CASE 7189: THRESHOLD DEVELOPMENT COMPANY
NOPA DETERMINATION, EDDY COUNTY,
NEW MEXICO

Case No. 7189

Application

Transcripts

Small Exhibits

ETC

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
11 March 1981

EXAMINER HEARING

IN THE MATTER OF:

Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. CASE 7170

and

Application of Threshold Development Company for an NGPA determination Eddy County, New Mexico. CASE 7189

and

Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. CASE 7190

and

Application of Southland Royalty Company for an NGPA Determination, Eddy County, New Mexico. CASE 7192

and

Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. CASE 7193

and

Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. CASE 7194

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Ernest L. Padilla, Esq. Legal Counsel to the Division State Land Office Bldg. Santa Fe New Mexico 87501
For the Applicant: Threshold Development Co. and Southland Royalty Co.	William F. Carr, Esq. CAMPBELL, BYRD, & BLACK P.A. Jefferson Place Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 7170.

MR. PADILLA: Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico.

MR. CARR: Mr. Examiner, my name is William F. Carr, with the law firm Campbell, Byrd, & Black, P.A., in Santa Fe, New Mexico, appearing on behalf of Threshold Development Company and Southland Royalty Company.

At this time, Mr. Examiner, we would request that the following cases be consolidated for the purpose of hearing:

Case 7170, 7189, 7190, 7192, 7193, and 7194.

Each of these cases involves an application for a new on shore reservoir determination under Section 102 of the Natural Gas Policy Act, all the wells lying in close proximity one to another.

The testimony will be very similar and we think it would facilitate hearing each of these cases to consolidate them for that purpose.

MR. STAMETS: The call of the hearing is identical in 7170, 89, and 90, and then in 92, 93, and 94, the only difference there is that Southland Royalty Company is the applicant.

Is there any objection to this consolidation? These cases will be consolidated for purposes of testimony.

MR. CARR: At this time, Mr. Examiner, I have two witnesses who need to be sworn.

(Witnesses sworn.)

MR. CARR: At this time I would call William P. Aycock.

WILLIAM P. AYCOCK

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your full name and place of residence?

A. William P. Aycock, Midland, Texas.

Q. By whom are you employed and in what capacity?

A. By Threshold Development Company and Southland Royalty Company in connection with the applications

included in now consolidated cases 7170, 7189, 7190, 7192, 7193, and 7194.

Q. Have you previously testified before this Commission and had your credentials accepted and made a matter of record?

A. Yes, I have.

Q. Are you familiar with the applications in each of these cases?

A. Yes, I am.

Q. Are you familiar with each of the wells involved in each of these cases?

A. Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. Will you briefly state what the applicants are seeking in each of these cases?

A. In each of these cases the applicants are seeking a new on-shore reservoir determination in the zone in which each of the wells is completed, as follows:

The Threshold Conoco 10-A State No. 1-Y is a dual completion and the application includes both the Atoka and Morrow formations.

The Threshold Development Company Conoco

7 State No. 1 is a single completion for which the 102 application in the Morrow zone is being sought in Case -- former Case 7189.

In former Case 7190 Threshold Development Company is seeking a Section 102, or new on-shore reservoir determination for the Atoka formation in its Conoco State Com Well No. 1.

In former Case 7191 Southland Royalty Company is seeking -- I beg your pardon, 7192, I'm sorry. 7191 is not a part of this application.

Former Case 7192, Southland Royalty Company is seeking an NGPA determination for a new on-shore servoir in the Morrow formation for its Parkway "A" State Communitized Well No. 1.

In case -- former Case 7193 Southland Royalty Company is seeking an NGPA determination for a new on-shore reservoir for the Atoka and Morrow formations in its State 14 Communitized Well No. 1.

And in case -- former Case 7194 Southland Royalty Company is seeking an NGPA determination for a new on-shore reservoir in the Morrow formation for its Parkway State Well No. 1.

Q Mr. Aycock, in preparing for this hearing have you made a study of the area surrounding each

of the subject wells?

A. Yes, sir, I have.

Q. Have you prepared certain exhibits for introduction in this case?

A. Yes, sir, I have.

Q. Will you please refer to Applicant's Exhibit Number One and explain first what it is and then summarize what it shows?

A. Applicant's Exhibit Number One is a land map of the area that includes the wells producing from the Atoka and Morrow zones in the vicinity of the application wells, including the five marker wells, all of which are not germane to this application, but including all of the NGPA marker wells that are located in proximity to wells for which an application is being made in these consolidated cases.

We call Mr. Examiner's attention to the fact that the 2-1/2 mile NGPA radius is indicated about each of the marker wells. Each marker well is indicated by a circle surrounding the gas well symbol, with a color code that indicates in which zone it is a marker well.

In the northeast quadrant of the circle, where it is colored red, it is a Morrow marker well.

In the northwest quadrant of the circle,

which is colored blue, indicates it is an Atoka marker well, and then in the south quadrant of the circle surrounding each marker well, if it is colored yellow it indicates that it is a Strawn marker well.

Likewise, the six wells, two of which are dual completions that are the subjects of this application, are indicated by triangles surrounding the well location and the gas well symbol, in which case a similar color coding is used at a similar location to indicate the zones from which each of the application wells are completed.

We think it could assist the Examiner in -- during the review of our subsequent exhibits if he would keep this map handy so that he can refer to it and see how the wells are located geographically with regard to each other and the applicable marker wells, so that when the pressure histories are dwelt upon he can see how they -- how they relate to each other.

Q. Mr. Aycock, one of the marker wells indicates that it is a marker well in the Strawn, is that correct?

A. Two of them indicate that they are marker wells in the Strawn.

Q. We're not seeking any determination

under Section 102 of the NGPA in the Strawn in these cases, however.

A. Actually, I beg your pardon, three of them are Strawn marker wells, and that is correct, we are not seeking an NGPA determination for any wells completed in the Strawn. They were strictly included for purposes of completeness in presenting this exhibit to the Commission.

Q. Mr. Aycock, in preparing this and subsequent exhibits, have you reviewed data on all the wells in this general area which could reasonably be expected to provide data relative to this hearing?

A. Yes, sir, I have.

Q. Will you now refer to what has been marked for identification as Exhibit Number Two and explain to the Examiner what it shows?

A. Exhibit Number Two includes several portions. The front page of Exhibit Number Two is entitled Summary Tabulation, in which various important physical parameters are given for four wells.

The lefthand well, or the Petroleum Corporation of Delaware Parkway West No. 1, is in Section 28, Unit C, and is indicated on Exhibit One to be a marker well in the Atoka zone, and it is placed in the lefthand column to -- for purposes of convenience, since it is the marker

well.

Compared to it are the three wells that are in the Atoka zone, that are the subject of this consolidated application, those being, in order, the Southland Royalty State 14 Communitized No. 1, which is in Unit E of Section 14, and is barely inside of the 2-1/2 mile radius from the Petroleum Corp. No. 1 Parkway West.

The Threshold Development Conoco State -- or Conoco 10 State No. 1, I beg your pardon, in Unit I of Section 10, and the Conoco 10-A State No. 1-Y, which is located in Unit F of Section 10, and I would call the Examiner's attention to the fact that both of these are located more than 2-1/2 miles from the applicable Atoka marker well, and we would assume that -- our understanding of a part of the NGPA rules as they pertain to Section 102 that being outside of the 2-1/2 miles there would be no question about their meeting that portion of the criteria established for Section 102 and that our major endeavor would be to indicate to the Commission by presentation of available data that they are actually in reservoirs that are separate from the marker well itself, isolated from it pressurewise and not producing from a common source of supply.

Indicated on this -- the first page of Exhibit Two are all of these consequential parameters, in-

cluding the initial pressures, both surface and subsurface, that have been submitted to the Commission; the completion interval for each of the wells; the completion date for each of the wells; and a summary of the information that is derived from the Form C-122 data; then the cumulative production in gas and liquids as of December 1st, 1980, which is the most recent data that is available to us in preparing these exhibits.

As will be documented later in subsequent discussions, I would call the Examiner's attention to the fact that there is a significant variation in the gravities of the flowing fluids and gases between the wells and the initial pressures in general fall within a not small degree, but a relatively limited degree of difference from each other, with the exception of those for the Threshold Continental 10-A State No. 1-Y, which has reported significantly higher pressures than any of the other wells initially, including the marker well.

On page two of Exhibit Number Two is a tabulation of the initially measured pressures for all four of the wells that are included on page one with the sources, and the other applicable information giving the measured or calculated surface and subsurface pressures that will later be presented in graphical form as well.

In addition to those initial pressures presented on page three of Exhibit Two is a tabulation of all observed pressures for the four wells that were presented on the first page of Exhibit Two under -- with a similar presentation to the table that constitutes page two of Exhibit Two, and pages three and four of Exhibit Two are graphical presentations of the initially measured pressures by well, and all observed pressures by well.

