BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 11, 1960

EXAMINER HEARING

IN THE MATTER OF:

Application of Max Pray for the creation of a new oil pool for Devonian production and for the promulgation of special rules and regulations for said pool. Applicant, in the above-styled cause, seeks an order creating a new oil pool for Devonian production consisting of the W/2 of Section 27, E/2 of Section 28, NE/4 of Section 33 and the NW/4 of Section 34, Township 12 South, Range 37 East, Lea County, New Mexico. Applicant further seeks the promulgation of special rules and regulations governing said pool including a provision for temporary 80-acre oil proration units.

Case 2012

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 2012.

MR. PAYNE: Application of Max Pray for the creation of a new oil pool for Devonian production and for the promulgation of special rules and regulations for said pool.

(Applicant's Exhibits 1 through 5, marked for identification.)

MR. CAMPBELL: Jack M. Campbell, Campbell and Russell, Roswell, New Mexico, appearing on behalf of the applicant, Max Pray.

MR. UTZ: Are there other appearances?

MR. WHITE: Charles White, Gilbert, White and Gilbert, appearing on behalf of Skelly, and I have associated with me, Mr. George Selinger of Tulsa.

MR. NEWMAN: Kirk Newman of Atwood and Malone, Roswell, New Mexico, appearing on behalf of Newberg and Ingram.

MR. O'BRIEN: Jerome J. O'Brien, Monterey Oil Company.

MR. LITTLE: John Little with H. S. Moss, Dallas.

MR. PENNEL: H. D. Pennel, Midwest Oil, Midland.

MR. UTZ: We have all the appearances? You may proceed, Mr. Campbell.

MR. PAYNE: We'll swear in all the witnesses at this time.

(Witnesses sworn.)

WARREN PICKERING

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

DIRECT EXAMINATION

BY MR. CAMPBELL:

Q Will you state your name, please?

A Warren Pickering.

Q Where do you live, Mr. Pickering?

A Oklahoma City.

Q What is your profession?

A Consulting Geologist.

Q Will you please give the Examiner a brief resume of your

educational and professional background?

A I was schooled and graduated with a Bachelor of Science in Geology at the University of Minnesota in 1940. The following year I received a Master of Science degree in Geology with a minor in Metallurgy. That same year I was employed by the Pure Oil Company, transferred to Oklahoma. After one year I transferred to the California Company, which is a wholly-owned subsidiary of Standard of California. I spent eleven years with their company. In 1953 I resigned to go into employment for myself as a Consulting Geologist, and I have been doing that since that period.

MR. CAMPBELL: Are the witness's qualifications as a geologist acceptable to the Examiner?

MR. UTZ: Yes, sir, they are.

Q Mr. Pray, as a consulting geologist have you had occasion to do some work for Max Pray in New Mexico?

A Yes, sir. I think you misspoke yourself. Yes, sir, I have.

Q Are you acquainted with the application of Mr. Pray in this particular case now before the Examiner?

A Yes, sir.

Q I refer you to what has been identified as applicant's Exhibit No. 1, and ask you if you will state what that is, please.

A This exhibit is furnished fundamentally for geography rather than geology. It's simply a locator map to indicate where in Lea County, and more particularly New Mexico, the prospect

under consideration is located.

Q Does this Exhibit 1 also show where the prospect is in relation to the presently existing Gladiola Pool?

A Yes, I think it's important to point out that the Denton, King, Gladiola, Echols trend is well established and that the Gladiola prospect is a part of this trend.

Q Does it also indicate that the general situation as to Devonian pools in that area reflects that they are of relatively small areal extent?

A Yes, sir. I think it will be brought out later that the deep beds are small in area for the most part and highly complex.

Q I now refer you to what has been identified as applicant's Exhibit 2 and ask you if you will please state what that is.

A This exhibit covers roughly the same area as indicated in red on the first map, but brings us down to the more specifics as to ownership, lease ownership. Further, I have indicated on this map the position of all of the deep Devonian dry holes by indicating them with a red circle. The Devonian producing wells have been indicated with a green symbol. This pattern, this well pattern will become an important part of our testimony.

Q Will you state to the Examiner the acreage on Exhibit 2 which is owned or controlled by Max Pray as applicant in this case?

A Yes, sir. We control the Southwest Quarter of Section 27, excluding the Southeast of the Southwest. We own the Northeast

Northwest Quarter of Section 27, the Southwest of Section 22, the Northwest of Section 22. In addition we have an option to own the North Half of the Southeast of Section 28. That's all.

Q Where on this Exhibit 2 is the Max Pray well involved in this application?

A The new well is located in the Northeast of the Southwest of Section 27.

