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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
March 11, 1964

EXAMINER HEARING

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IN THE MATTER OF: Application of Pan American  
Petroleum Corporation for the creation of  
a new gas pool and for special pool rules,  
Lea County, New Mexico. Applicant, in the  
above-styled cause, seeks the creation of  
a new Lower Paddock Gas Pool for its SMU  
Well No. 16, located in Unit 0 of Section  
15, Township 24 South, Range 37 East, and  
the establishment of special pool rules  
therefor, including a provision for 320-  
acre spacing, Lea County, New Mexico.  
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Case No. 3002

BEFORE: DANIEL S. NUTTER, EXAMINER.

TRANSCRIPT OF HEARING



DEARNLEY, MEIER, WILKINS and CROWNOVER  
General Court Reporting Service

Suite 1120 Simms Building Albuquerque, New Mexico Phone 243-6691

MR. NUTTER: We will call Case 3002.

MR. DURRETT: Application of Pan American Petroleum Corporation for the creation of a new gas pool and for special pool rules, Lea County, New Mexico.

MR. MALONE: May it please the Commission, Charlie Malone of Atwood and Malone of Roswell for the Applicant, Pan American Petroleum Corporation. We have one witness and seven exhibits.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 - 7 were marked for identification.)

JAMES T. ROGERS

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

DIRECT EXAMINATION

BY MR. MALONE:

Q Please state your name and business address.

A James T. Rogers, employed by Pan American in the Lubbock District Office, Senior Grade Petroleum Engineer.

Q Does the Lubbock Office of Pan American have jurisdiction of Lea County, New Mexico?

A Yes, sir.

Q Are you personally familiar with the matters described



in the application in this case, Mr. Rogers?

A Yes, sir, I am.

Q Have you previously testified before this Commission in matters of this type?

A Yes, sir.

MR. MALONE: Mr. Examiner, are the qualifications of this witness satisfactory?

MR. NUTTER: They are.

Q Would you state very briefly, Mr. Rogers, what Pan American seeks by its application?

A We're seeking temporary pool rules for a new gas pool in the Lower Paddock formation in the Fowler area.

Q Is this Lower Paddock formation which you've just mentioned a designated pool?

A No, sir, it's not.

Q Does Pan American recommend a pool name?

A Yes, sir, we would like to recommend Fowler and Lower Paddock Gas Pool.

Q Is there production in the Lower Paddock within one mile of the section in which your discovery well was drilled here?

A No, sir, there's not.

Q Referring now to your Exhibit 1, would you explain what this shows, please?



A Exhibit 1 is a base map of the Fowler area. More for general information it shows all of the wells drilled in this vicinity and the formation in which the wells are completed, the completions are color coded. The code or legend is at the lower left-hand corner. There are nine productive formations in this immediate area.

Also shown on this exhibit is an outline of a cross section, and also the outline of the South Mattix Unit, which is operated by Pan American.

Q Is it correct that the discovery well for this Lower Paddock Gas Pool which you are now discussing is the Well No. 16, located within the boundaries of the South Mattix Unit?

A Yes, sir. Well No. 16 is a triple completion in the Paddock, Lower Paddock and Tubb formations. It's located in the Southwest Quarter of the Southeast Quarter of Section 15. The Lower Paddock is shown on here in red.

Q What does Exhibit 2 show, please?

A Exhibit 2 is a cross section through several wells in the South Mattix Unit on the Gulf Plains Knight lease down in the east end. The trace of this cross section is shown on Exhibit 1 as the line A-A<sup>1</sup>. This cross section has shown on it the tops of the Paddock, Lower Paddock, Blinbry, Tubb and Drinkard formations in this area.

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Q Has this cross section, Exhibit 2, been previously presented to this Commission?

A Yes, sir, this cross section was presented in this identical form in Cases 2742, 43 and 44, concerning field rules for the Paddock, Blinebry and Tubb formations.

Q Those cases were on February 19 of this year?

A Yes, sir, they were.

Q Would you go now to Exhibit 3 and describe it, please?

A Exhibit 3 is a structure map contoured on top of the Lower Paddock, indicating the structure of this formation to be an asymmetrical anticline with the Northwest-Southwest trend.

Q How many wells are completed in the Lower Paddock which you are discussing here today?

