Number 9 the outline of this non-standard unit?

A Yes, sir.

Q It has 320 acres in it, does it not?

A Yes, sir, it does.

Q So, it's non-standard solely from the standpoint of shape?

A Yes.

Q Why is Pan American requesting a non-standard unit for this particular area?

A We are requesting this non-standard unit strictly as a matter of convenience and simplicity in accounting procedures for the operators in South Mattix Unit. By adopting this unit we can include 320 acres within the South Mattix Unit boundary.

Q And to form a standard unit you would have to comingle South Mattix Unit acreage with acreage outside the South Mattix Unit?

A Yes, sir, that's right.

Q Do you feel that the granting of the non-standard unit wouldset off a chain reaction that might result in subsequent

requests for another non-standard unit?

A No, sir.

Q I had in mind, when I asked that question I noticed immediately at the western boundary a tract owned by Sinclair, it appears to be about 80 acres. What would happen if Sinclair would drill a Tubb gas well on the 80-acre tract?

A I doubt seriously that they would, considering the structural position of this acreage. If they did we would negotiate with them on the two 80 acres.

Q Based on the information that you have now, you don't anticipate Sinclair drilling to the Tubb formation?

A No, sir.

Q With the exception of the Sinclair tract, does all the other acreage that offsets the proposed non-standard unit, is the ownership in that acreage common with the acreage immediately adjacent to it in the unit?

A Yes, sir, it is.

Q Do you see how, in any way, based on the reservoir conditions that exist, coorelative rights could in any way be harmed by the approval of this non-standard unit?

A No, sir, I don't.

Q Do you have anything else you care to add, at this time, with respect to any matters concerning the Tubb gas formation?

A No, sir.

MR. BUELL: That's all we have by way of direct examina-

tion with regard to the Tubb, Mr. Examiner.

CROSS EXAMINATION

BY MR. UTZ:

Q Referring to your Exhibit Number 9, the well which was drilled in the southeast, southeast of Section 22, was that a dry hole in all formations, or how deep did it go?

A Are you referring here to this Well Number 12?

Q Yes, I believe it is Number 12.

A That well was drilled to the Ellenburger, and to my knowledge it was not tested, or if it was tested then I am sure it was dry in all formations. I know it produced 100 percent water from the Ellenburger, and back at that time, I think that was in 1954, if I'm not mistaken, at that time we were not looking at these shallow pays, but offhand I can't say whether it was tested or not.

Q And the same question with reference to the well in the northwest of the northwest of the same section.

A I'm not familiar with that well. From the total depth here, 10800 feet, it was an Ellenburger projection, but as to what it showed in their pays, I don't know. I might add here, if we had run drillstem tests in this Tubb, I doubt seriously we would have obtained any conclusive data. The Tubb historically gives poor show on drillstem test. It requires stimulation for production.

Q In your opinion it's quite doubtful as to whether that

is productive in the Tubb zone or not?

A Yes, sir. Strictly based on its structural location, I would doubt that it would be.

Q I believe you recommended that the pool be named the Fowler-Tubb Pool. Did you have a recommendation as to the horizontal limits?

A No, sir, I didn't have one ready.

Q First let me ask, is there a well drilled to the Tubb zone on the unit for which you are requesting a non-standard?

A No, sir. We anticipate recompleting the South Mattix Unit Well Number 3, which is in Unit B of Section 22. That well is presently completed in the upper Silurian, and has reached the economic limit, and upon obtaining partners, or approval, we plan to recomplete that in the Tubb.

MR. BUELL: With regard to horizontal limits, Mr. Examiner, this is an unusual situation, in that we have one well completed in the formation, but due to the data available to us on the deeper tests, we have much more control and data than you normally have on a one well reservoir.

Q (By Mr. Utz) The well on your Exhibit Number 3, which is marked Pan American SMU Number 1, in your opinion is the Tubb zone productive?

A Yes, sir.

Q As judged from your log representation?

A Yes, sir, I would think so. We didn't think so

at the time we drilled that well, but based on the completion now we have in Number 14, I feel certain that it would be productive from the Tubb. I think that's probably a real good example there of the type of information we obtained on drillstem testing this particular zone.

Q With reference to your Exhibit Number 11, again I ask if the operating costs of $100.00 include work-over costs?

A No, sir, it doesn't.

Q And $100.00, would it be the same if it were a single completion, or does that include the triple completion?

A This $100.00 applies to a single completion as to all of these economics.