Q In the application you have suggested that the Commission establish a new Devonian oil pool. Will you point out on Exhibit 2 the area you have suggested be included in this pool?

A The area suggested encompasses the West Half of Section 27, the East Half of Section 28, the Northeast Quarter of Section 33, and the Northwest Quarter of Section 34, the total encompassing a section and a half.

Q On Exhibit 2 will you point out to the Examiner the portion of the Gladiola Pool presently existing that is shown on that exhibit?

A The Gladiola Pool appears in the East Half of Section 24; where the green symbols are prominent, that is the Southwesterly limit of the Gladiola Pool proper.

Q In your opinion is the well and the area to which you have referred completely segregated from that Gladiola Devonian Pool?

A Yes, sir, well, it's quite obvious from subsurface relationship that the three dry holes shown between the dense green symbols and the two wells shown in green in the center of the map are separate reservoirs.

Q Do you have anything further with regard to that exhibit at this time?

A No, sir, I think not.

Q I now refer you to what has been identified as applicant's Exhibit No. 3.

MR. UTZ: Before you proceed, I wonder if you would be more specific on the location of the dry holes.

A Yes, sir. The dry holes I referred to are located in the Southeast of the Northwest of Section 24 and the Northwest of the Northeast of Section 25.

MR. PORTER: The Northwest of the Northeast?

Q Northeast of the Northeast?

A I stand corrected, Northwest of the Northeast of 25. Also the Northwest of the Northeast of 26.

MR. UTZ: Thank you. You may proceed.

Q I now refer you to what has been identified as applicant's Exhibit No. 3 and ask you to state what that is.

A Exhibit No. 3 is our best effort at a geophysical interpretation of this complex area, coupled with the subsurface evaluation of the wells that have been drilled in the area.

Q When was this particular seismic information depicted on this exhibit with relation to the drilling of the well?

A This map was devised as of last April and interpreted and constructed at that time.

Q That was prior to the commencement of the Max Pray well in Section 27?

A Yes, sir.

Q Will you state for the record, do the red dots and the green dots have the same bearing that they had on the prior exhibit?

A Yes, sir, I have tried to repeat the same wells with the same symbols on the two maps for easy reference.

Q Now, you drilled this well in Section 27 on the basis of this seismic information, and what subsurface data you were able to accumulate, is that correct?

A That is correct.

Q How did that well pan out with relation to that picture?

A We were fortunate in having been led to this area by the geophysics of this particular map. However, the map did not drill out. A more serious case in point is that the top of the Devonian on Max Pray's Craig Well is 8 foot lower than the Moss No. 1 Lowe Well located in the Northwest of the Northeast of Section 34. As you can see from this map, we originally had hoped that the well would be some 175 feet higher than the Moss No. 1 Lowe Well referred to.

Q What does that indicate to you as a geologist with regard to the area?

A A glance at this map would indicate many things, but the fundamental thing is the extreme complicity of the interpretation and the fault pattern as we envision it on the Devonian in this area.

Q What does it indicate to you with regard to further development on your properties in this area?

A We feel that with this number of faults and with numerous interpretations available, caution is the better part of valor in developing or exploiting this type of reservoir.

Q Is this part of the basis for your application for 80-acre units in this area?

A Yes, sir, a very important part.

Q Now, Mr. Pickering, I want to refer you to what has been identified as applicant's Exhibit 4 and ask you to state first what that is, please.

A Yes, sir. This is a schematic cross section, including the well data on wells drilled prior to the Max Pray No. 1 Craig. This cross section was constructed after the shooting and with serious consideration being given to the shooting and, therefore, I would like to refer you back to Exhibit 4 for the positioning of this cross section.

On Exhibit 4 you will note a blue line that seems to have

gotten, excuse me, it is Exhibit 3. Exhibit 3, the geophysical map. A blue line near the South Half of the contoured construction from the Sunray Adams Well in Section 29, to the Moss No. 1 Lowe in Section 34, thence to the Lawton No. 1 Lowe in Section 35. That is the West to East extremity of this particular cross section.

Now, in addition to those three wells we have pulled into the line of cross section the new wells drilled by the Moss Petroleum Company, namely the Peck properties, to show their relationship. The critical well to our presentation was, as you can see, the Moss No. 1 B. M. Lowe, which actually cut a fault in the well indicated on this cross section entering the Devonian at the expense of Mississippian section. The geophysical material available, and the interpretation, indicated to us that we could get higher structural at the position of the well shown in red; as we have previously pointed out, this high structural attitude relative to the Moss No. 1 Lowe was not available. It did not turn out that way. Therefore, we have a thin section of Devonian at the present time.

Q Are you able to tell at this time what the thickness of that section actually is?