A We have only one completion in the Lower Paddock and that's the South Mattix No. 16 previously referred to. It's shown on this Exhibit No. 3 colored in red.

MR. NUTTER: You mentioned there has been a triple completion of this SMU No. 16. Has this Commission approved this triple completion?

A Yes. This triple was approved in Case 2974 held on January 22, 1964.

Q Did Pan American at that time present evidence as to the fact that the Lower Paddock is a separate and a distinct gas

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reservoir which is not in communication with any other reservoirs?

A Yes, sir, we did.

Q Was Order No. R-2644 entered in that case allowing the triple completion in the three separate zones?

A Yes, sir, it was.

MR. MALONE: Mr. Examiner, at this time, to prevent loading the record in this case, we would like to move the admission in evidence in this case of the transcript and the evidence in the former Case No. 2974 heard on January 22 of this year.

MR. NUTTER: I presume that in this case the subject of whether this was a distinct reservoir from the remainder of the Paddock was dealt with in detail?

MR. MALONE: Yes, definitely.

MR. NUTTER: You want to incorporate the record?

MR. MALONE: We would like to, please.

MR. NUTTER: Case 2974's record will be incorporated in this proceeding.

Q (By Mr. Malone) Did you say that the Lower Paddock completion in the SMU 16 is shown in red on the exhibits?

A Yes.

Q What is the status of this well?

A This well is currently shut-in. We are waiting pipeline



connection.

Q With respect to your structure map, which is the current Exhibit No. 3, what geological evidence does Pan American have to support a request for temporary 320 spacing? What can you say with respect to the geology of the area as to whether one well would drain 320 acres or more?

A Geologically, as shown by our Exhibits 2 and 3, the structure map and cross section, we have no apparent structural impediments and we have a good indication of continuity of Pennsylvanian the Lower Paddock is correlatable and continuous as shown by the cross section, and we have no reason to suspect from a geological standpoint that one well will not drain more than 320 acres.

Q It is your opinion, then, that the Lower Paddock within the structure is a single continuous gas reservoir, is that correct?

A Yes, sir, it is.

Q Have you obtained a production test on this Lower Paddock zone in Well No. 16?

A We haven't tested this well extensively. We plan to run routine tests when we connected it such as a four back pressure test. However, we have a test obtained in the completion of the well at a rate of 1784 MCF per day with a flowing tubing pressure of 850 psi.



Q Would you go now to Exhibit No. 4, please, and describe it?

A Exhibit No. 4 is a tabulation of the pertinent data used to arrive at pore volume reserve estimates for the Lower Paddock gas. On this exhibit we have shown the net pay of 19 feet, porosity of 9%, water saturation of 30% and several other data leading to gas reserves of 9.06 million cubic feet per acre.

Q To what abandonment pressure is that calculated?

A These reserves are calculated to an abandonment pressure of 213 psi.

Q Generally speaking, would you expect the reserves to be below or above average at the location of this SMU No. 16?

A These reserves on Exhibit 4 are taken from the well log run on SMU 16, and I would expect the reserves at that location to be higher than the average for the field due to the fact that the well is located within the top contour, or you might say located on top structure, since we generally associate that location as being for the better wells in the field.

Q Would you now describe what is shown on Exhibit 5, please?

A Exhibit 5 compares the economics of development of the Lower Paddock on 160 acres versus 320 acres. These economics have been prepared based on reserves shown in Exhibit 4. We have 160 acres, reserves of 1450 million cubic feet. This is dry gas

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with no condensate reserves. The gas price at fifteen cents is that currently being paid by El Paso as pertains to our contract with them.

On 160-acre spacing we would have a profit per well of \$95,000, thirty-two month payout, and 1.53 return on investment.

On 320-acre spacing we have essentially twice the numbers we had on 160. We went up with considerably more profit of \$267,000 per well, sixteen month payout, and 4.31 return on investment.

Q Do these economics in your opinion permit drilling on 160?

A The economics for 160-acre spacing meet our minimum requirements for drilling. They barely meet it, it approaches marginal economics. However, they do meet economics for development. However, there's another consideration here that affects economics, in that our rate of take with El Paso is on acreage basis and the drilling of two wells on 320 tract, on 160-acre statewide spacing would not result in any higher rate of production than one well on 320. So, if you incorporate that into the economics, essentially you have no payout on the second well drilled on a 320 if you are on 160-acre spacing.