And we believe that it is very important for the Examiner to view those and recognize that the -- the marker well in both cases has its pressures indicated in -- well, all the wells have the well to which it is applicable indicated in writing. The well that it is is by each pressure point.

The surface pressures are indicated by open circles. The subsurface pressures by closed circles. And during the period 1979 and 1980, during which time all of the wells for which this application, consolidated application is being submitted for the Atoka zones, the pressures that were reported were in the vicinity of those reported initially for the marker well, which is the Petroleum Corp. of Delaware Parkway West No. 1, and in addition, or higher in the case of the Threshold 10-A 1-Y, and in addition as of the dates of initial completions, they were -- the surface

and subsurface pressures were in the vicinity of 4000 to 5000 pounds lower for the marker well than for any of the wells for which this application is being submitted, whether viewed on an initial pressure basis or all pressure basis.

Q. Will you now refer to Applicant's Exhibit Number Three and review this for Mr. Stamets?

A. Applicant's Exhibit Number Three is a similar presentation to Exhibit Number Two, except that it is for the Morrow zone, and it includes all of the wells completed in the Morrow, and the first page of it is entitled Summary Tabulation, and it includes all of the Morrow wells that are anywhere in the vicinity, including not only those for which this application is being presented, but others, as well, whose -- for which the data was examined in preparing this case. I don't think the Examiner has a copy of it, Bill.

MR. CARR No, I think we've got these misnumbered. I think what we're looking at as Exhibit Number Three is actually the graphs --

A. The graphs.

MR. CARR: -- on the Atoka.

A. Okay, I'm sorry. Sorry, we got one out of place here. I'm sorry, Mr. Examiner, that's my fault.

Okay, Three is a presentation of the

individual pressures for each of the Atoka application wells as compared to the entire pressure history of the marker well. There are three graphs together.

MR. STAMETS: Three graphs together represent Exhibit Three.

A. Yes, sir.

MR. STAMETS: And is there a summary sheet such as the first page of Exhibit Two and Exhibit Four which details this?

A. No, sir, this is just graphical presentation of the data that was in -- part of the data that was included in Exhibit Two.

Included in Exhibit Two were the initially measured pressures for all of the wells on a graph and all pressures for all of the wells, and we are now presenting here a one on one comparison of the pressure history for each of the application wells as compared to the marker well alone.

MR. STAMETS: Each page represents one of the wells --

A. Yes, sir.

MR. STAMETS: All right.

A. Represents the pressure history for one of the application wells in the Atoka zone as compared to the

marker well for the Atoka zone, which is applicable, which is the Petroleum Corp. of Delaware Parkway West No. 1

MR. STAMETS: All right.

A. And it was included to simply clarify the data that was -- that was already -- has already been presented to the Commission but to remove the possible confusion that could result from having a lot of data on one graph, just by providing a one on one comparison for each of the pressure history available for the marker well with each of the application wells.

And we believe that it demonstrates clearly that the pressure differences are so large that the likelihood of any pressure communication can be ruled out.

Q. Now will you refer to Exhibit Number Four which is pressure data on Morrow wells in the area.

A. Exhibit Number Four, for the Morrow, is similar to what Exhibit Number Two was for the Atoka, with the exception of the fact that it includes all of the Morrow wells in the area in addition to those for which this application is being presented.

We would -- in referring back to Exhibit Number One, we would remind the Commission that there are five Morrow wells that are the subject of this application, those wells being located in Sections 7, 10, 14, and 15 of --

of this township, 19 South, 29 East. Excuse me, I couldn't see the -- couldn't see the determination there. And those wells are located on the following places on -- on the exhibits presented -- the table that's presented on the initial page of Exhibit Four.

In Section 7 we have the Threshold Development Company Conoco 7 State No. 1, which is the next to the righthand well on the first page of Exhibit Number Four. The most righthand well on Exhibit Number Four is the Threshold Conoco 10-A No. 1-Y, which is located in Unit F of Section 10 and is shown to be a dual completion in the Morrow and Atoka on Exhibit One. It is the most righthand column on the first page of the initial tabulation included in Exhibit Four.

Then on the second page of the initial table that is -- that forms the first part of Exhibit Four we have the Southland Royalty Company Parkway State No. 1, which is one of the application wells, located in Unit K of Section 15, and it is the most lefthand column on page two. Immediately to the right of it is the data for the Southland Royalty Company Parkway "A" State No. 1, which is in Unit H of Section 15. Then immediately to the right of that we have -- or the third column from the left, we have the data for the last of the application wells in the Morrow zone, which is

the Southland Royalty Company State 14 Communitized No. 1, located in Unit E of Section 14.

And we would call the Examiner's attention once again to the variations between wells sometimes adjacent to each other and sometimes not, and the gravities and pressures, variation in pressures to be documented with subsequent portions of this Exhibit Number Four.

The next portion of Exhibit Number Four is a graph of pressure as a function of time for -- of the initially measured pressures. We tried to have a parallel organization of data between the Atoka and the Morrow so that it would, hopefully, would be less confusing.

And immediately behind that is a graph of both surface and subsurface pressures for all reported pressures for the wells that are the subject of this -- these combined applications, as well as the marker wells. We did not include all of the wells that are on the summary table, simply because it would have caused the graph to be so cluttered we felt it would have reduced its usefulness to the Commission in making its finding in the case.

Then along with that we have tabulations of both the initially measured pressures and all measured pressures to document the graphs. This once again is a similar scheme of organization to what was used in the Atoka.

All of this information was extracted from information that's been submitted to the Commission. In fact we have complete copies of the Commission's files from the Artesia District, from which this information was taken, and it was checked against the operator's files in the cases of Petroleum Corp. of Delaware. Threshold Development, and Southland Royalty.

Q Mr. Aycock, will you now refer to Exhibit Number Five and review that data for Mr. Stamets?

MR. STAMETS: Before we go on to Number Five, I'd like to try and understand the last two pages of Exhibit Number Four a little bit more.

A What we're presented to you, Mr. Examiner, is three tabulations in Exhibit Number Four, which is a summary tabulation for the Morrow; then a tabulation of initially measured pressures for the Morrow wells, not all of which are -- come from the summary tabulation are included in the pressure tabulations for purposes of convenience only; and then following that is a tabulation of all observed pressures for the wells, the marker wells and the wells that are the subject of this application in the Morrow zone; and then the last two pages of this exhibit are graphs of the initially observed pressures, both surface and subsurface, for the marker wells and the application wells; and then the final

portion of this exhibit is a graph of all observed pressures for the Morrow application wells and Morrow marker wells, both surface and subsurface. It is the data that is included on the two tabulations of initial and all measured pressures simply presented in graphical form.

MR. STAMETS: Now, are the two wells that you've identified on Exhibit One as the Morrow marker wells the only wells that were completed in the Morrow formation in this area prior to the completion of the wells that we're considering there today?

A. I can't -- no, I don't think so. I'd have to go back and review it, but no, but they are marker wells under the NGPA definition.

MR. STAMETS: Let's clarify this.

VOIR DIRE EXAMINATION

BY MR. PADILLA:

Q. Mr. Aycock, as I understand your use of the words marker wells here, where you determine the words marker well, and as I understand the Natural Gas Policy Act, marker well only applies to the 2-1/2 mile test, or the 1000 foot deeper, but it does not apply to new on-shore reservoirs. So any well that was drilled that does not qualify as a so-called marker well, could potentially disqualify your appli-

cation should -- unless you can show an exception of the behind pipe exclusion.

A. Well, there's no behind the pipe because these were drilled to this objective and completed.

Q. Well, the way I read the Natural Gas Policy Act, the 2-1/2 mile circle doesn't apply to new onshore reservoirs.

A. Uh-huh, that's right.

Q. And your use of the 2-1/2 mile circle here, I don't understand why you use the 2-1/2 mile circle.

A. Because, really, it comes down to this. There's -- the Commission is probably not confused but the operators are confused about what the actual requirements are, and to cover all the bases we presented it in a way that any -- any sort of determination that would need to be made could be made from the data presented.

Q. But theoretically you could have a Morrow reservoir that would extend beyond the 2-1/2 mile circle, could it -- could you not?

A. Yes, but what we are -- what we are attempting to establish here with the data that we're presenting is that all of these wells have a very limited area of effective drainage, and that by each well showing that it is -- its pressure history is essentially equivalent to

what it should be initially, and being radically different for nearby wells, that they're all actually draining individual reservoirs. There's no commonality between them whatsoever.

Q. Therefor we should not look at this circle that you have drawn on this at all.

A. Correct, that's correct.

Q. And we should not pay attention to your- to the way in which you use the words marker well.

A. That's correct.

Q. Okay.

A. We have three people --

Q. You're using -- you're using this same marker well to compare pressures only and you're not trying to confuse us with trying to say that this marker well is --

A. We're saying that these wells were -- would fit the dates of the NGPA, and we're simply showing that their pressure histories bear no relationship to the marker -- to the wells for which this application is being made. We have to try to establish some kind of basis to prove that we're in -- we're in a new on-shore reservoir, and the only way we know to do it is to take the earlier wells that were completed, and they are the marker wells, as a basis.