A No, sir, the statistics on the total water-free section are these: We topped the Devonian at a depth of 12,304 feet. We penetrated a total of 29 feet. Referring to this cross section in the Moss No. 1 Lowe, it was indicated that their water table was some 15 feet ahead or deeper than our current total depth and those

are the summation of all the facts we at this time feel we know about the thickness of this interval.

Q With regard to Exhibit No. 4 and your interpretation, what does it reflect with regard to your well in relation to the Moss Devonian well to the East of you?

A Our interpretation, as presented here, indicates that there is a graben area, a down-thrown block which separates the Max Pray Craig area from the Moss Peck area of production.

Q Is that the reason you have not, in your application, at least suggested that the Moss area be included in the definition of this pool?

A Yes, sir, that is the reason, but I would like to go further and state that it makes no particular importance as to whether or not these two wells are separated or not. The principle of spacing remains the same.

Q So far as the applicant is concerned, that isn't a matter of great moment here, is that correct?

A No, sir.

Q Now, with regard to the well itself, Mr. Pickering, will you refer to Exhibit No. 5 and state what that is, please?

A Exhibit No. 5 is my attempt to place all of the information about the well at easy access. You will note on this exhibit we have indicated the top of the Woodford simply for stratigraphic relationships. The top of the Devonian, as I have reported, was

found at 12,304. It indicates that drill stem test No. 2, the first drill stem test having been a failure in the Wolfcamp section, drill stem test No. 2, with packer seated up in the Woodford section, tested the top 15 feet, pardon me, the top 19 feet, tested the top 15 feet. My reason for confusion there is that the packer is quite a bit above the total depth of the hole, 12,200 feet. But the total depth was 12,319, the top of the sand was 04. We were, therefore, testing 15 feet.

The results of that test are indicated on this log on the left-hand side. You will notice that we recovered clean oil after one hour forty-five minutes. I should state that we reversed the oil out to tanks and recovered 105 barrels of clean oil to tanks following this test. Subsequent to the test then, knowing we had 15 feet of water free, we had never had a sample, in fact I had no experience with the Devonian in this part of New Mexico, being anxious to learn of our reservoir, we then cut an 11 foot core, which is indicated on this section. We recovered 8 feet of said core. We analyzed six samples as picked by Core Laboratories, which quite frankly was the entire core because it was whole core bulk analysis. The results of that analysis are shown on this log, even though small, I believe they are legible.

The importance of the core analysis indicates the range of permeability in the Devonian at this point of from 73 millidarcys to 1,966 millidarcys per foot. Porosities obtained ranged from

6.8% to as high as 16.3% in this particular core.

Q Does that core data up to this time indicate to you that there is a fairly large drainage area for this well?

A Yes, sir. Believing that this core is representative of the Devonian, and with the large vugs and fractures that we recovered and have analyzed, we feel that good communication will be available to us in this reservoir.

Q Based upon the limited information you now have available, do you believe that this well will efficiently and economically drain at least 80 acres?

A Yes, sir, this type of reservoir should easily do that.

Q Did you take original bottom hole pressure tests?

A As happens to many new wells, and particularly large wells, we were shut in for lack of storage space for a period of time, and we took that period to run a shut in bottom hole pressure survey.

Q Would you tell the Examiner who ran the survey for you, how it was run and what the results were, please?

A The John W. West Engineering Company on June 26, 1960 ran a twenty-four hour static bottom hole pressure test resulting in a bottom hole pressure of 4,693 pounds per square inch at a datum depth of 12,100 feet. We felt that the virgin pressure in what we considered to be a new reservoir would be vital information against which we could plot production and decline at a later date

as we learn more about this reservoir.

Q Now, Mr. Pickering, you are aware, of course, that the normal statewide spacing for oil wells in New Mexico is 40 acres, and you are here seeking a temporary order authorizing the development of this field over a one-year period on the basis of 80 acre proration units. Would you summarize for the Examiner the reasons that you are seeking this one year temporary order with regard to the reservoir and engineering features?

A The beginning of the summary should include our lack of being able to accurately map the structural relationship of the Devonian at this depth. This highly complex faulted area actually goes beyond the bounds of accuracy, for geophysics, and bringing to bear all the subsurface data from wells and the geophysics, it is an extremely difficult area to map structurally. Having been disappointed in finding only 29 feet that we have proven to be above water instead of the plus 175 that we had hoped to have, we feel that we should move very cautiously until we determine what amount of oil can be recovered from each 40 or 80-acre spacing, whatever the spacing ultimately is chosen to be. Until we learn the economic statistics from the recoveries from each well, we might be accused of being other than prudent operators by drilling a flurry of wells. We feel that 29 feet of penetration is the bare minimum to drill a well and equip same at a cost of approximately $240,000 per 40-acre location.