Q In addition, if your estimates of reserves and a payout, and so forth, happens to be slightly low, then the return on



investment might fall below what you call your minimum return, is that correct?

A That's right.

Q Do you have a set of proposed rules?

A Yes, we have our proposed rules, shown by Exhibit No. 6. These rules are identical to those established by the Commission for the Fowler-Paddock Gas Pool, and the Fowler-Tubb Gas Pool with one exception.

Q What is that?

A The exception is in Rule 4 where it states "Each well completed or recompleted in the Fowler-Lower Paddock Gas Pool shall be located no nearer than 660 feet to the outer boundary of the quarter section and no nearer than 330 feet to any governmental quarter-quarter section line." The rules for the Paddock and Tubb state that wells should be located no nearer than 990 feet to the outer boundary, whereas here we have 660 feet.

Q Would you discuss Exhibit 7, please, and state the reason that Pan American requests a slightly different rule with respect to well locations?

A Exhibit 7 shows the well locations for the Ellenburger, Blinbry, Tubb and Paddock formations in this area as established by the field rules for these various formations. The Ellenburger locations are shown colored in orange, and I have just shown the

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possible locations within a 160-acre tract, and it would be the same for 160, for each 160 in the section. Ellenburger is on 80 acre with strict location. The wells have to be located in the Northwest or Southeast 40 of a quarter section.

The Blinebry is also an 80-acre spacing with more flexible spacing, in that the wells can be located on either 40 of an 80, and both Ellenburger and Blinebry, the wells have to be located within a 150-foot circle of the center of the 40.

For the Tubb and Paddock Gas Pools, based on the 990, 330 spacing in that field, wells can be located at the X's shown on this exhibit which gives you one of eight specific locations in a 320 to locate your wells. What we run up against here, we have most of our wells in these more shallow zones are duals or triples and we anticipate that future completions in this Lower Paddock will be by dual completion of existing wells.

The proposed rule that we have here of 660 would allow us to locate our wells within the red squares shown on this Exhibit 7, which makes our possible locations compatible with both the Ellenburger and Blinebry on the oil side, or compatible with the Tubb and Paddock gas where the X is located, so that we could dual complete the Lower Paddock with a Blinebry or Ellenburger well, or we could dual or triple complete it with a Paddock or Tubb gas well and relieve us of having to request unorthodox locations in

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this Lower Paddock for future completions.

Q And the administrative and legal expenses that goes with those applications, is that correct?

A Yes.

Q For how long is Pan American requesting the temporary pool rules which you are suggesting?

A We're requesting temporary rules for one year to eighteen months in Case 2743 held on February 19, 1964 for continuation of temporary rules in the Fowler-Tubb Gas Pool. We requested that the Fowler-Tubb case be reopened at the same time as reopening of this current case, and that continuation for the Fowler-Tubb also be for one year to eighteen months. Reopening of these two cases at the same date will permit consolidation of exhibits and require that Pan American come to Santa Fe only once for this subject area.

Q Will Pan American adopt a data-gathering program to obtain the necessary data to support further its request in this field?

A Yes, sir. Well, as we've stated, we have only one completion at the present time. It's not connected and, of course, upon connection of that well and additional wells we will take the necessary pressure and production data to adequately indicate the drainage area of the wells completed in the Fowler-Lower Paddock Gas Pool.

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Q Mr. Rogers, in your opinion would the granting of this application tend to prevent waste and protect correlative rights of all owners within this area?

A Yes, sir, it will.

Q Were these exhibits prepared by you or under your direction?

A Yes, sir.

MR. MALONE: Pan American respectfully moves the introduction of Exhibits 1 through 7.

MR. NUTTER: Pan American Exhibits 1 through 7 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 7 were offered and admitted in evidence.)

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

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

CROSS EXAMINATION

BY MR. DURRETT:

Q I missed your date that you were speaking of. What date was it that you requested that the case be reopened?

A This case be reopened?

Q Yes.

A For one year to eighteen months, within a year to



eighteen months.

Q Well, now, if I understood correctly, there was a compatible case that was going to be reopened.

A Oh, yes, sir. Case 2743, which was held February 19, 1964. That would concern the Fowler-Tubb Gas Pool, and we asked in that case for continuation of temporary rules for Fowler-Tubb that would require that it be reopened. We want this current case reopened with that Fowler-Tubb case.