Q. Let me ask now with respect to this well in Section 10, which is one of the wells that you're seeking a new on-shore reservoir designation, you have that circle drawn between two wells there in Section 10.

A. Right.

Q. Will your evidence show that that well outside the circle is not in communication --

A. Yes.

Q. -- with the well inside the circle?

A. Yes, sir.

Q. Okay. And that will occur with any other well drilled in this plat.

A. Yes, sir, that's right.

MR. CARR: I think it's important to note that this data is presented and these circles just give you a reference point. You can see around the -- whatever you want to call the well that we've been calling the marker well, what falls within the 2-1/2 mile radius, but in preparing this case we tried to look at any data in the area, whether within or without of that 2-mile radius to determine if it could reasonably give us any evidence that would show that we were not in separate reservoirs.

So we didn't hold ourselves to that 2 1/2 mile radius.

MR. PADILLA: The reason I'm asking these questions is because when people have drawn this circle it has not confused us but it has confused the FERC and they have requested information that would -- could extend into the township to the north simply because they wanted to find out whether these other wells to the north were in communication with any of the wells that you --

A. Well, we could see from a cursorial (sic) examination of the completion dates of the wells to the north and their distance on the maps, that if there were any relationship to any wells, they would have to be those we've indicated and not some -- at some other location, particularly in 18, 29.

Mr. Examiner, let me say that we've not included it in our presentation, but we've made estimates to the degree that's possible from the -- from the production behavior that's available on all of these wells and it indicates to us that in the general terms the area which each of these wells is draining is 200 acres or less.

MR. STAMETS: For example, to carry on a little bit more with Mr. Padilla's question, in Section 11 of 19, 29, you do show one of the two wells in there on your exhibit, the No. 2 Well in Unit letter G.

A. You're talking about the Tenneco wells

in Section 11 there?

MR. STAMETS: Right.

A. I believe one of them already has a 102, if I'm not mistaken.

MR. STAMETS: Okay, that's the situation for the No. 1 Well?

A. I believe it is but I'm not absolutely certain. I don't remember. But I know we researched it to the point we determined that one of the two of them already had a 102.

MR. STAMETS: Okay. Then what about the wells, oh, for example, in Sections 5 and 6 of 19, 29?

A. I don't -- I can't tell you what -- what classification they're producing under as far as the NGPA is concerned, if that's what your question is.

MR. STAMETS: I'm trying to determine whether or not those are wells which we need to be considering at this hearing today. For example, the Amoco well in Section 6, if that were a Morrow well completed back in 1976, that might be significant.

A. It was completed 8-29-78. It's Well No. 1 on our summary tabulation here, the most -- it's in Unit C of Section 5, is that the one we're talking about, or the one in 6?

MR. STAMETS: Well, I was talking about the one in Section 6.

A. Okay. Okay, well, we don't have the one in Section 6 on here. We have the one in Section 5 but we don't have the one that's in Section 6 on here.

MR. STAMETS: And I would have similar questions relative to the wells in Section 1 of 19, 28.

A. I would prefer to defer, let Mr. Pace discuss those, if that's all right. He's -- that will be part of his geological discussion.

MR. STAMETS: These wells are going to be brought up and we are going to have some completion dates on them, and I think that will be fine.

A. I won't swear to you, but I think I have a copy of the Commission file for every well in this -- in 19, 29, for sure, with me, and if I do -- I should have, and if I do, then we can -- we can get any dates that you want from them.

MR. STAMETS: Well, let's press on, then. Getting back to these last two exhibits, or the last two pages of Exhibit Number Four, what data on there do you feel is significant relevant to the three wells in question?

A. The pressures are essentially equivalent to what they should be for the depth initially without showing

any depletion in most cases.

MR. STAMETS: And where are the wells which would have depleted these wells?

A Well, I can't tell you. As will -- as will be pointed out when we get into the geological -- how all this occurred. When we get into the geological situation you'll see that frequently the prior existing wells have zones that don't correlate with the nearest ones, but they correlate with some maybe two or three locations away, and so we simply took all the pressures and said let's determine what pressure is normal for each zone for the depth and see how the pressures that have been reported to the Commission compare to that as a basis for determining whether or not there has been -- there's been any depletion.

And the initial pressures by and large for the application wells are close enough to the initial pressures for the depth that we can reasonably conclude there has been, if any depletion, it's been a very minor amount. Of course, realizing that the quality of the data that's reported to the Commission was never intended by the Commission or by the operators to be used for this purpose. It is a requirement, so I can't stand up and swear to you that it absolutely proves it. What I'm saying is inferentially because the pressures are essentially what they should be for

the depth and are extremely higher than some of the nearby wells that have previously produced, that I infer from that that they are a very limited drainage area and that they are not in communication with anything else.

MR. STAMETS: Okay.

DIRECT EXAMINATION CONT'D

BY MR. CARR:

Q. Mr. Aycock, will you now refer to Exhibit Five and review this for Mr. Stamets?

A. Exhibit Five is a pressure comparison between each of the Morrow application wells with wells that we felt were consequential, those being the Hondo Union State Communitized No. 1 TX in Section 17, and all of the wells with the exception of one, which is the Southland Royalty Parkway State No. 1, it is compared to the Petroleum Corp. of Delaware Parkway West No. 2, located in Section 29. And in all cases they indicate that the initial pressures, which is all we have for the application wells, are essentially equivalent to or higher than, whether viewed on a surface or subsurface basis, than the initial pressures of the comparison wells, and more than that at the date at which their completion was affected, they are radically higher than what would be inferred from extrapolation of the trends for the

comparison well, further indicating that there is no -- no pressure commonality between them.

I think we can rule out in all cases for the application wells any drainage from anywhere else, regardless of date, simply because the initial pressures are so high.

Now that would not be true for some of the other wells located in 19, 29, that are not the subject of this application. I can tell you because I looked at them.

Q. Mr. Aycock, will you now refer to Exhibit Number Six and explain to Mr. Stamets what this shows?

A. Exhibit Number Six is a map of the initial pressures and it includes the -- once again does not include the well in Number Six but includes the well in Number -- in Section 5, and shows -- it's color coded for the application wells to show what the difference in the Atoka and the Morrow, and it shows on a geographical basis, as well as a pressure comparison basis, I think you can see what the surface and subsurface pressures are and how they compare with nearby wells, and they are essentially equivalent to initials and they are radically different from other nearby wells.

Q. Now, Mr. Aycock, generally what con-

clusions can you draw from the data presented?

A. That the -- the pressures reported for the application wells, whether in the Atoka or the Morrow, were equivalent to what would be expected for initial pressures as reported to the Commission on Form C-122; that they are not in pressure communication with any pre-existing wells or they would have showed depletion, and they're certainly not in communication with those with which we compared them because there's a radical difference in pressure; and the -- the pressures for some of the intervening wells are even lower than the -- on initial completion are even lower than what they were for the wells with which we compared them; so by inference, if we made -- if we've made a presentation of the same data we would have indicated there was even more difference in pressure than what we've indicated for the comparison wells.

Q. In your opinion was natural gas produced in commercial quantities from any of the subject reservoirs prior to April 20, 1977?

A. No.

Q. Were any of these reservoirs penetrated before April 20, 1977, by any well?

A. No.

Q. In reaching this conclusion did you use

all data reasonably available to you?

A. Yes.

Q. In your opinion would granting these applications result in recovery of additional gas that otherwise would not be recovered?

A. I believe it would because I believe that the fact that we -- the operators are actually looking at limited size reservoirs, if that could be recognized in a regulatory sense where there's a -- where there's a showing that the pressures indicate that there has been no prior gas withdrawal and no commonality, would simply recognize this situation as it exists. It would definitely provide an incentive where that situation does exist to press forward with aggressive development of the gas reserves in these zones.

Q. In your opinion will granting the application impair the correlative rights of any property owner in the pool?

A. No.

Q. Were Exhibits One through Six prepared by you?

A. They were prepared under my supervision, yes.

Q. Can you testify as to their accuracy?

A. Yes.

MR. CARR: At this time, Mr. Examiner, we would offer Applicant's Exhibits One through Six.

MR. STAMETS: These exhibits will be admitted.

MR. CARR: I have nothing further of this witness on direct.

A. I might add, Mr. Stamets, that the - the applications for the 102 determination, including all the prerequisite forms that have been prepared and either will be submitted to the Commission today or as soon as they can be assembled. They are in Mr. Carr's office.

MR. STAMETS: At this point I don't have any additional questions, however, it's possible that when we do begin to review the data --

A. We'll supply anything else that you want, if you'll just tell Bill what it is.

MR. STAMETS: Okay.

A. We already have the data at hand; it's not a question of developing it. It was -- it was a judgmental factor on how much do we try to present at one -- at one point in time. Anything else that you want us to present, we've already got it and we'll be glad to present it similar to the way it's been done, if you want other wells, or in any fashion that would assist you in making your deter-

mination.