Q And if this authority is granted to proceed for a limited period of time on 80-acre proration units, are you prepared to recommend to Mr. Pray that he do step out and explore this area on an 80 acre basis?

A Yes, sir, following additional subsurface information in the form of geophysical review which we hope to attain, weather permitting, we will drill on an 80-acre pattern on the leases we have described as owning.

MR. CAMPBELL: I would like to offer applicant's Exhibits 1 through 5 in evidence.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record.

MR. CAMPBELL: That's all the questions I have at this time.

MR. UTZ: Are there questions of the witness?

MR. PAYNE: Yes, sir.

MR. UTZ: Mr. Payne.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Pickering, does the applicant have any recommendation relative to a flexible pattern or a rigid pattern insofar as well locations are concerned?

A As regards the applicant and the acreage we control, we have absolutely no recommendation to make as to the rigidity. On

the contrary, we would hope for leniency on the part of the Commissioner in view of this serious and complicated structure.

Q So what you would actually propose is that the units be able to run either way and that the well, that you be allowed to drill a well in either quarter, quarter section in the 80-acre unit?

A Yes, sir.

Q Do you feel that you get as efficient drainage of a reservoir on a flexible pattern as you do on a rigid pattern?

A I think that the proof of that will remain to be seen following the development on any pattern, following the development or drilling of an 80-acre pattern, if then, and after a one year's time, it seems prudent to fill in, we'll, of course, have no objection whatsoever. To answer specifically to a location now, I think would be most difficult, in fact foolhardy, because we simply don't know all of the structural complications here.

Q Has it been your experience in the past that sometimes when the rigid well location requirement is called for that there are locations which end up not being drilled that might be drilled if you had a flexible pattern?

A Yes, sir. I can think of cases of that; however, to forestall that possibility in this particular area I would like to point out that the land ownership is quite diversified, and I believe that such will not be the case in this immediate area.

Q Now, I believe you testified that in your opinion the

Moss well completed in the Devonian in this area and the Max Pray well are isolated, so-to-speak?

A Yes, sir, I think they are separate reservoirs.

Q Did you attempt to run an interference test to prove this point one way or the other?

A My attempt has been to find out that the Moss Company have not run bottom hole pressure surveys at this time. I believe they are scheduled for the coming month. Until such bottom hole pressure is known, we have no interference or relationship between those two wells from an engineering standpoint.

Q Now, do you have a purchaser of the oil from the Max Pray well?

A Yes, sir, the Indiana Purchasing Company of Midland, Texas is running the oil by truck.

Q By truck? A Yes, sir.

Q Does that cost more than if this were connected to a pipeline?

A Yes, sir. At the present time we have produced a total of 2,114 barrels, only 560 barrels of which have been trucked to market at a cost of twenty-four cents per barrel to we, the operator. I believe that oil is going to the Denton tank battery, tank farm.

Q Is the purchaser from the Moss well the same, or do you know?

A I can not speak for that.

Q Does this Max Pray well make water?

A No, sir. We do not have any indication.

Q Do any of the Devonian wells make water?

A Some do. I can not specifically state which wells.

Q I was just wondering if that might be a further basis for your belief that the Gladiola Devonian is completely separate from the Max Pray source of supply?

A Sir, I didn't propose to present specific evidence on that because I have been led to believe that the Moss well has already been considered a separate reservoir from Gladiola.

Q Inasmuch as the three dry holes have been drilled between the two?

A Yes, sir.

MR. PAYNE: Thank you.

MR. PORTER: I have one question.

MR. UTZ: Mr. Porter.

BY MR. PORTER:

Q Mr. Pickering, would you mind answering a question concerning this question of flexible versus rigid spacing in generalities?

A I'll be happy to if I can.

Q Do you think ordinarily that you would have as efficient drainage if you drill on either end of 80-acre units as you would

if you alternated your locations and drilled on opposite ends?

A Sir, I believe a regular pattern is by far the preference in the general case, by far the preference.

Q In other words, the drilling on opposite ends of the 80-acre units?

A Yes, sir.

Q You say you have only 29 feet of pay above the water here?

A Only 29 feet of pay proven above water. We have not found the water-oil contact.

Q I see. Now, you wouldn't be able to testify at this time as to whether you think a 255 barrel well would be too high?

A No,

Q According to my calculations, that's what you would get under an 80-acre spacing?

A 256, I believe.

Q Something like that?

A Yes, sir. If you are asking if the well is capable of making it, the answer is yes, easily.

Q It will make it? A Yes, sir.

Q In view of the fact that we have experienced trouble in some areas of Denton and Gladiola with water encroachment, I was interested in knowing whether or not the allowable might be too high.