Q Then the Number 14 Well would be the discovery well on this pool that you are recommending?

A Yes, sir.

Q Do you have available the top of the perforations?

A They will be on the pertinent well data sheet attached to the brochure, which is Exhibit Number 8. The top of the perforations are 5,936 feet.

MR. UTZ: Are there other questions of the witness?

MR. DURRETT: Yes, sir, I have a question.

BY MR. DURRETT:

Q Mr. Rogers, on this discovery well, what day was that completed, do you have a day on that?

A The completion date I have here is July 16, 1962. I

think it was sometime after that; this is a triple completion, by the way, the Number 14, and it was sometime after that that we ran packer leakage, and actually put anything on production.

Q But you think it was July 16, 1962 for the actual completion day?

A Yes.

Q For the purpose of clarification, let me ask you this question, on the non-standard unit that you proposed, what was the name of the well that you intend to complete?

A That's the South Mattix Unit Well Number 3.

MR. DURRETT: That's all I have, thank you.

MR. UTZ: Are there any other questions? You may proceed.

MR. BUELL: We will now go to the Paddock, the third and last formation involved in this consolidated hearing, and our Exhibit 13 again is a brochure of pertinent factual data with the pertinent well completion information included.

(Whereupon, Applicant's Exhibit 13, was marked for identification.)

DIRECT EXAMINATION

BY MR. BUELL:

Q With respect to the Paddock, Mr. Rogers, I wish you would go now to the insert map on Exhibit Number 3, and state for the record what that insert map reflects.

A The insert map on this exhibit is a structure map, contoured on top of the Paddock. Again, as in the other two forma-

tions, we have an assymetrical anti-cline with a northwest-southeast trendm and approximately 150 feet pay closure.

Q How have you designated the current completions in the Paddock Gas Pool?

A These current completions are designated by red circles.

Q At this time there are four wells completed in this reservoir?

A Yes, sir.

Q Again the South Mattix Unit is shown outlined with a dashed heavy blue line?

A Yes, sir.

Q All right, still on Exhibit 3, would you go up to the cross section portion of this exhibit, and state for the record that this cross section reveals, with respect to the Paddock formation?

A Again we have a similar correlation in the Paddock as we do in the other formations. Here are perforations in the South Mattix Unit Number 14. We have a correlation of the similar zones throughout this area. Again when we get to the Gulf Knight Number 2, we have indications of poor pay development.

Q Is there anything fron the standpoint of this cross section that's different on the Paddock as compared to the other two? Does it have a water-oil contact where the other two did not?

A Yes, sir, we have on this, an indicated gas-water contact

at minus 1,673 feet. This was verified in the Pan American State "D" Tract 14 Well, located in Unit "P" of Section 16, which produced water from the Paddock and was not successfully completed.

Q It was a dry hole in that it encountered the Paddock formation below the gas-water contact?

A Yes, sir.

Q With respect to the Paddock, from a sub-surface standpoint, do you feel here that the geological opportunity exists for one well in this reservoir to drain in excess of 320 acres?

A Yes, sir. Again structurally we have no indications of barriers or anything else that would prohibit drainage in excess of 320 acres.

Q Would you go back to Exhibit Number 4 and state what that exhibit reflects production data-wise for the Paddock formation?

A On Exhibit 4 we have listed two of the four completions in this field. This exhibit reports cumulative production and recovery, as of November 1, 1962, and at that time there were only two wells completed, the South Mattix Unit 14 and the Gulf Plains Knight Well Number 3, with both completed in the Paddock after November 1, 1962. At that time -- You'll have to forgive me, I couldn't find my exhibit.

Q Can you find Exhibit Number 4?

A Well, I am looking for it. I have it clipped to another one. As of November we had a cumulative recovery of

240,000 MCF from the South Mattix Number 2, and cumulative from Well Number 11 of 328,000 MCF.

(Whereupon, Applicant's Exhibit No. 14 was marked for identification.)

Q Would you go now to Exhibit 14? What does it reflect?

A Exhibit 14 is a tabulation summarizing reserve data for the Paddock, it indicates an ultimate gas reserve of 8.75 million cubic feet per acre. The Paddock gas is a dry gas and has no distillate reserves.

(Whereupon, Applicant's Exhibit No. 15 was marked for identification.)

Q Look now at what has been marked our Exhibit 15. What does that reflect?

A Exhibit 15 is a comparison of development on 160 acres versus 320 acres. As far as economics are concerned, for 160 acres, development show a profit per well of $93,000.00; 31 month payout, 1.55 return on investment. On 320-acre spacing, $265,500.00 profit, 15½ month payout and 4.43 return on investment.