MR. STAMETS: Fine. Any other questions of this witness? The witness may be excused.

MR. CARR: At this time I would call Mr. David Pace.

DAVID PACE

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your full name and place of residence?

A. David Pace, 3205 Parklane, Midland, Texas.

Q. By whom are you employed and in what capacity?

A. I am employed by Threshold Developme : Company as Exploration Manager.

Q. Have you previously testified before this Commission?

A. No, I have not.

Q. Will you review your educational back-

ground and work experience for Mr. Stamets?

A. Yes, sir. I received a BS in geology from Texas Tech University in 1976.

After that I was employed by Gulf Oil as a geologist with assignments in Midland, Texas, Odessa, Texas, and Stavanger, Norway. This employment with Gulf lasted 2-1/2 years.

At this time I went to work for Threshold Development Company two years ago in the capacity as Exploration Manager, with my area being assigned that of southeast New Mexico and west Texas, and I was responsible for exploration in these areas.

Q. Are you familiar with the applications filed by Threshold Development Company and Southland Royalty Company in each of the consolidated cases?

A. Yes, I am.

Q. And are you familiar with the subject wells?

A. Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. In preparing for this hearing today, Mr. Pace, did you perform a study on the area which is --

general area which is the subject of these consolidated cases?

A. Yes, I did.

Q. Have you prepared certain exhibits for introduction in this case?

A. Yes, sir.

Q. All right. Will you please refer to what has been marked for identification as Exhibit Number Seven, explain to the Examiner what it is and what it shows?

A. All right. If during the hearings it would apply, would it be possible if I could stand up and point out certain aspects to clarify points?

Exhibit Seven is a structure map which was done on the top of the Lower Morrow formation. The reason for this being that in the course of the study it was felt that it was needed to determine whether these reservoirs were structural or stratigraphic in nature; that being the trapping mechanism used.

The Lower Morrow marker was used as the datum to map on because of its proximity to both the Upper and Lower Morrow formations. There is a lithologic unit in the Morrow formation which is continuous over a very large area, this being a limestone. Due to the fact that this is continuous over a large area and it appears stratigraphically approximately halfway in the Morrow interval, it was felt

that this mapping on this marker would indicate structure applicable both to Upper Morrow, Lower Morrow, and to certain degree, the Atoka formation.

The conclusion of the map indicated, in my opinion, that structure was not a controlling factor in the trapping mechanism, and with other data included, I will attempt to show it is stratigraphic in nature.

Q. Will you now refer to what has been marked for identification as Applicant's Exhibit Number Eight and explain to the Examiner what it is?

A. Yes. Exhibit Number Eight is a stratigraphic cross section.

Q. Now this is different from a structural cross section, I presume.

A. Yes, it is. A stratigraphic -- if I may, I would like to define the difference between the two.

A structural correlation is hung from a datum which is referred from sea level.

A stratigraphic cross section is done on a defineable marker within the formations or geological section.

Q. Now, will you first refer to the index map on Exhibit Eight to orient the Examiner to exactly where this cross section lies?

A As you can see on Exhibit Eight, there is a map which shows where this particular cross section lays in relationship to the township and range.

It shows a series of lines connecting various wells within the application area. I have shown it with a dark line on cross section A on this Exhibit Eight, which shows which wells pertain to the Exhibit Eight in some form of geological relationship which pertains to the application.

Q Now, Mr. Pace, would you explain what all the various colored areas on the logs indicate?

A Yes, sir. I've drawn a series of lines on the cross sections using well logs, taking formation tops and sub-units within the various formations, which I felt were pertinent to zonation of the various reservoirs. I have indicated the top of the Morrow on Exhibit Eight, cross section A-A', with a blue coloring under the line.

And the Morrow formation, I have indicated it with the dark line in addition to which I've differentiated it with a yellow pencil.

And then again, the top of the Barnet formation, which indicates that you're through a complete Morrow formation and into a separate formation that being the Barnet. It is underlined in brown.

Then the series of lines, which in my opinion differentiate separate zonations within these formations, to help facilitate the correlations which I'm attempting to make.

In addition to which on Exhibits B, you will see some separate colors in the Atoka formation I have shown on the gamma ray side of the logs the lithologies there were indicated by sands, I have colored yellow -- excuse me, blue.

Where you have gas effects or an indication of sands and possible hydrocarbon bearing reservoirs, I have colored the gas effect or separation in the curves with red.

Within the Morrow formation, to help identify various sands and reservoirs within it, on the gamma ray side I have indicated what are probably sands within it as colored in yellow.

And then on the right portion of each log I've attempted to show where possible sands exist or hydrocarbons by coloring in gas effect with red.

At the lower part on the righthand side of each individual log, in what I consider to be the Lower Morrow formation, I have attempted to differentiate type fluids that are present in these various sands by cross hatching

either in blue, which indicates water-bearing sands, or in red, which indicates possible gas-bearing sands.

Q Now, Mr. Pace, what have you attempted to show with this exhibit?

A I have attempted to show the lenticular nature of these various sand bodies, thus reservoirs within the Morrow and the Atoka formations. By lenticular I mean that there is a limited areal extent and vertical extent to each individual sand unit.

I would like to also add at this time, I have attempted not to bias the Commission in this hearing in any way by construing what possibly might be considered correlative zones from one well to another as being the same zone, unless there was without a reasonable doubt that they did not correlate with other zones. In other words, although I used some defineable units within the Upper Morrow formation to show these events occur over a wide area, this is based on shale formation, which in my opinion in this particular area carries through and would help subdivide the Morrow into units in which we could determine stratigraphically where these sands lie.

Q Would you now, using Exhibit Number Eight, contrast the wells that are the subject of the application in any of the cases with the other wells depicted thereon?

A. Yes, I will. If I might, I would like to take each individual application well and attempt to show how it may or may not correlate with wells in the area, application area.

First I would like to start with the Conoco 10-A State No. 1-Y in Section 10 of 19 South, 29 East. This well is a dual producer in both the Atoka and the Upper Morrow, and I would like to show, starting with the Atoka, that this zone may or may not be correlative with other zones around it, and with pressure information additionally, supplied by Mr. Aycock, hopefully, that these wells are not in communication with other wellbores.

I show a designation in the Atoka formation as the Atoka Lime. This is a unit I subdivide just to show you that there was a very definite lithologic break at this time, and it is defineable in several wells.

Q. And that is a dark line in the middle of the Atoka pay section on this cross section?

A. Yes, it is. In the application area there is no productive formations below this lime present in the application area, or in any of the application wells which we are presenting today.

In the Atoka formation we're applying for a 102 classification in the Atoka in the Conoco 10 1-Y.

It's shown here with the blue in the gamma ray side and red on the CNL density side, indicating possible gas sands present. The well was perforated from the interval 10748 to 10758.

Q Now, Mr. Pace, when you've been talking about -- the last couple minutes you've been talking about only the Atoka, is that correct?

A Right, I will first take --

Q When you said there was no production below that line that runs midway through the pay section, you meant no production in the Atoka sands.

A That is correct. I will try to clarify that.

Since this well is a dual well, and we're applying for this classification for both the Atoka and the Morrow, I would like to take the Atoka first in the Conoco 10 1-Y and show, attempt to show it is not in pressure communication with other wells outside this, and I will take the Atoka first and then go down to the Morrow and compare it with other wells.

This well was completed in the Atoka on 10-12-1980 from the completion interval that I have above mentioned.

Its initial potential, which was rated at a calculated absolute open flow, was 1,351,000 cubic feet

of gas per day.

At this time I might add that on the purpose of all these exhibits, Eight, Nine, Ten, and Eleven, the data at the bottom, I have shown where the well was completed, the formation it was completed in, the completion date, completion interval, initial potential rated at calculated absolute open flow, shut-in wellhead pressures, shut-in bottom hole pressures, gas gravities, condensate gravities, and GOR.

The coloring used -- the coloring used in the subdivisions within the Atoka and Morrow are carried through on all the exhibits, both Exhibit Seven -- or excuse me, Exhibits Eight, Nine, Ten, and Eleven.

The Atoka formation -- excuse me, may I ask a question at this point?

Q. Uh-huh.

A. I'm not sure of it. When we were -- the discussion that you gentlemen and Mr. Aycock had awhile ago concerning the 2-1/2 mile radius as opposed to a new on-shore reservoir, I'm a little unsure about how this classification is understood for the purpose of this hearing and I'd like to clarify it so that possibly my presentation here will be a little clearer.

MR. STAMETS: Let's go off the record

to do that here.

(There followed a discussion off the record.)

(Thereupon a recess was taken.)

MR. STAMETS: The hearing will come to order. Mr. Carr, you may proceed.

Q. Mr. Pace, will you now refer again to what has been marked for identification as Exhibit Number Eight, refer to each of the wells that's involved in the application and explain how they relate to any other well drilled in the area prior to April 20, 1977?

