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BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 5, 1968

EXAMINER HEARING

IN THE MATTER OF:)

Application of Pan American)
Petroleum Corporation for a)
unit agreement, Chaves)
County, New Mexico.)

Case No. 3784

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We will call next Case 3784.

MR. HATCH: Case 3784. Application of Pan American Petroleum Corporation for a unit agreement, Chaves County, New Mexico.

MR. MALONE: May it please the Commission, Charles Malone of Atwood and Malone, Roswell, for the applicant. We have two witnesses and seven exhibits.

(Witnesses sworn.)

(Whereupon, Exhibits A through E were marked for identification.)

PETER ABBEY

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

DIRECT EXAMINATION

BY MR. MALONE:

Q Could you give your name and address, please?

A Peter Abbey, Pan American Petroleum Corporation, Fort Worth, Texas.

Q Your position with Pan American?

A I'm assistant division land man.

Q Is the area under study in this application within the jurisdiction of your Fort Worth Office?

A Yes, it is.

Q Are you personally familiar with the matters contained in the application?

A I am.

Q Very briefly, what does Pan American seek here?

A We seek approval to form the North King Camp State and Federal exploratory unit.

Q Would you go now to Exhibit A, which is the plat, and describe what it depicts?

A This plat shows the outline of the proposed North King Camp Unit with the acreage colored in red being the acreage that is committed to the unit.

Q Did you give the total acreage?

A It's 14,696.93 acres in the proposed unit.

Q I note there are a few small areas in white which I believe you said is uncommitted, what is the percentage of acreage which is committed?

A 93.5 percent approximately committed.

Q Have you had communication with the four owners who have not committed, that is the owners of the working interest?

A Yes, we have.

Q Is it correct that Mr. Duncan Miller, who is shown as D. Miller, has said that he's not ready yet, that Bogle

Farms has said they do not wish to commit, that M. Schoff has been dealing with you in an effort to sell her lease to you rather than to commit, are those three statements correct?

A That's right, those are correct.

Q What about the fourth, Parker Wilson?

A Mr. Wilson just has a 40-acre in the unit and he was not interested in joining.

Q Now, of this proposed unit area, how many acres are State acres and what percentage is that?

A State acreage is 1904.9 acres, being approximately 12.96 percent.

Q And Federal?

A 12,477.71 acres, being approximately 84.9 percent.

Q And fee land?

A 314.32 acres, being approximately 2.14 percent.

Q Does the unit agreement which you propose here contain a provision for subsequent joinder if any of these non-committed interests decide to join?

A Yes, it does.

Q Is there anything else with respect to Exhibit A?

A I don't believe so. I think we have pretty well covered it.

Q Go now to Exhibit B, please, and describe what it

depicts.

A Exhibit B is the proposed unit agreement for the North King Camp unit.

Q Does this unit agreement contain any drilling obligation?

A Yes, it provides for the drilling of a 9200-foot top Mississippian test unless production is encountered in commercial quantities at a lesser depth with the well to be started within six months of United States Geological Survey approval and State of New Mexico.

Q Is this unit of a type which Pan American has generally used in New Mexico and has been previously approved by this Commission?

A Yes, it is.

Q Would you go, then, to Exhibit C and state what it is?

A Exhibit C is the letter from the acting director of the United States Geological Survey, stating that the proposed unit area is logical and approving same, subject to certain modifications being made in the unit agreement, which modifications have been made, and also subject to approval by the appropriate officials of the State of New Mexico and subject to our demonstrating that we have sufficient working interest owners joining to demonstrate effective control.

Q Would it be a fair statement, then, that in the event that the State of New Mexico approves this unit and unit agreement, that the compliance with the United States Geological Survey requirements in the letter which you have stated have been met would apparently, then, allow the creation and the effectiveness of this unit?

A Yes, sir, I think so.

Q Would you go, then, to Exhibit D and state what that is?

A Exhibit D is a letter from the Commissioner of Public Lands of the State of New Mexico approving the unit agreement as to form and content.

Q And then Exhibit E, please?

A Exhibit E is the proposed unit operating agreement for the North King Camp Unit.

Q Is this unit operating agreement in a form which has been used by Pan American in the past in this state and has been approved by this Commission?

A Yes, it is.

Q Now, with respect to each of these exhibits, is there anything else that you would like to offer, Mr. Abbev?

A No, I believe we have fairly well covered them.