Q With respect to the reserves you calculated and reflected on Exhibit 14 and were used on Exhibit 15, what did you contemplate as the ultimate producing mechanism in this Paddock gas formation when you arrived at your reserve calculation?

A These calculations are based strictly on a volumetric type reservoir.

Q In the event this water which we know underlies the Paddock becomes active and we have an active water-drive, your

reserves would be substantially reduced, would they not?

A Yes, sir, they would.

Q And similarly, if your reserves would be reduced, it would adversely effect your economics both with regard to 160s and 320s?

A Yes, sir.

Q So can we say then in looking at Exhibit 14 and 15 that we may be looking at what are optimistic reserves and what are optimistic economics?

A Yes, sir, I think we are.

Q Regardless of that, do these possibly optimistic reserves show that you can develop the Paddock to a density of 160 on an economical basis?

A No, sir.

Q What about 320s?

A Yes, sir.

Q Now, with respect to the other formations, we've had few completions, two in one, one in the other; not too much production from the Blinebry and none from the Tubb. Have you had sufficient production from this reservoir that you have been able to obtain pressures that would show to you, as a reservoir engineer, that in addition to the geological opportunity for drainage, you have what might be considered as proof, physical proof of drainage?

A Yes, sir, we do.

Q Would you briefly, very briefly state for the record what these pressure data reflect?

A I'll refer back to Exhibit Number 13, the brochure on the Fowler-Paddock, in the section entitled: Performance Data, original bottom hole pressure in the Paddock of 2,000 PSI, as determined in drillstem testing the South Mattix Well Number 10. The most recent pressure on the South Mattix Number 11 is 1,925 pounds. This well is located down in Section 22. South Mattix Unit Well Number 10, the most recent pressure on it is 1,402 PSI. Now then, South Mattix 10 we have had considerable difficulty there in obtaining pressure build-up, due to wellbore damage associated with squeeze cementing the initial perforations in that well. That well was perforated in a larger interval than the present interval, although it included the present interval and we had water production; we squeezed the entire interval and re-perforated in the same zone at the top, so we had wellbore damage that we can't correct by stimulation due to the possibility of again bringing in water.

Q The pressures on that well are non-representative, you mentioned them because you got them and wanted to give the Commission everything you had?

A That's right. Now, the most recent completion, the South Mattix Number 14, we had a shut-in surface pressure on that well, taken in conjunction with our package leakage test, and by extrapulating the surface pressure to the datum point for the

reservoir we have a bottom hole pressure of 1,876 PSI. The 1,876 compares with the initial pressure in the Paddock of 2,000 and is some 124 pounds less than the original pressure.

Q At the time we ran this initial pressure on that well, at that time what was the then nearest producing well?

A Would you repeat that, please?

Q Come over here to Exhibit 3 on the map. Point out to the Examiner, South Mattix Unit Number 14, the well you were speaking of, the one you had initial pressure below the discovery pressure.

A The recent completion here, South Mattix Unit Number 14 is the one we have. The surface shut-in pressures were extrapulated to a bottom-hole pressure of 1,864 pounds. This is the Number 10, bottom-hole, 1,402 pounds. Here's Number 11, the most recent, is 1,925 pounds.

Q Now, at the time the initial pressure was run on South Mattix Unit Number 14 which showed over 100 pounds below virgin pressure, at that time what was the then nearest producing well to Number 14?

A The nearest producing well to Number 14 at that time was Well Number 10.

Q It appears to be a half a mile away from Well Number 14?

A Yes, sir.

Q Would that not indicate to you that in this reservoir we have physical evidence of drainage in excess of 320 acres?

A Yes, sir.

Q You may stay there. We are going to talk about the non-standard unit we're requesting fo the Paddock. Since it's the same acreage as the Tubb, I won't ask you to explain it again, but take your red pencil and outline on Exhibit 3 the outline of that.

A (Witness complies.)

Q Would you encircle in red the well that Pan American intends to complete in this unit?

A This well is currently completed --

Q And colored in red?

A --and colored in red.

Q Just draw an arrow pointing to it.

A The South Mattix Unit Well Number 11.

Q Does the same reason exist for the Pan American's request for this non-standard unit in the Paddock as existed in the Tubb?

A Yes.

Q With regard to a chain reaction, based on data available to you, do you think that Sinclair will develop their 80-acre tract in this section with a Paddock well?