A. Yes, sir, I will.

In the search for our data, it was determined that there was only one well within a reasonable area which penetrated these formations or produced from these formations prior to April 20, 1977.

Q. And which well was that?

A. That was the Hondo Drilling No. 1 Union "TX" State Com No. 1, located 660 from the south line, 1980 from the west line, Section 17, Township 19 South, Range 29

East.

Q. And that was the first well drilled in this area.

A. Yes, it was.

Q. Were there any other wells drilled after that but also prior to April 20, 1977?

A. No, there were not.

Q. When you say the only other well in a reasonable area, do you mean a reasonable area from each of the wells which are the subject of the applications in these consolidated cases?

A. Yes, sir, I do.

Q. And what do you mean by reasonable area?

A. By reasonable area I mean in this case 2-1/2 miles.

Q. Is that generally what you -- the area you searched as a rule of thumb?

A. Yes, it is. We felt like anything over 2-1/2 miles would not be applicable to these cases.

Q. Okay, now would you go back to the exhibit and show the Examiner what conclusions you can draw from it about the productive intervals in the wells that are the subject of the applications and the older wells in the area?

A. Okay. In the case of Threshold Development Company's Conoco 10-A State No. 1-Y application for 102 classification in the Atoka, I would like to compare this well with the Hondo "TX" Well in the Atoka interval.

As you can see, there is a productive sand present in the application well from 10748 to 10758. This zone is not present in the Hondo "TX" well which penetrated this formation prior to April 20, 1977. I think it can be clearly shown from Exhibit Eight that there was no other well within this area that penetrated this zone prior to April 20, 1977.

Now I would like to go to the Morrow formation and compare for the purposes of Threshold Development's application for a 102 classification in the Morrow for the Conoco 10-A State No. 1-Y. For the purpose of this hearing I will just take the 10 1-Y and compare it with the Hondo -- or the Hondo Drilling Union "TX" State Com No. 1, unless other data is pertinent to this case.

The application well was completed in the Upper Morrow formation from an interval from 113 -- excuse me, 11296 to 11308 in the Upper Morrow formation.

This zone, which we feel is geologically equivalent to the zones completed in the Union "TX" Well -- if I might, hereafter I'll just refer to it as the "TX" No.

1 -- within an interval that might be geologically reasonable --
reasonably geologically be equivalent to the zone in the ap-
plication well.

In my opinion these two zones do not correlate, but that is my opinion and I think it can be clearly shown with pressure data supplied by Mr. Aycock that these zones are not producing from the same reservoir.

Q. Is there production from the Lower Morrow in this well?

A. No, there is not. Again, for the purposes of these applications, I would like to state that there are no wells within a reasonable area of all the application wells which produce from what is called the Lower Morrow zone prior to April 20th, 1977. Therefor, any wells completed within the application area from this zone should be considered for a 102 application.

Q. All right, will you now refer to the next application well that appears on Exhibit Eight?

A. Yes, sir. This is Threshold Development Company's application for a 102 determination concerning the Conoco State 10 No. 1, located in -- located 1980 from the south line, 660 from the east line of Section 10, Township 19 South, Range 29 East.

Again the only well which -- within a

reasonable area which penetrated this formation prior to April 20th 1977, was the Union Texas State Com No. 1.

The Conoco State 10 No. 1 was completed from the Atoka formation in the interval from 10774 to 10790. This is in the Atoka formation. This zone is not present in the Union Texas State No. 1. Therefor, I conclude that this well should be considered for 102 classification.

Q. Is there Morrow production in that well?

A. No, sir, there is not.

Q. Is there anything else you would like to show the Examiner by using Exhibit Number Eight?

A. Yes, sir, if I might, for the purposes of these hearings I would like to point out that these zones within the formation in a lot of cases do not appear in off-setting wells: whereas, they might appear in wells which are two and three and four locations apart, again, clearly pointing out that even though they may appear to geologically fall within an area that could be correlative, there is sufficient data within the area to indicate these are relatively small reservoirs that do not have continuity over a large area.

MR. STAMETS: While you're right ther Mr. Pace, even if zones two, three, and four locations apart did show up to be correlative, in your opinion would those actually be the same reservoir in most instances, or would

those normally be isolated reservoirs, even though they gave the appearance of being the same reservoir?

A. They would normally be different reservoirs.

MR. STAMETS: Okay, thank you.

Q. Mr. Pace, have any of these wells depicted on Exhibit Number Eight already qualified for a 102 price under the NGPA?

A. Yes, sir, I believe the Tenneco Oil Corporation State "HL" 11 No. 1, located 660 from the south line, 1980 from the west line of Section 11, Township 19 South, Range 29 East, has received a 102 classification in the Atoka formation, in a zone that might -- would be considered correlative with the two zones considered by Threshold for their 10 1-Y and their 10 Com No. 1 applications.

Q. Will you now refer to the applicant's Exhibit Number Nine and would you list for the Examiner -- are the -- have you used the same color coding on all of these exhibits?

A. Yes, sir, the explanation I made for Exhibit Number Eight will apply to Exhibits Eight, Nine, Ten, and Eleven. This theme has been continued throughout all four exhibits.

Q. Now on this cross section do you have

some of the same wells that appeared on the A-A' cross section?

A. Yes, sir, I do. I have attempted to show on this cross section all wells which pertain to the application. Of these wells two, which were within a reasonable area and penetrated either the Morrow or the Atoka formation prior to April 20, 1977. In this particular case the Union Texas State Com No. 1, which I referred to with, and in accordance with, Exhibit Number Eight, is a well which did penetrate this prior to the April 20 date, so I have included it on this cross section.

Q. Will you now refer to any wells that are the subjects of the application and contrast them with that well?

A. Yes, sir. I would like to refer to Southland Royalty's Parkway State No. 1 application for 102 determination in the Morrow. It is located 1980 from the south line, 1980 from the west line of Section 15, Township 19 South, Range 29 East.

This well was initially completed in the Lower Morrow formation from interval 11 -- an overall interval -- excuse me, I would like to take each individual interval -- originally completed in intervals 11418 to 11426, 11430 to 11448, 11496 to 11520. These intervals do appear in what is called the Lower Morrow formation.

This well was initially completed on 6-28-1978 from the Lower Morrow interval and produced gas from this formation. The zone consequentially depleted in the Lower Morrow and it was recompleted in the Upper Morrow formation.

The intervals which it was recompleted in are as follows: 11201 to 11205, 11208 to 11227, 11236 to 11242, 11260 to 11267, 11269 to 11280. These perforations are within the Upper Morrow formation. They straddle several intervals in which I have designated within the cross section area, the purpose for this being -- also some of the perforations, the lower two intervals of perforations, fall within a zone which might be reasonably correlated with the Lower Morrow formation in the Union Texas State Com No. 1, some of which also fall above that interval in Union Texas No. 1. I believe that it can be reasonably shown by the pressure data presented by Mr. Aycock that this well should be considered for a 102 classification in the Morrow formation.

On this cross section I would also like to refer to Southland Royalty's Parkway state No. 1-A, 102 application -- it's an application well for a 102 determination in the Morrow formation.

This well was completed on March 29th, 1979, from Upper Morrow perforations from 11178 to 11186.

This interval is geologically higher in the section than the Union Texas State No. 1, and therefor I conclude that it is not producing from the same reservoir in which the Union Texas State Com No. 1 is producing, and therefor feel it should be considered for a 102 determination in the Morrow formation.

In addition to which on Exhibit Nine, I would like to discuss Southland Royalty's State Com 14 No. 1, which again is applying for a 102 determination in the Morrow formation.

The well was completed on March 14, '79, as a dual completion in the Atoka and the Morrow. At this time I would like to talk about particularly the application of this well in the Morrow formation, and I will come back to the Atoka application for the purposes of this hearing.

The intervals in which the Southland Royalty State Com 14 No. 1, located 1980 from the north line, 660 from the west line of Section 14, Township 19 South, Range 29 East, is completed in in the Morrow is from an interval at 11214 to 11218 and from 11230 to 11238, 11306 to 11312.

The lower interval in which discussed from 11304 to 11312 is the only interval perforated in this well which might reasonably be considered as a zone correlative to the Hondo Drilling Union "TX" State Com No. 1. The other sets of perforations are in intervals which lie above

the particular zone which does correlate across the area.

It can be reasonably shown by pressure information and reservoir data supplied by Mr. Aycock in this hearing that these two wells are not in communication with each other; therefor not in the same reservoir; and that they should be considered for a C-102 determination in the Morrow formation.

At this time I would like to refer to the same well, Southland Royalty's State Com 14 No. 1, and its application for C-102 determination in the Atoka forma tion.

This well was completed from the Atoka formation on July 27th, 1980, from Atoka perforations 10760 to 10768. This zone that is present in the application well is not reasonably present or is not at all present in the Hondo Drilling Union "TX" State Com No. 1; therefor I feel it should be considered for a 102 determination in the Atoka formation.