Q Were these exhibits prepared either by you or under your direct supervision?

A Yes, sir, they were.

MR. MALONE: That completes our direct examination, Mr. Nutter.

MR. NUTTER: Mr. Malone, will the other witness testify as to the geology and the structure upon which this unit area is based?

MR. MALONE: Yes.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Abbey, I note from the drilling to discovery section of the agreement it calls for drilling to the Mississippian not to exceed 9200. This is actually only a Devonian test?

A Actually it will be a Pennsylvanian test. When we reach the top of the Mississippian we will know that we have gone through the Pennsylvanian.

Q It's primary target is Pennsylvanian rather than Devonian?

A Yes, sir.

MR. NUTTER: Any other questions of Mr. Abbey?
He may be excused.

(Witness excused.)

(Whereupon, Exhibits F
and G were marked for
identification.)

WAYLAND ROBERTS

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

DIRECT EXAMINATION

BY MR. MALONE:

Q Would you give us your name and address, please?

A I am Wayland Roberts, project geologist, Pan American Petroleum Corporation, Fort Worth.

Q Have you previously testified before this Commission?

A Yes, I have.

Q Have your qualifications been accepted in your field?

A Yes.

Q What was your college and degree?

A I have a Bachelor's degree from Texas Christian University in geology.

Q How long have you worked in the field of geology?

A Eighteen years.

MR. MALONE: Are these qualifications satisfactory?

MR. NUTTER: Yes, they are.

Q (By Mr. Malone) Are you personally familiar, Mr. Roberts, with the matters of geology that are involved in this application?

A Yes, sir.

Q Would you go, then, please, to the Exhibits F and G so that they may be discussed together and in relation to each other and describe what these exhibits reflect, please?

A As mentioned earlier, our primary objective in this area is the Atoka-Morrow sand sequence which we will penetrate by drilling to the top of the Mississippian. The map and the cross section compliment one another. On the map we have the line of section shown from left to right with the red dashed tape. We have projected into the line of section a well which is just outside of the proposed unit boundary on the southeast, and these constitute in this particular area the control available in this immediate area on subsurface control.

Q Now, you are referring to three wells, one to the west, one to the east and one to the south, is that correct?

A That's correct.

Q And your cross section, which is Exhibit G, reflects the logs on those three wells, is that correct?

A That's Well No. 1, is on the left of the cross section. Well No. 2 is the projected well, Well No. 3 is the well to the right and to the east of the unit. On the map we have some critical geological combinations of isopachous and structural data which we consider important in the development

of these lower Pennsylvanian sands. The solid line on the map is a 200-foot thickness line, which is a thickness line of the Atoka-Morrow sequence, which is our cross section, the interval from the base of the Strawn on the cross section to the top of the Mississippian, as pointed out or shown on the well on the left side of the cross section. This 2,000-foot thickness line we think is critical to the development of sands within this part of the section, or this 2,000-foot interval.

Q You have said 2,000 twice, you mean 200.

A I stand corrected. 200-foot thickness line is a critical thickness line that we have developed on the basis of regional studies in this area and we think that this combination of thickness in association with the structure in this particular area shown on this map is the dashed line which is the minus 5,000-foot structural datum line at the top of the zone of interest, the top of the Atoka-Morrow, and it's our opinion that these two combinations have critical isopachous nosing, which is demonstrated by the thickness line and the structural nosing which is demonstrated by the structural line, is the influential or critical factors in developing of clean sands within the Atoka-Morrow that we anticipate to be productive in this area.

Q Let me interrupt you to ask if there is production anywhere in the area which you believe to be of this same type or closely related to it.

A Immediately southwest of here in the Buffalo-Penn area about 80 miles southwest of this proposed unit, the production there is from sands of this type and, as I recall, the intervals there range, the total intervals of Atoka-Morrow thicknesses range from 160 to 185 feet in the existing wells and we have a well updip that is dry in that area which has a thickness of all of 130 feet plus or minus, which is the basis for your positioning of the orange serrated line in the left-hand portion of the map.

Q Do I understand that that orange serrated line that you just referred to is what you consider to be the western or northwestern limit of this critical thickness of 200 feet of sand?

A This is the critical thickness of the Atoka-Morrow in which we think there will be significant sand development occur. In this case it's approximately 150 feet. The line represents approximately 150 feet thick.