A No, I think we have more reason to believe they will not develop in the Paddock, due to the gas-water contact location, and the water production we got on the diagonal offset on that.

Q Do you see how the approval of this non-standard unit we

are requesting could in any way violate anyone's correlative rights?

A No, sir, I don't.

Q Do you have anything else you can add, Mr. Rogers, with respect to the Paddock formation?

A No, sir.

Q I think we have amply covered in the Tubb testimony the rules that we are recommending for the Paddock, and have covered that sufficiently, but anything else you care to add you can at this time.

A No, sir, I have nothing to add.

MR. BUELL: That concludes all we have by way of direct testimony with regard to the consolidated hearing. I would like to, at this time, offer Pan American's Exhibits 1 through 15, inclusive.

MR. UTZ: Without objection Exhibits 1 through 15 will be entered into the record of these three cases.

(Whereupon, Applicant's Exhibits 1 through 15, were received in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Rogers, I believe you stated that the lower part of the Paddock was water bearing?

A Yes, sir.

Q Then you would believe then that there was no vertical

communication, between the Paddock and the Blinebry pay?

A Yes, sir, I believe there was none.

Q That would be part of your reason for believing so, the fact that you had water in the lower Paddock would be part of your reason for believing so?

A Yes, sir.

Q I believe you already have rules for the Fowler-Paddock, if I remember correctly in that?

A Yes, sir.

Q Those rules --

A I beg your pardon, no rules on it, it's a designated --

MR. BUELL: We are recommending the identical rules. It's a designated gas pool, but it has no rules.

MR. UTZ: Are there other questions of the witness? The witness may be excused. Are there any other statements in this case?

MR. KASTLER: Bill Kastler, appearing on behalf of Gulf Oil Corporation. Gulf Oil Corporation concurs with Pan American's application for 80-acre spacing in the Fowler-Blinebry Oil Pool, and for 320-acre spacing in the Tubb and Paddock Gas Pools, and wish to state its preference for the more flexible spacing rules. It is Gulf's opinion that flexible well spacing rules enable an operator to make his well completion plans in the light of practical consideration rather than having to contend with needless

formalities, delays and uncertainties involved in seeking acquiescence, or of competitors for administrative approval, or in formal hearings. We feel that flexible well spacing rules offer a better stimulus for development of oil and gas; and that such complete, more rapid development will be of benefit to the State of New Mexico as well as the individual operators. We believe that the experience has shown that the Oil Conservation Commission will, at all times, continue to insist that all dedicated acreage in the spacing unit is reasonably shown to be productive.

MR. UTZ: Are there other statements?

MR. BUELL: I would like to say this, Mr. Examiner, as hardship case Number 1, I sincerely appreciate going first and sincerely hope I haven't inconvenienced anyone. With regard to the flexible spacing, we recommend here, on behalf of Pan American I would like to point out that these three reservoirs are extremely unusual in that they have been penetrated by many wells whose basic objective was a deeper horizon, and for that reason, in order to eliminate many unorthodox well locations, Pan American feels that flexible spacing should be adopted.

MR. DURRETT: The Commission has received several pieces of communication and I would like to read them into the record at this time.

MR. UTZ: You may do so.

MR. DURRETT: These telegrams and letters apply to, some apply to all three of the cases, others apply to only one or two of the cases presented. I will go through and read them into the

record now.

The first is a telegram received on January 21st. It reads as follows: "Standard Oil Company of Texas, a Division of California Oil Company, concurs in Pan American Petroleum Corporation's proposals in Case 2742, application for temporary special pool rules in the Fowler-Blinebry Pool, Lea County, New Mexico, set for hearing January 23, 1963. As owner of leasehold interest in the area we respectfully recommend approval of this application." This is indicated that it was signed by C. N. Segner, Chief Engineer, Standard Oil Company of Texas.

The second is a letter from the Atlantic Refining Company, received by the Commission on January 16th; reads as follows: "As a working interest owner in the South Mattix Unit operated by Pan American, we urge the Commission to adopt the special rules proposed by Pan American for the Fowler-Blinebry Oil Pool. We have reviewed the proposed rules and believe they will prevent waste and protect correlative rights for all parties concerned. This case is scheduled for hearing on January 23, 1963 before a Commission Examiner." Signed by W. P. Tomlinson.