And that, Mr. Carr, is all the wells on Exhibit Nine which are being applied for in this hearing.

Q. Will you now proceed to discuss Exhibit Number Ten, your cross section C-C'?

A. Yes, sir. Again at this time I would like to point out that factors used and correlative points

on Exhibit Ten are the same as have been used in Exhibit Nine.

At this time, within a reasonable area of wells used, I will point out the application well and any wells which reasonably penetrated the Atoka and the Morrow formations prior to April 20, 1977.

I would first like to refer to Southland Royalty -- or application well Southland Royalty Parkway State No. 1, located 1980 from the south line and 1980 from the west line of Section 15, Township 19 South, Range 29 East, which is applying for a 102 determination in the Morrow formation.

This well was completed from Upper Morrow perforations of 11201 to 11280. This well was also initially completed from perforations which do occur in the Lower Morrow formation. It was initially perforated from 11428 to 11436, 11440 to 11460, and from 11496 to 11510.

This well was produced from the Lower Morrow formation until a time in which the zone had depleted and it was found necessary to recomplete in the Upper Morrow formation.

I would also like to point out at this time that none of the other wells which are within a reasonable area which penetrated the Lower Morrow formation prior to April 20, 1977, none of these wells produced from the Lower

Morrow formation.

The Southland Royalty Parkway State No. 1 application contains some wells within a reasonable area which penetrated the Morrow and the Atoka formations, and I would like to discuss those wells at this time.

The Petroleum Corporation Parkway West No. 1, located 660 from the north line, 1980 from the west line of Section 28, Township 19 South, Range 29 East, was completed as a dual Atoka and Strawn producer on March 26th, 1973. As Mr. Aycock brought up in his testimony, we are not-- the Strawn formation is not applicable to this case and therefor will not be discussed.

The well was completed in the Atoka formation, that well being the Parkway West No. 1, in Atoka formations from 10578 to 10588 in the Atoka formation, which -- which lies stratigraphically higher in the section than all application wells which we referred to in this hearing. By that I mean it is not geologically equivalent with any of the other Atoka applications which are being brought up in the hearing today.

Therefor, I would like to suggest that this well as an Atoka marker well, or well that produced gas in commercial quantities prior to April 20, 1977 not apply to the Atoka applications. This zone is not correlative with

any other Atoka zones in which we're applying for a 102 classification.

I would also like to compare the Southland Royalty Parkway State No. 1, which is the application well for a 102 determination in the Morrow,with another well which did penetrate the Atoka and Morrow formations prior to April 20, 1977, that well being the Petroleum Corporation Parkway West Unit No. 2.

This well was completed in the Upper Morrow formation from a completion interval of 11110 to 11149. This well was completed on December the 2nd, 1974.

This well was completed in two separate perforated intervals in the Upper Morrow formation. The intervals in which it was perforated, those being 11110 to 11114, and 11141 to 11149, could reasonably be inferred to be in zones correlative to the application well, that well being Southland Royalty Parkway State No. 1.

I do not feel that these two wells -- zones are correlative, but for the purposes of this hearing, I think it can be clearly shown they are not producing from the same reservoir by the information that Mr. Aycock has supplied for the hearing.

Therefor I feel that the Southland Royalty Parkway State No. 1 should be considered for a new

on-shore reservoir classification in the Morrow formation.

The second application well I would like to talk about on this Exhibit Ten is the Southland Royalty Parkway A State Com No. 1, located 1980 from the north line, 990 from the east line of Section 15, Township 19 South, Range 20 East.

This well is being applied for a 102 classification in the Morrow formation.

In our search for wells which did penetrate the Morrow prior to April 20th, 1977, the two previously mentioned Petroleum Corporation wells were the only two within a reasonable area which did penetrate the formation, and I would like to compare the application well with the two Petroleum Corporation wells at this time.

The Parkway A State Com No. 1 was completed from Upper Morrow perforations 11177 to 11185. These perforated intervals could be correlated to a perforation -- let me regress.

These perforations might be inferred to be within the zone correlative with the Petroleum Corporation Parkway West No. 1. That interval in the Parkway West No. 1 which could be within this interval is from 11206 to 11212.

For the purpose of this hearing I will try not -- attempt not to show that the zones do correlate,

but I feel there is reasonable evidence from the data supplied by Mr. Aycock in this hearing, with pressure and reservoir data, that these two wells are completed within the same reservoir.

Therefor I recommend that the Southland Royalty Parkway State Com No. 1 be considered for a 102 determination in the Morrow formation.

I would also like to add at this time that in the Southland Royalty Parkway State Com No. 1 there is an interval in the Atoka formation of this well which reasonably correlates with the two wells previously considered in this hearing, that being Threshold Development's Conoco 10-A State No. 1-Y and the Conoco 10 State Com No. 1. We have shown -- we have attempted to show that this zone in the Atoka is not correlative with anything -- any wells which penetrated the Atoka prior to April 20th, 1977, and that I feel if an attempt is made to Southland Royalty to recomplete this well in the Atoka formation from a zone in the Atoka at 11758 to 11770, it should be considered at that time for a possible 102 classification in the Atoka formation.

This third well on this cross section which I would like to discuss, is Southland Royalty State Com 14 No. 1, located 1980 from the north line, 660 from the west line of Section 14, Township 19 South, Range 29 East,

which is applying for a 102 application determination in the Morrow formation.

This well was perforated in an Upper Morrow interval from 11214 to 11238 overall. These perforations cover several intervals in which I have subdivided the Morrow formation and could reasonably be assumed to correlate with the Petroleum Corporation Parkway West No. 1 and the Petroleum Corporation Parkway West No. 2.

It is clearly shown by the pressure and reservoir data that Mr. Aycock supplied that this well -- the reservoirs producing in this well are not present in any other wells, so therefor I feel like this well should be -- this well should be considered for a 102 application determination in the Morrow formation.

Q. Is there anything else you want to present using your C-C' cross section?

A. Yes, there is. I would also like to discuss Southland Royalty's application for a 102 classification in the Atoka in this well, that well being the Southland Royalty State Com 14 No. 1.

This well was dually completed with the Upper Morrow in the Atoka formation from a completion interval of 10760 to 10768 on July 27th, 1980.

It is my opinion that the zone present

in the Atoka in which the well was perforated and completed in the Atoka is correlative with the Atoka zone applied for by Threshold in the Conoco 10-A State No. 1-Y and the Conoco 10-A State No. 1. With the evidence presented in talking about the two wells,the two Threshold wells, I believe it was clearly shown that this Atoka zone was present in no other wells within a reasonable area; therefor I feel it should be considered for a 102 classification in the Atoka formation.

Q. Mr. Pace, do you intend to offer the D-D' cross section in this hearing?

A. Yes, I do.

Q. The D-D'?

A. Oh, no, sir, I do not, excuse me. For the purpose of this hearing there are only four cross sections being brought up as exhibits, those being stratigraphic cross sections A-A', B-B', C-C', and E-E'.

Q. Will you now refer to E-E' cross section being your Exhibit Number Eleven, and review this for Mr. Stamets?

A. Yes, sir, I will.

For the purposes of talking about E-E', I would like to point out again the theme used in the three previous exhibits has been carried throughout and does apply to Exhibit Number Eleven.

This cross section will be used to attempt to show the reason for Threshold Development Company's application for a 102 determination in the Morrow formation on the Conoco 7 State No. 1, 660 from the south line, 1980 from the west line of Section 7, Township 19 South, Range 29 East.

This well was completed from Upper Morrow formation from an interval of 11036 to 11050 and was completed on May 8th, 1980.

I would like to compare this well at this time with two other wells within a reasonable area, which did penetrate the Morrow formation on or before April 20th, 1977.

The first of those two wells being Hondo Drilling's Union "TX" State Com No. 1, which was completed from Upper Morrow -- which was completed from Upper Morrow perforations of 11144 to 11202 on August the 13th, 1974. This interval in which the Union "TX" State No. 1 was completed from could reasonably be correlated with the perforated interval in the Conoco 7 State No. 1.

I do not believe that the interval in the Conoco 7 State No. 1 is the same reservoir as occurred in the Union "TX" State No. 1, the reason for that being there's a well drilled in the north half of Section 7,which would fall geologically between the two wells, is a dry hole.

The interval in question, that being the perforated intervals in the Union "TX" State Com No. 1 and the application well, Conoco 7 State No. 1, was drill stem tested and found to be nonproductive. The interval tested occurred from 11116 to 11221, was open for 2-1/2 hours, they had gas to surface in 45 minutes at a rate too small to measure.

In addition, they recovered 280 feet of drilling mud. This well was plugged and abandoned after reaching a TD in the Barnet formation without -- without making a commercial producer in the Morrow or any other formation, and was plugged and abandoned on 3-29-77, therefor giving evidence that there is there -- the application well Conoco 7 State No. 1 is not in the same reservoir as was encountered from the Union "TX" State No. 1.