A I should have pointed out that even though we have

penetrated the 29 feet, we have perforated only 5 feet of the section.

Q Of the 29?

A Yes. Of the very top 5 feet of 12,304 to 12,309. So we carefully stayed away from the bottom of our oil which analyzes on our analysis to be water free. We still stayed away from it as far as we could.

MR. PORTER: Thank you.

BY MR. UTZ:

Q In the event this application is granted, where would you propose your next location?

A Our next location would be one of two places, either the Northeast of the Southeast of Section 28 or the Southwest of the Northwest of Section 27. Consistent with Mr. Porter's thinking, that would be a regular staggered 80-acre pattern.

MR. UTZ: Are there other questions?

MR. PAYNE: One question further.

MR. PORTER: Mr. Payne.

BY MR. PAYNE:

Q Has it ever been your experience that when you water flooded a pool that had been developed on 80 acres, you got more oil than you did when you water flooded a similar reservoir that had been developed on 40-acre spacing?

A Yes, sir.

Q Does that indicate to you that perhaps you leave more oil in the ground when it's developed on 80 than when developed on 40?

A It depends entirely on the permeability and porosity of the area in question.

BY MR. NEWMAN:

Q Without questioning the fact that from available data that one well will drain 80 acres, if the entire 80-acre unit is underlain by the productive formation due to complexity and the existence of these faults, is it not possible that say in a given 80-acre unit, half of it would be unproductive because it was across the fault unproductive from that same reservoir?

A Yes, sir. I think the possibility of that happening is rather good in this complex area.

Q Is that one of the purposes of your recommendation of the flexible location rule on either 40 to permit the operator to pick the one that he thinks at least will be on the right side of the fault and get the pay zone?

A I believe one of the fundamental principles of conservation is to drill as few dry holes as possible. That is the purpose of the operator when he starts to look for oil, find oil.

MR. NEWMAN: That's all.

MR. UTZ: Any other questions?

MR. CAMPBELL: That's all I have, Mr. Examiner. I,

perhaps, would like to make a statement at the conclusion of the case if I may be permitted to do so.

MR. UTZ: If no other questions, the witness may be excused.

(Witness excused.)

MR. UTZ: Mr. Selinger, I believe you made the next appearance.

MR. SELINGER: We'll make a statement at the conclusion of the testimony.

MR. UTZ: You don't want to put a witness on at this time?

MR. SELINGER: No, sir.

MR. NEWMAN: We have no witnesses. We want to make a statement is all.

MR. UTZ: Are there other witnesses?

MR. PENNEL: Midwest would like to make a statement.

MR. UTZ: We will take your statements at this time.

MR. PAYNE: Mr. Selinger.

MR. SELINGER: Skelly Oil Company concurs in the application of Max Pray for temporary 80 acres. We also concur with their proposed flexibility. We have no objections to a fixed pattern for units running North and South, that is composed of the East Half and West Halves of quarter sections, nor do we have any objections to the fixed pattern of location of wells in the center

of the Northeast or the center of the Southwest Quarter of each quarter, quarter section.

We realize, of course, the complexity of the area and feel that flexibility is feasible in this particular instance. Skelly Oil Company owns the entire Southeast Quarter of Section 27, except the Northwest 40 acres, that is 120 acres. We have released a location to the field to locate a well in the center of the Northeast of the Southeast of 27 which will follow the pattern of Max Pray in his present location and his proposed location.

I also want to remind the Commission that they have at the present time classified the Moss well as the West Gladiola, and while the information is of bare factual basis, we believe that the two Devonian wells, that is the Moss well and the Max Pray well, are in the same Devonian reservoir. However, the drilling and completion of our well in between these two wells will probably definitely prove it.

MR. PORTER: Mr. Selinger, you mean that the Commission has already designated a West Gladiola Pool and it's proposed here to call this the Southwest Gladiola Pool?

MR. SELINGER: That's right, temporarily for the year's time, until the completion of our well, and then maybe West and Southwest may or may not meet.

MR. PORTER: Thank you.

MR. UTZ: Mr. Newman.

MR. NEWMAN: On behalf of Newburg and Ingram, I would like to state, one, that the acreage that we are interested in in this area, have a working interest in, is the Northeast Quarter of Section 34 and the Northwest Quarter of Section 35. We do not object to 80-acre spacing units. We think it advisable that there be as orderly development as possible until we find out if 40's can be economically drilled. We would object to a fixed pattern that wouldn't let us drill where we want to.

We don't see the faults quite as Mr. Pickering saw them initially, and we are not too durn sure where we do see them, it changes from time to time, but as interpretation now stands, the first Newburg and Ingram location would be proposed as the Northwest of the Northwest of Section 35 which would be in the pattern with the Moss Peck well, but would be out of pattern with the Pray well.