Q Reopened with Case 2743 if possible?

A Right, the same date if possible.

Q One other question. There is just one well completed in the pool now, is that correct?

A That's right.

Q And it's not connected?

A No, sir.

Q What is the possibility of obtaining a pipeline connection?

A We have a contract with El Paso covering that well, and it should be connected within two or three weeks.

Q So you don't anticipate it will be sitting there for a long period of time without connection?

A No. That was the problem we ran into in the Tubb. We shouldn't have that here.

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MR. DURRETT: That's all I have.

BY MR. NUTTER:

Q Mr. Rogers, this is the only well that has been completed in this Lower Paddock zone. How about the other wells that have gone through the Lower Paddock, have they taken any drill stem tests or tested the Lower Paddock in any way, do you know?

A No, sir. We have not tested it at all, and to be perfectly frank, we weren't even aware it was there until recently. We ran a very good set of logs on this No. 16 and picked up this zone as a result of having a good logging program. We have not tested it and we haven't drill stem tested it or cored it or anything.

Q So actually this Lower Paddock hasn't been condemned in their wells, it just hasn't been affirmed either?

A That's right.

Q How does it compare with the Upper Paddock? I realize the Commission has entered temporary rules for the Upper Paddock zone. From what you know of the reservoir characteristics, how do they compare?

A As far as reserves and economics go, they're very similar. If you will allow me just a minute here. I'm referring now to Exhibit No. 14 in N.M.O.C.C. Case 2742, 43, 44 consolidated. I'm not sure which one of the numbers pertain to the Paddock, held



on January 23, 1963. In that Exhibit 14 we had reserves of 8.75 MMCF per acre and as shown on our exhibit in this case we have 9.06. The economics on the Paddock were \$93,000 profit per well on 160-acre spacing with a 1.55 return on investment and a 31-month payout, and those numbers are very similar, almost identical to those shown on our Exhibit No. 5 in this case.

Q Now, the Upper Paddock came on for its second hearing just a short time ago, didn't it?

A Yes, sir, it did.

Q Were you present at that hearing?

A Yes, sir. We requested permanent rules in the Paddock at that time.

Q What did you have to substantiate your permanent rules in that case, do you recall?

A We had pressure and production data over a period of several years that indicated that the wells were effectively draining at least 320 acres. We essentially based it on the initial pressures of subsequent completions in the field being lower than the initial pool pressure, and also on our gas material balance pressure, cumulative reserve determination as compared to pore volume reserves.

Q Haven't you been able to compare the permeability in the Lower Fowler section with the Upper Fowler section?



A No, sir. We don't have any permeability or any cores in either of these formations. The only way we could compare it would be by comparing our production rates or absolute open flows, and since we have not obtained one on this well, it would be hard.

Q You would have to run drawdown tests and things like that?

A Yes.

Q You haven't been able to do this yet?

A Also we only estimated this with 2,000 gallons of acid, so the one test we got very roughly 1700 MCF a day is possibly not a good indication of the permeability of the formation. Since this was a triple completion we anticipate probably some well bore damage of that Lower Paddock, and I feel certain that if necessary, additional stimulation would probably give us a lot better rate.

Q I believe you said your flowing tubing pressure was 800 some pounds. What's the shut-in pressure on this well?

A I'm not sure what the shut-in surface pressure is. We have a bottomhole pressure we already obtained on it.

Q What is that?

A The bottomhole pressure was 2214 at a datum of minus 1912 feet. That pressure was obtained December 10th, 1963 after 72-hour shut-in.

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Q So evidently this will be virgin pressure for the reservoir?

A Yes, sir. That pressure was also utilized in these reserve calculations.

MR. NUTTER: Any other questions?

MR. DURRETT: I have one additional question.

BY MR. DURRETT:

Q Mr. Rogers, on your SMU Well No. 16 is the date January the 3rd, 1964, is that your completion date on that? I'm referring to your Exhibit 1.

A Yes, sir, that is what Pan American would call the official completion date. We had all three zones rated on production at that time; of course, the well has been shut-in since then.

Q Will this well conform to your well location which you have requested?

A Yes, it will fall on the X on Exhibit 7, which would be on the corner of the square that well is 990, 330 location.