Also shown on Exhibit Eleven is another, a second well which did penetrate the Upper Morrow formation prior to April 20th, 1977, that being the Petroleum Corporation Parkway West No. 2.

The Parkway West No. 2 is completed in Upper Morrow perforations from 11110 to -- excuse me, 11149 which might be reasonably considered to be correlative with the reservoir being applied for in the Conoco 7 State No. 1. I think it can be clearly shown by Exhibit Eleven that there are several wells between the two which would be geologically

in line with the two; therefor most likely to have the same reservoir present. There is two dry holes between the application well and the well referred to, the Parkway West Unit No. 2. Those two wells being dry holes are the Petroleum Corporation Parkway West Unit No. 4 C, located 660 from the north line and 1980 from the west line of Section 20, Township 19 South, Range 29 East, and the Hondo Drilling Exxon State Com No. 1, located 660 from the north line and 1980 from the west line of Section 7, Township 19 South, Range 29 East. Both these wells were plugged and abandoned without establishing commercial production from the interval in question on the application well.

Therefor, I feel that the Conoco 7 State No. 1 should be considered for a 102 determination in the Morrow formation.

Q. Does that conclude your testimony from cross section E-E'?

A. Yes, it does.

Q. Would you like to sit down?

A. Yes.

Q. Mr. Pace, would you briefly just summarize the conclusion you can draw from the data you've presented?

A. Yes, sir. After the geological study was made it was felt that several conclusions could be made

about the area in general, which would apply to the application of all six wells referred to in this hearing.

Those comments that I feel could be made and are pertinent to the case are that there. one, there is a tremendous variability of lithology which exists both vertically and areally within the pool limits.

Two, that any correlation of reservoirs from wellbore to wellbore is tenuous at best within the application area.

Thirdly, that there was a significant variation in reservoir and/or fluid characteristics, for example, such as fluid gravities, separator gas gravities, fluid types, gas/oil ratios, and reported reservoir pressures from wellbore to wellbore within what might appear to be geologically correlative reservoirs, thus indicating, in my opinion, you do have separate reservoirs existing in each wellbore.

Fourthly, also the fact that none of the marker wells within the application area produced from the Lower Morrow formation; therefor, any commercial completions in the application area should be considered as a new reservoir in the Lower Morrow.

As a result of these conclusions it is felt that all application wells should be considered favorably

for a new on-shore reservoir determination.

Q. Is it fair to summarize part of what you've said as being that even where the wells appear to correlate due to the nature of the Morrow they may not be in communication and in fact you may have separate reservoirs?

A. Yes, sir, that is correct.

Q. Now, Mr. Pace, when Threshold drills a well out in this area, are you looking for a reservoir that appears in an offsetting Morrow well, for instance?

A. No, sir, due to the nature in which we feel the reservoirs in this area are we approach a new well, approach drilling a new well from the standpoint that when we drill the well we will encounter several zones or several reservoirs which more than likely -- which we have never encountered before in this area; that the reservoirs encountered by any new wells would not penetrate any of the zones or reservoirs penetrated in any of the other wells in the surrounding area.

Q. So what you're actually looking for is a new reservoir.

A. Correct.

Q. In preparing this data have you reviewed all data and information which has reasonably been available to you?

A. Yes, sir, I have.

Q. Were Exhibits Seven through Eleven prepared by you?

A. Yes, sir, or under my supervision.

Q. And can you testify to their accuracy?

A. Yes, sir, I can.

MR. CARR: At this time, Mr. Stamets, we would offer Applicant's Exhibits Seven through Eleven.

MR. STAMETS: These exhibits will be admitted.

Q. Now, Mr. Pace, a few minutes ago while Mr. Aycock was testifying, certain questions were raised concerning the wells drilled in Section 1 of Township 19 South, Range 28 East, and in Sections 5 and 6 of 19 South, 29 East.

Can you give the Examiner any information concerning those wells?

A. Yes, sir, I can. Questions were raised about wells in Section 5, in Section 6, of Township 19 South, 29 East, and also wells in Section 1 of Township 19 South, and Range 29 East, excuse me, 28 East. That should have been Section 1, Township 19 South, Range 28 East.

I would like at this time to take each one of these wells that was brought up and discuss a little

bit about what we knew prior to the hearing about these wells and why we did not bring them up in the hearing.

The first point being all the wells referred to in Sections 5, 6, and 1, were drilled after April 20th, 1977, and secondly, that there was sufficient data in our opinion that indicated that all of these wells in 5, 6, and 1 did not pertain to the matters being brought up in this hearing and on each application which we've presented today. There is sufficient data to indicate that there is no reservoir continuity with the application wells, whether it be dry holes, any type of reservoir data, or geological correlations, this indicating that they did not pertain to the applications brought up today. Therefor, we did not consider them to be within a reasonable area of the 102 determinations in which we were seeking a determination.

Q. Do you have anything further to add to your testimony?

A. No, I do not.

MR. CARR: I have nothing further of this witness on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Pace, during the break we were dis-

cussing the manner in which this study was conducted, and I believe I understood you to say that all the wells within 2-1/2 miles of the wells that you're seeking a determination for today had been examined, all the records on these wells had been examined.

A. Yes, sir, that is correct.

Q. And the only wells that you found in this study area which were important to this case, wells which had produced and which might have disqualified the wells in question, are those which you've identified as "marker wells" on Exhibit Number One.

A. Yes, sir, that is correct.

Q. Okay, fine.

A. In our search in the application area those were the only three wells which we found found and felt were applicable to this case.

Q. And the other wells didn't qualify for consideration because of the dates that they were drilled or the formations that they penetrated and whatnot.

A. Yes, sir, that is correct.

Q. Now on a few of the exhibits as you were going around here, I noticed that you referred to Lower Morrow perforations which have been abandoned. Your application today does not concern Lower Morrow zones which have been

abandoned, does it?

A. No, sir. It doesn't. The reason for that being since the wells have -- the zones have been abandoned in the Lower Morrow and recompleted in the Upper, I was unsure as to whether you could go back and make an interim filing if you presented the Lower Morrow and be reimbursed for the difference in classification; therefor I felt it was not applicable to bring that up in this hearing.

Q. I hope you're right.

A. One of the reasons for pointing that out is I felt that it did indicate, help indicate that what might appear to be reasonably correlative zones, whether it be in the Upper Morrow or the Lower Morrow were not correlative and therefor were not from the same reservoirs.

In zones from which they did produce gas from the Lower Morrow you would find a lot of times an offsetting well in what -- in a zone that might appear to correlate with the produced interval, had been tested and shown to be wet; therefor indicating in my opinion that you were looking at separate reservoirs.

I felt it just added credence to the very small areal extent of the reservoirs.

MR. STAMETS: Any other questions of this witness? I've got a couple of questions of the previous

witness.

MR. CARR: I intend to recall him.

MR. STAMETS: Very good.

You may be excused.

MR. CARR: At this time I'd like to recall Mr. Aycock.

WILLIAM P. AYCOCK

being recalled as a witness and being previously sworn upon his oath, testified as follows to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q. Mr. Aycock, I would like for you to refer briefly to the Applicant's Exhibit Number One and explain how you went about defining the area of interest for the study that you made for this hearing.

A. What we did was to look at two things, the earliest dates of wells that penetrated the zones that are the subject of applications in this combined hearing, and the proximity of those wells to dry holes that exist that have tested them thoroughly. And we found that there, as Mr. Pace and I both testified, that there are four wells that were -- that penetrated all or a combination of the zones

that are the subject of this application in various wells prior to April 20th, 1977.

Those are all indicated as being marker wells on our Exhibit One and the reason the term marker well was used is that this conforms to the general classification that's presented in the preamble to the actual statute that established the Natural Gas Policy Act of 1978 in the U.S. Code, as we printed there.

We felt that because of those wells that had been completed prior to April 20th, 1977, the most important one was the Union -- was the Hondo Union Texas State No. 1 in Section 17, because it has -- it has accumulated the largest amount of gas production and is located centrally with regard to -- approximately centrally with regard to the application wells.

We would like to point out to the Examiner that there is a dry hole in these Pennsylvanian zones approximately 1320 feet due south of the Union -- of the Hondo Union Texas State No. 1, that being the Petroleum Corporation of Delaware Parkway West No. 4-C in Section 20. There is a dry hole to the southwest of the Hondo Union Texas State No. 1 in Section 19, 19, 29, that being the Coquina Flag State No. 1 that's approximately 3/4 of a mile away; and there is a dry hole in the north part of Section 17 approximately 7/8

of a mile from the Mondo Union Texas State No. 1, that being the Mondo No. 1 Exxon State.