There's going to be exceptions somewhere along the line, of course, the Skelly well, which practically offsets the Moss Peck well, would be out of pattern with it. We are obviously going to have some problems in keeping on a constant pattern, and it is quite unlikely that unless an interpretation of change of Newburg and Ingram would not drill in Section 35 if they had to move over to the Northeast, Northwest. They like the Northwest, Northwest and they don't like the other. So we would object to the 80-acre spacing if it involves an inflexible spacing pattern. We think

it would cut us out of drilling at least one well in this area that we feel would be productive. This, as Mr. Newburg says, they have that much money involved, the small operators, the productivity of the well is awfully important.

MR. PORTER: Then you have four possible locations?

MR. NEWMAN: Yes.

MR. PORTER: One of which would be off pattern under either proposal?

MR. NEWMAN: Yes. We'd either be, our present proposed location, Northwest, Northwest would be on pattern with the Peck well but off pattern with the Pray. If we propose location in the Northeast, Northeast would be on pattern with the Pray, off pattern with the Moss, and we're more or less in between them, a little closer to the Moss Peck well than we are to the Pray well.

MR. UTZ: The reason you want to drill the well in the Northwest, Northwest of 35 is to get as close as you can to known production?

MR. NEWMAN: That, plus the fact that we think it's on the right side of the fault. I don't think that the East location in that quarter section would be on the wrong side of it.

MR. PAYNE: Do you think the East side would still be productive?

MR. NEWMAN: Possibly, but we don't know at what greater depth.

MR. UTZ: How about the Southwest of the Northwest of that section?

MR. NEWMAN: That I don't know. As I see the interpretation, we can't pin down exactly where the fault, we think, we think there's a fault running through there and we want to get as far away from where we think it is as possible before we cut another one in that quarter section. With the flexible spacing pattern we recommend and urge the Commission to adopt the 80-acre spacing. Without the flexible pattern we urge the adoption of 40-acre spacing so that we can go ahead and drill the wells that we think will be productive.

MR. UTZ: Thank you. Mr. O'Brien.

MR. O'BRIEN: Monterey Oil Company concurs with the Pray application asking for 80-acre spacing, but only with the flexible pattern. We feel that the areas are separated. The Max Pray and the Moss well aren't in the same reservoir. We own acreage in the Northwest, Northeast Quarter of Section 27, the East one-half of Section 22, and the East one-half of Section 21. In our information the Northeast Quarter of Section 21 would afford us a location or a well diagonally offsetting the Moss well which is in one reservoir and diagonally offsetting the Pray well which is in the other.

We, at this time, aren't definite as to which location we would like to drill. We would like to get a little more information before we make application on either of those 40 acres.

With a fixed pattern it would eliminate us from picking up the 40 acres that we wish to drill on. So, therefore, we wish for a flexible pattern on the drill sites.

MR. UTZ: Mr. Little.

MR. LITTLE: John Little with H. S. Moss. We own the West Half of Section 26 and the Northwest Quarter of the Southeast Quarter of Section 27. We are in favor of 80-acre spacing with flexibility; with rigid locations, we would prefer the 40-acre spacings. For your information, our well is not making any water, it is capable of making any increased allowable, we have completed this well approximately March 1st. It's had a good history and we have just kind of taken the idea of wait and see.

We feel like that to look at this spacing a year from now or even six months from now would give the operators an opportunity to better make a recommendation to the Commission.

MR. UTZ: As to spacing or pattern?

MR. LITTLE: Both.

MR. UTZ: If we have a flexible pattern to begin with, we might be hard pressed to change a year from now.

MR. LITTLE: I don't believe so.

MR. PORTER: What is the cumulative production of the H. S. Moss well?

MR. LITTLE: I don't have those figures with me.

MR. PORTER: Could you give me approximately?

MR. LITTLE: The well has made its allowable, less the amount that the pipeline has failed to run. We have had some pipeline proration there.

MR. PORTER: Your allowable is in the neighborhood of 223 barrels?

MR. LITTLE: Yes.

MR. PORTER: Something in excess of, oh, approximately 7,000 barrels a month?

MR. LITTLE: Yes.

MR. PORTER: It has made the allowable with the exception of the purchaser proration period?

MR. LITTLE: That's right.

MR. PORTER: You haven't had any water trouble?

MR. LITTLE: No water trouble at all. We have had opportunity to test the well. It will make 20 barrels an hour without difficulty and the flowing pressures will stay as high as they will on 8 to 10 barrels an hour.

MR. PORTER: How did your pay thickness compare with the other well?

