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

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

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,

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.

DEARNLEY, MEIER, WILKINS and CROWNOVER
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Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

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.

2742-43-44

NOTARY PUBLIC

My Commission Expires:
September 6, 1967

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 Feb 19, 1964.

.... Examiner