Q So you would not need an exception for the existing well?

A No, sir.

Q Did you state what horizontal limits you would propose for the pool?

A No, sir, I didn't.



Q Do you have any you would like to recommend?

A I hadn't considered it. Is it necessary that I recommend?

Q No, sir.

MR. NUTTER: How would you dedicate your acreage if you were to have 320 acres, what acres would you dedicate to this well, the South Half or the East Half?

A I don't know whether -- we haven't looked in detail at which well we would prefer to complete our second one in in this section, off-hand I just don't know. It's going to require that we review the casing and the mechanics of all these completions in this area and pick the best wells for completion with this Lower Paddock, and then at that time we will decide which way we prefer to lay our 320.

MR. NUTTER: Do you have anything further, Mr. Durrett?

MR. DURRETT: No.

MR. NUTTER: Does anyone have anything further of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Malone?

MR. MALONE: I understood that the Commission might have received some concurrences which perhaps should be noted in the record, is that correct?

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# PAN AMERICAN PETROLEUM CORPORATION

P. O. Box 268  
Lubbock, Texas 79401  
February 7, 1964

File: JET-4076-986.510.1

Subject: Application for Temporary  
Field Rules, Undesignated  
Lower Paddock Gas Pool,  
Sections 15 and 22, T-24-S,  
R-37-E, Lea County, New Mexico

Mr. A. L. Porter, Jr.  
Secretary-Director  
New Mexico Oil Conservation Commission  
P. O. Box 871  
Santa Fe, New Mexico

Dear Sir:

Pan American Petroleum Corporation as operator of the South Mattix Unit respectfully requests that a hearing be docketed to consider its application for adoption of temporary rules for the Undesignated Lower Paddock Gas Pool located in Section 15, T-24-S, R-37-E, Lea County, New Mexico, and to designate this field as the Fowler Lower Paddock Gas Pool.

In our opinion information available to date regarding this field indicates the necessity for, and we plan to request, the following temporary rules: (1) 320 acre well spacing; (2) all wells drilled or recompleted in the field subsequent to the effective date of the rules are to be located no closer than 660' to any outer boundary of the 320 acre proration unit; and (3) optional proration units to consist of either the N/2, S/2, E/2 or W/2 of a governmental section.

At the present time the subject field contains one producing gas well, Pan American's SMU No. 16. In our opinion, establishment of the above rules on a temporary basis will be in the interest of conservation and protection of correlative rights.

Yours very truly,



Neil S. Whitmore  
District Superintendent

JTR: jb

cc: ALL WORKING INTEREST OWNERS

*Handwritten notes:*  
Neil S. Whitmore  
District Superintendent  
2/28/64

DOCKET MAILED

Date 2-28-64

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 7, 1965

EXAMINER HEARING

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IN THE MATTER OF:

CASE NO. 3002 BEING REOPENED PURSUANT TO  
THE PROVISIONS OF ORDER NO. R-2684, WHICH  
ORDER ESTABLISHED TEMPORARY 320-ACRE  
SPACING FOR THE FOWLER-LOWER PADDOCK GAS  
POOL, LEA COUNTY, NEW MEXICO, FOR A  
PERIOD OF ONE YEAR

Case No. 3002

-----  
BEFORE:

ELVIS A. UTZ

TRANSCRIPT OF HEARING

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MR. UTZ: Case Number 3002.

MR. DURRETT: In the matter of Case Number 3002 being reopened pursuant to the provisions of Order Number R-2684, which order established temporary 320-acre spacing for the Fowler-Lower Paddock Gas Pool, Lea County, New Mexico, for a period of one year.

MR. MALONE: If it please the Commission, Charles Malone of Atwood & Malone, appearing for the applicant. Pan American Petroleum Corporation has requested that we simply make a statement in this case for the applicant, and that statement would be as follows:

The original application in this matter was heard about one year ago. At that time the SMU Well Number 16 had been completed as the discovery well in this pool, and all well information which was available was furnished at that time. Since that time no further well completions have been made in the Fowler Lower Paddock gas pool. Since there is no further well completion information available at this time, the applicant respectfully requests that the temporary rules established by Order Number R-2684 be continued in effect, and would recommend that this extension be for an additional period of one year.

MR. UTZ: Is there anything further in regard to Case Number 3002? ... Case Number 3002 will be taken under