MR. LITTLE: We have absolutely no idea how thick the pay is. We haven't found the water and we have a very, very thin section perforated.

MR. PAYNE: Mr. Little, if the 80-acre order is entered in this case, does Moss propose to communitize with Skelly Oil

Company to drill a well in the Southwest Quarter of the Southeast Quarter of Section 27?

MR. LITTLE: That I could not say. At the present time we would be willing to go into 80-acre spacing. Skelly has not asked us to join them in the drilling of this well, which I understand they have announced.

MR. PAYNE: Skelly proposes to dedicate the East Half of that quarter section then?

MR. SELINGER: That's right. For your information, Mr. Payne, we would be willing to work out an 80-acre unit with Mr. Moss, yes, sir.

MR. PAYNE: I presume that everybody here is aware that if the Commission considers these as two separate reservoirs, in other words, the West Gladiola Devonian, the Southwest Gladiola Devonian, that the 80-acre spacing, if one was concerned in this case, would go only to the Southwest Gladiola Devonian Pool.

MR. SELINGER: It would cover everything within a mile.

MR. PAYNE: Not if it's in a separate pool.

MR. SELINGER: We think it's in the same pool.

MR. PORTER: Off the record.

(Whereupon, a discussion was held off the record.)

MR. PAYNE: Let's go back on the record. Mr. Campbell, if this order is granted here on a temporary basis for a one-year period, will the applicant be willing to take interference tests

in the meantime?

MR. CAMPBELL: Let me say this, that we would be glad to discuss that with the Commission engineers. It's the opinion of our people that an interference test will probably not give us the information we desire at this time. If the Commission concludes that it will and advertises, of course we will take it. We believe that bottom hole pressure comparisons from the Moss well, when the bottom hole pressure is taken, coupled with perhaps information from the Skelly well, will pretty well establish it without direct interference tests, but if the Commission says we should, we will.

MR. PAYNE: I mean an interference test between the Max Pray well and the next well that Max Pray drills, either in Section 28 or 27, which would be, if it were in 27 it would be a diagonal offset from the existing well.

MR. CAMPBELL: If it's an oil well we will be glad to do it if the Commission requests it.

MR. UTZ: I gather, then, you may answer this question, Mr. Pickering, if you will, that you feel that you may have a water drive here?

MR. PICKERING: Yes, sir, we very definitely feel that.

MR. UTZ: In which case interference tests will be of very little value?

MR. PICKERING: That is my feeling, particularly on 80-acre pattern where interference will not show up until a good

deal of the products or the reservoir is depleted. My personal feeling, probably it is not engineering.

MR. PENNEL: H. D. Pennel, Midwest Oil. We're interested because we have a lease in the Northeast Quarter of Section 28 and a lease interest in the Southwest Quarter of Section 28. Now, I would like to go along with Mr. Kirk Newman in his discussion and Mr. O'Brien's verbatim, as they made it, and to go through this whole thing again would just be saying the same thing they have said. However, I would like to add this just for all of our education; according to my geology, the Max Pray well in the Northeast, Southwest of Section 27 correlates on the top of the Devonian, approximately a thousand feet high to the Sunray Mid-Continent well which is in the Southeast, Northeast of Section 29, a mile and a half Northwest and approximately a thousand feet high to the Monterey well which is in the Southwest, Southeast of Section 22. As you can see, we are placed in somewhat of a precarious position with our leases.

Now, we have spent a good many thousand dollars with a seismograph in there trying to figure out what happens and we have concluded this, that it's an anomalous area and we have had to stop right there. We can't map it, we don't know which way the faults go and we, therefore, feel that if we are forced, if anyone is forced in here to go to definite pattern, that very shortly someone is going to drill one or two dry holes which will probably go a

good ways toward stopping the development in the area, and there will be a lot of oil in there that will not be recovered for that reason.

We think that if we could approach this thing, and I think scientifically, and step out, make easy, short stepouts, that we will be able to get most of the oil out of the ground in this area which is bound to be small.

MR. PAYNE: It's your opinion that it's generally advantageous in a reservoir that is complex to have a flexible spacing pattern in order to get the locations drilled?

MR. PENNEL: That's right.

MR. PAYNE: That might more than make up for the oil that you recover on a rigid pattern?

MR. PENNEL: That's right.

MR. PORTER: Wouldn't that be an argument that you might dedicate a lot of dry acreage to any one well?

MR. PENNEL: I believe so, yes, sir.

MR. PORTER: I don't see how you could have one without the other.

MR. UTZ: To say the least it might be questionable. Any other statements?