We also have received a rather lengthy letter from Continental Oil Company. This was received on January 21st by the Commission, and it reads as follows: "Continental Oil Company is a working interest owner in the South Mattix Unit and as such is interested in Cases Number 2742, 2743, 2744, which appear on the docket for hearing January 23, 1963. Normally Continental Oil Company favors

uniform spacing between wells when field rules are concerned. In the present case, however, it is recognized that many locations in the Fowler area will be developed by plugging back recompletions or dual completions of existing wells. Such a situation must invariably result in non-uniform locations, so that if well locations are specified on a uniform pattern in the field rules, many exceptions requiring hearings would be required. In the light of this situation, Continental Oil Company urges the Commission to establish field rules, granting 80-acre spacing in the Blinebry; 320-acre in the Tubb and Paddock, and allowing flexibility of well locations so that existing wells can be utilized wherever possible in developing these reservoirs.

In regard to the non-standard gas proration units requested in Cases 2743 and 2744, Continental Oil Company urges that the proposed units be approved. The proposed units comprise the reasonably proven productive area of the Tubb and Paddock Gas Pools underlying the South Mattix Unit in Section 22, Township 24 South, Range 37 East." This letter is signed by W. A. Mead.

We have received a letter from Delhi-Taylor Oil Corporation, received on January 18th, it reads as follows: "This is to advise you of Delhi-Taylor's support of Pan American's request for establishment of temporary special rules in the Fowler-Blinebry, Fowler-Tubb and Fowler-Paddock fields. It is our understanding that these rules will allow flexible locations and permit utilizing of existing wellbores for recompletion and request 80-acre proration for

Blinebry oil production, and 320-acre proration units for both Tubb and Paddock production. Further, we support the request to establish a non-standard gas unit comprised of the northeast quarter east half, northwest quarter and north half of the southeast quarter of Section 22, Township 24 South, Range 37 East." This letter is signed by Mr. J. H. Douhman.

MR. UTZ: Are there other statements? Referring to your Rule 3, which I believe you have spoken of that rule in the provision here as being a rigid spacing pattern, that would not be as rigid a spacing pattern as if you were required to drill in a certain quarter section, would it? In other words, you have an 8,300 foot target area as in your so-called rigid spacing pattern--

MR. BUELL: Yes, sir, it is more rigid than the other recommended rule.

MR. UTZ: But it is really not as rigid as some pool rules are?

MR. BUELL: It is not. A more rigid rule can be designated.

MR. UTZ: Has been?

MR. BUELL: Has been designated.

MR. UTZ: The same would hold true with the 80-acre rules for the Blinebry?

MR. BUELL: The proposed rule, as regards the Blinebry would require you to be within 150 feet of the center of either quarter-quarter section.

MR. UTZ: That is not as rigid as if you were required to drill 150 feet of a 40-acre tract.

MR. BUELL: The center of a 40-acre tract?

MR. UTZ: Yes. I just wanted to clear that up, get it in the record. Any other statements? The case will be taken under advisement.

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 13th day of February, 1963.

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: 2742-43 & 44 heard by me on Jan 23, 1963.

Examiner
New Mexico Oil Conservation Commission

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 2743
Order No. R-2425
NOMENCLATURE

APPLICATION OF PAN AMERICAN PETROLEUM
CORPORATION FOR THE CREATION OF A TUBB
GAS POOL, FOR APPROVAL OF A NON-STANDARD
GAS UNIT, AND FOR SPECIAL POOL RULES,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 23, 1963, at Santa Fe, New Mexico, before Elvis A. Utz, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 13th day of February, 1963, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Pan American Petroleum Corporation, seeks the creation of a new pool for Tubb production and the promulgation of temporary special rules and regulations governing said pool, including a provision for 320-acre spacing units.

(3) That a new gas pool for Tubb production should be created and designated the Fowler-Tubb Gas Pool. This pool was discovered by the Pan American South Mattix Unit Well No. 14, located 1980 feet from the South line and 1980 feet from the West line of Section 15, Township 24 South, Range 37 East, NMPM, Lea County, New Mexico. The well was completed July 16, 1962; the top of the perforations is at 5936 feet.

(4) That the applicant further seeks approval of a non-standard unit comprising the NE/4, E/2 NW/4, and the N/2 SE/4 of Section 22, Township 24 South, Range 37 East, NMPM, Fowler-Tubb Gas Pool, Lea County, New Mexico.

(5) That temporary special rules and regulations establishing 320-acre spacing units should be promulgated for the subject pool in order to prevent the possibility of economic loss resulting from the drilling of unnecessary wells and in order to allow the operators in the subject pool to gather information concerning the reservoir characteristics of the pool.