In addition to the data that we have talked about that limits the northwestern edge and localizing the prospect both on the isopachous and structural nose, we have interpreted

that there is also, based on our regional studies, a position wherein there is a limit on the downdip side of these in which significant sands can develop, and so that in this case constitutes the southeastern boundary of our proposed unit outline.

Q Mr. Roberts, do you, and does Pan American, consider that this proposed unit area does encompass all acreage which could reasonably be considered to be productive on this structural feature in this prospect?

A Yes, sir.

Q Is there further information which you would like to give with respect to the cross section showing the formations in these three wells which you consider to give you some control?

A Well No. 2 in the cross section, the prospective sand or sand interval that we consider our target zone in this area, is colored yellow at a depth there between 8900 and 9000 feet. The top of the Mississippian in that well, you will see, is at an approximate depth of 9,050 feet. Those sands occur within this total interval and locally developed they are better porosity on structural nosing.

I would also like to add, too, that on the map, on the right-hand side of the map there is a list of other

formation tops which we will encounter in this well that we propose to drill, and shown by an asterisk by each formation name are additional zones which we consider potential pay zones in this area.

Q It is a fact, then, according to your belief and the belief of Pan American, that the combination of the two geologic features which occurs within the proposed unit area may be productive of hydrocarbons, is that right?

A That's correct.

Q And this proposed unit area does include all of the area which you believe might reasonably be expected to be productive?

A On this project?

Q On this project.

A That's correct, yes, sir.

Q Do you have anything further with respect to these two exhibits?

A No, sir.

Q In your opinion, Mr. Roberts, would the granting of this application tend to prevent waste and protect correlative rights?

A Yes.

Q Were these exhibits prepared either by you or under

your direct supervision?

A Yes, sir.

MR. MALONE: We offer on the testimony of both witnesses, Mr. Examiner, Exhibits A through G.

MR. NUTTER: Pan American's Exhibits A through G will be admitted in evidence.

(Whereupon, Exhibits A through G were offered and admitted in evidence.)

MR. MALONE: I believe that completes our direct examination.

CROSS EXAMINATION

BY MR. NUTTER:

Q On your Exhibit No. F, Mr. Roberts, no, Exhibit G, you have two other wells, Wells No. 4 and 5. These are farther to the east and they are off the map as far as Exhibit F is concerned?

A That is correct.

Q Do you didn't discuss those?

A They are east of the map outline.

Q The proposed location, as I see here on Exhibit F, is in the Northwest Quarter of Section 22, of Township 13, 29. I presume that this location has been spotted here as being the most advantageous position on this nose of thickness,

is this correct?

A That is correct. Taking in consideration both the thickness and the structural position.

Q And the structural position?

A Yes, sir.

Q Do you feel, Mr. Roberts, that inasmuch as certain small tracts, the D. Miller tracts, the Schoff 40-acre tract over here, how many acres does Schoff have?

MR. ABBEY: Forty.

Q The D. Miller tract, the Schoff tracts all constitute small, isolated tracts of land which are not committed to the unit. The Bogle Farms tract is a larger tract but it's at the extreme southeast corner of the unit. Do you feel that with the acreage that is committed to the unit that should production be obtained, that Pan American will be able to efficiently develop and exploit this unit area?

A Yes, sir.

Q Without the commitment of these isolated tracts?

A Yes, sir.

Q Now, the general area of this unit, Mr. Roberts, is out west of the Caprock-Queen Pool?

A This particular area, it lies about 30 miles southeast of Roswell, New Mexico and 25 miles northwest of

Artesia, west of the Caprock-Queen area about 10 or 15 miles in Chaves County.

Q Is there any San Andres production out in this area?

A There's no San Andres near this particular proposed unit.

Q But San Andres is a possible shallow pay in this area?

A Yes. Our P.A. interest in the Cato Field lies north of here, 20 or 30 miles north or so. The rocks that are there that are productive in the Caddo Field also are present in this area here and also produce south of this area, as a matter of fact.

MR. NUTTER: Are there any other questions of Mr. Roberts? He may be excused.

(Witness excused.)

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

MR. MALONE: No.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 3784? If not, we will take the case under advisement.


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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 this 9th day of July, 1968.


 NOTARY PUBLIC

My Commission Expires:

June 19, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3784, heard by me on 6/5, 1968.


 _____, Examiner
 New Mexico Oil Conservation Commission