MR. CAMPBELL: Mr. Examiner, I would like to make a concluding statement. As was indicated at the outset, the applicant here has no objection from its point of view either to a

fixed pattern or a flexible pattern. We believe that this, obviously, is a small areal field. It is also, as has been stated here, extremely complex. It is also true that there is a possibility that during this year's time, depending upon the rapidity of drilling and the locations of the various wells, that you will have a number of wells at the end of the year which are direct 40-acre offsets. You may have some wells dedicating acreage that might be questionable, at least that might have to be established. We are convinced you are also going to have several dry holes no matter what kind of a proration unit you set up here because of the complexity of the situation and because of the small area that is involved.

We believe that if it is started on an 80 acre proration unit, and certainly as far as our properties are concerned we can develop ours and Skelly can apparently follow with their acreage on a relatively fixed pattern, it's when we approach the edges of the reservoir that you are going to get some questionable locations. At the end of a year we can all take a look at the situation. We will know a great deal more about it. If it is developing on a 40-acre basis and it is economically feasible, I presume that people would want to infill drill and go ahead on a 40-acre basis, but we believe that everything considered in this Devonian formation, and the Commission is fully aware of the dangers and complications of water in connection with promiscuous drilling in the

Devonian formation in New Mexico, we believe that in the light of that and all the other circumstances, the field will proceed with development under an 80-acre proration unit basis.

I think only a glance at the map, if the expiration dates are on the map, will reveal as a practical matter that a great many leases in this area, due probably to the large number of dry holes drilled around here, are approaching the expiration date. So this field is going to be developed, establishing 80-acre units is not going to slow down development in this area, because of lease expiration dates and drilling obligations, we will certainly know enough at the end of one year to go on in the right direction both in the point of view of conservation and protection of the correlative rights of the multitude of owners in this limited area.

MR. PAYNE: It's also true, is it not, Mr. Campbell, that the dedication of dry acreage is strictly a matter of correlative rights and we have no one here who is opposing 80-acre spacing provided we have a flexible pattern?

MR. CAMPBELL: That is correct, and I think, if at the end of the year's period, if anyone is seriously concerned about the possibility of abuse of their correlative rights due to dedication of unproved acreage or non-productive acreage, it will come up at that hearing.

MR. O'BRIEN: May I make a statement, Monterey Oil?

MR. UTZ: Yes, sir.

MR. O'BRIEN: With relation to the dedication of the dry acreage to an 80-acre pattern, it isn't necessary that you have dry acreage dedicated to these patterns. However, in a very porous, permeable zone such as the Devonian, very steeply dipping with a high water drive, with a flexible drilling pattern you can draw all your oil out of the top location where if you drill on the outside you willleave 90% of the oil which will flow updip. So you can't drain it all, although it's all good land, so you can get it on the updip location that you can not get on the downdip location.

MR. UTZ: Would you propose a dedication of acreage below the water-oil contact?

MR. O'BRIEN: No.

MR. SELINGER: If we know what it is.

MR. UTZ: Any other statements? If there are no further statements, the hearing 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 15th day of July, 1960.

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. 2012, heard by me on July 6, 1960.

..... Examiner
New Mexico Oil Conservation Commission

BEFORE THE
OIL CONSERVATION COMMISSION
STATE CORPORATION COMMISSION HEARING ROOM
Santa Fe, New Mexico
July 6, 1960

EXAMINER HEARING

IN THE MATTER OF: 2012

Application of Max Pray for the creation of a new oil pool for Devonian production and for the promulgation of special rules and regulations for said pool. Applicant, in the above-styled cause, seeks an order creating a new oil pool for Devonian production consisting of the W/2 of Section 27, E/2 of Section 28, NE/4 of Section 33 and the NW/4 of Section 34, Township 12 South, Range 37 East, Lea County, New Mexico. Applicant further seeks the promulgation of special rules and regulations governing said pool including a provision for temporary 80-acre oil proration units.

BEFORE:
Mr. Elvis A. Utz, Examiner
Mr. Oliver E. Payne, Attorney

TRANSCRIPT OF HEARING

MR. UTZ: Case 2012.

MR. PAYNE: I would like to request that case 2012 be continued until the examiner hearing before examiner Utz on the 11th of July, and I might state that to my knowledge all of the parties in that area have been advised by letter from Skelly Oil Company or by telegram from Skelly Oil Company that the case is being continued to July 11.

MR. UTZ: Is there objection to counsel's motion? Case 2012 will be continued to the examiner hearing of July 11, 1960.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, LEWELLYN NELSON, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing was reported by me in Stenotype, and that the same was reduced to typewritten transcript under my supervision, and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

DATED this 8th day of July, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lewellyn J. Nelson
NOTARY PUBLIC

My Commission Expires:

June 14, 1964.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2062, heard by me on 7-6, 1960.

New Mexico Oil Conservation Commission, Examiner