(6) That the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(7) That the temporary special rules and regulations should be established for a one-year period and that during this one-year period all operators in the subject pool should gather all available information relative to drainage and recoverable reserves.

(8) That the proposed non-standard unit should be approved and dedicated to the Pan American South Mattix Unit Well No. 3, located in Unit B of said Section 22.

(9) That this case should be reopened at an examiner hearing in February, 1964, at which time the operators in the subject pool should appear and show cause why the Fowler-Tubb Gas Pool should not be developed on 160-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That a new pool in Lea County, New Mexico, classified as a gas pool for Tubb production is hereby created and designated the Fowler-Tubb Gas Pool, consisting of the following-described area:

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 15: All

(2) That special rules and regulations for the Fowler-Tubb Gas Pool are hereby promulgated as follows, effective March 1, 1963.

SPECIAL RULES AND REGULATIONS
FOR THE
FOWLER-TUBB GAS POOL

RULE 1. Each well completed or recompleted in the Fowler-Tubb Gas Pool or in the Tubb formation within one mile of the Fowler-Tubb Gas Pool, and not nearer to or within the limits of another designated Tubb pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well completed or recompleted in the Fowler-Tubb Gas Pool shall be located on a standard unit containing 320 acres, more or less, consisting of the N/2, S/2, E/2, or W/2 of a single governmental section.

RULE 3. The Secretary-Director may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Lands Survey, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a single governmental section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the section in which any part of the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of Paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if, after a period of 30 days, no such operator has entered an objection to the formation of such non-standard unit.

RULE 4. Each well completed or recompleted in the Fowler-Tubb Gas Pool shall be located no nearer than 990 feet to the outer boundary of the quarter section and no nearer than 330 feet to any governmental quarter-quarter section line.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed unorthodox location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection

to the unorthodox location within 20 days after the Secretary-Director has received the application.

IT IS FURTHER ORDERED:

(1) That a non-standard unit comprising the NE/4, E/2 NW/4, and the N/2 SE/4 of Section 22, Township 24 South, Range 37 East, NMPM, Fowler-Tubb Gas Pool, Lea County, New Mexico, is hereby approved and dedicated to the Pan American South Mattix Unit Well No. 3, located in Unit B of said Section 22. The operator shall file a Form C-128 showing the dedication of acreage with the Hobbs District Office on or before March 1, 1963.

(2) That any well presently drilling to or completed in the Tubb formation within the Fowler-Tubb Gas Pool or within one mile of the Fowler-Tubb Gas Pool that will not comply with the well location requirements of Rule 4 is hereby granted an exception to the requirements of Rule 4. The operator shall notify the Hobbs District Office in writing of the name and location of the well on or before March 1, 1963.

(3) That any operator desiring to dedicate 320-acres to a well presently drilling or completed in the Fowler-Tubb Gas Pool shall file a new Form C-128 with the Commission on or before March 1, 1963.

(4) That this case shall be reopened at an examiner hearing in February, 1964, at which time the operators in the subject pool may appear and show cause why the Fowler-Tubb Gas Pool should not be developed on 160-acre spacing units.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 2743
Order No. R-2425-A

APPLICATION OF PAN AMERICAN PETROLEUM
CORPORATION FOR THE CREATION OF A TUBB
GAS POOL, FOR APPROVAL OF A NON-STANDARD
GAS UNIT, AND FOR SPECIAL POOL RULES,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 19, 1964, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 13th day of March, 1964, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That by Order No. R-2425 dated February 13, 1963, temporary Special Rules and Regulations were promulgated for the Fowler-Tubb Gas Pool.

(3) That pursuant to the provisions of Order No. R-2425, this case was reopened to allow the operators in the subject pool to appear and show cause why the Fowler-Tubb Gas Pool should not be developed on 160-acre spacing units.

(4) That the evidence establishes that one well in the Fowler-Tubb Gas Pool can efficiently and economically drain and develop 320 acres.

(5) That to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of

too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-2425 should be continued in full force and effect until further order of the Commission.

(6) That the Special Rules and Regulations promulgated by Order No. R-2425 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the Fowler-Tubb Gas Pool promulgated by Order No. R-2425 are hereby continued in full force and effect until further order of the Commission.

(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M Campbell

JACK M. CAMPBELL, Chairman

E. S. Walker

E. S. WALKER, Member

A. L. Porter, Jr.

A. L. PORTER, Jr., Member & Secretary