We felt that under most people's definition of a reasonable area, that you could say that inside the boundary that was defined by all these dry holes could really be considered a reasonable area to consider about any of the application wells, but to bend over backward and so as not to attempt to be -- to give the impression that we were trying to bias the Commission or take advantage of the rules, we exceeded that -- those distances by a factor of at least two in the area that we considered, and within that area we looked at all of the wells and all of the data that was available and we also noticed that the other -- of the other wells that predated the April 20th, '77, one of them being the Petroleum Corporation of Delaware Parkway West No. 2, located in Section 29 of 19, 29, has a dry hole in the far southwestern corner of Section 29, approximately 5/8ths of a mile away from it in this zone, and a well that has been plugged and abandoned in the Pennsylvanian zones immediately to the south of it in Section 32, approximately 7/8ths of a mile southwest of that -- of that quote marker well unquote, and the -- the third of the four wells that existed prior to April 20, '77, is the H. L. Brown Yates Federal No. 1 in Section 30 of 19, 30, and that well has been plugged and

abandoned, and it is further away from any of the application wells than the wells that we have considered as being a basis for comparison in this case.

So we felt like the fact that we had -- and in addition to that, the nearest well to one of our application wells, that being the Threshold Conoco State No. 7 is the dry hole located in Unit C of Section 17 that's been previously referred to in discussing the Hondo Union Texas State, and that the -- all of the wells in Section 6 and 1 about which the Commission has inquired are further away from the remaining wells that are the subject of this application than is a dry hole in the south half of Section 5.

In substance we've in considering the areas that should be analyzed in this application, we felt like it ought to be large enough to give a reasonable sampling of what the experience had been and certainly larger than the area that would be encompassed by the nearest dry holes to the marker wells as determined by those that were existent at April 20th, 1977, and that is what we did.

And in summary of the case that's been presented here, we feel like there are several pertinent points that should be or we hope will be consequential that the Commission will consider in making its findings.

Number one, we think we've shown that

the available pressure information indicates that the continuity of the reservoirs that are included in these applications is limited and that the early -- the wells that existed at April 20th, 1977, reasonably do not appear to be in pressure communication with any of the wells that are the subject of this application because of large -- because of two facts: Number One, the initial pressures for the application wells are essentially equivalent to the wells that existed at April 20th, '77, and those wells that existed at April 20, '77, that are still producing have pressures as of the date of completion of the application wells far below them, thousands of pounds below them, so far below them that it is not reasonable to assume that the pressures bear any relationship to each other whatsoever.

And the additional fact that we think is important for the -- to consider in the finding, is that even where zones appear to be geologically correlative, the great variation in quality as well as the variation in fluid content that has been demonstrated, in addition to the variations in pressure, all tend to verify that all of the reservoirs are of very limited areal extent, as far as -- as long as the areal extent is defined as the amount of area in any of these zones that can be effectively drained by a single wellbore.

As we testified during the initial part of the hearing, in general the wells appear to be draining 200 acres or less, based upon the comparison of their pressure performance and the reservoir pore space as logged.

Q. Mr. Aycock, for how long have you been dealing with the Morrow formation in southeastern New Mexico?

A. About twelve years.

Q. How many different wells would you estimate you've advised clients on in the Morrow?

A. Hundreds. At one time we had analyzed every Pennsylvanian producing well in Eddy County, New Mexico. I haven't kept that experience up, but I would say on the order of 300 or 400 wells I've looked at over a period of from 1970 on.

Q. In your experience dealing with the Morrow formation, is it your understanding of this formation that it is productive over large areas?

A. Neither the -- with a few notable exceptions, neither the Atoka nor the Morrow formations exhibit pressure continuity over large areas.

There are two exceptions to that that the Commission is aware of, the one is the James Ranch well that Shell had and that is in a very limited Atoka sand that appears to have -- be draining a very large area, and the

other is the Morrow formation in the CAtclaw Draw Pool. The rest of them by and large do not drain the areas that are assigned to them, the acreage that is assigned to them.

Q The information you've reviewed concerning the subject area, I direct your attention to that and ask you if that would indicate to you that you have a situation like either of these --

A. No.

Q. -- exceptions you've just noted.

A. No, definitely not.

Q. In your opinion if you get a Morrow well on one location is it likely that you will encounter a productive Morrow sand at the same -- in the same interval at the next location?

A. Probably not, and even if it is in the same interval, the chances of it being in effective pressure communication with one it offsets is poor, as is demonstrated by the dry holes that straddle the Hondo Union Texas No. 1 and the dry holes in proximity to the Petroleum Corp. of Delaware Parkway West No. 2.

Q Based on your experience in dealing with the Morrow and your understanding of the formation in the subject area, do you believe that you have considered an area large enough to give you all possible data you would

need to make your -- reach the conclusions you've reached in this area?

A. I believe, as we previously said, that we've bent over backward to include an area really larger than that so that the Commission and the regulatory bodies would not get the idea that we were trying to give them a loaded case.

Q. In your opinion do each of the wells which are the subject of the applications consolidated in this hearing qualify for a 102 determination?

A. Yes, sir, I believe they do.

MR. CARR: I have nothing further of this witness.

MR. STAMETS: Any further questions of the witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

If there is nothing further, the hearing is adjourned.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

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

_____, Examiner
Oil Conservation Division

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX [illegible]
STATE LAND [illegible]
SANTA FE, NEW MEXICO [illegible]
(505) 827 [illegible]

May 6, 1981

Re: CASE NO. 7189
ORDER NO. R-6680

Mr. William F. Carr
Campbell, Byrd & Black
Attorneys at Law
Post Office Box 2208
Santa Fe, New Mexico

Applicant:

Threshold Development Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7189
Order No. R-6680

APPLICATION OF THRESHOLD DEVELOPMENT
COMPANY FOR AN NGPA DETERMINATION,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 11, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 4th day of May, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Threshold Development Company, seeks a determination by the Division, in accordance with Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the appliceble rules of the Federal Energy Regulatory Commission, that its Conoco 7 State Well No. 1 located in Unit N of Section 7, Township 19 South, Range 29 East, NMPM, Eddy County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in the Morrow formation with perforations from 11,036 feet to 11,050 feet, and a plugged-back depth of 11,223 feet after having been drilled to a total depth of 11,610 feet.

(4) That although there are wells in the general vicinity of the subject well which have penetrated and are or were completed in the Morrow formation, which wells might disqualify

the subject well from a category 102 determination, pressures and productive capacity encountered in said Conoco 7 State Well No. 1 as compared to said wells are completely distinctive and are indicative of non-communication therewith.

(5) That the combined geological and engineering data presented establishes that said Conoco 7 State Well No. 1 has been completed in a new onshore reservoir as defined by the provisions of Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Conoco 7 State Well No. 1, located in Unit N of Section 7, Township 19 South, Range 29 East, NMPM, Eddy County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

S E A L

fd/

CASE 7170: (Continued from February 25, 1981, Examiner Hearing)

Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka and Morrow formations for its Conoco 10A State Well No. 1Y in Unit F of Section 10, Township 19 South, Range 29 East.

CASE 7189: Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Morrow formation for its Conoco [illegible] State well No. 1 in Unit N of Section 7, Township 19 South, Range 29 East.

CASE 7190: Application of Threshold Development Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka formation for its Conoco 10 State Com. Well No. 1 in Unit I of Section 10, Township 19 South, Range 29 East.

CASE 7191: Application of Southland Royalty Company for an unorthodox well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location in the Potash-Oil Area of its State "14-A" Com. Well No. 1 1325 feet from the North line and 2303 feet from the East line of Section 14, Township 19 South, Range 29 East, Turkey Track Field.

CASE 7192: Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Morrow formation for its Parkway A State Com. Well No. 1 in Unit H of Section 15, Township 19 South, Range 29 East.

CASE 7193: Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka and Morrow formations for its State 14 Com. Well No. 1 in Unit E of Section 14, Township 19 South, Range 29 East.

CASE 7194: Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Morrow formation for its Parkway State Well No. 1 located in Unit K of Section 15, Township 19 South, Range 29 East.

CASE 7195: Application of Southland Royalty Company for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Atoka and Morrow formations for its State 14 Well No. 1-A in Unit B of Section 14, Township 19 South, Range 29 East.

CASE 7196: Application of Dinero Operating Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox location 1980 feet from the North line and 660 feet from the West line of Section 15, Township 22 South, Range 28 East, Pennsylvanian formation, the N/2 of said Section 15 to be dedicated to the well.

CASE 7153: (Readvertised)

Application of C & E Operators, Inc. for compulsory pooling and a non-standard proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mesaverde formation underlying a 158.54-acre non-standard gas proration unit comprising the SW/4 of Section 8, Township 30 North, Range 11 West, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well, and a charge for risk involved in drilling said well.

CASE 7197: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating and extending vertical and horizontal limits of certain pools in Chaves, Eddy, and Lea Counties, New Mexico:

(a) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the Bilbrey-Morrow Gas Pool. The discovery well is Getty Oil Company Getty 32 State Com Well No. 1 located in Unit G of Section 32, Township 21 South, Range 32 East, NMPM. Said pool would comprise:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM
Section 32: E/2

CAMPBELL, BYRD & BLACK, P.A.
LAWYERS

JACK M. CAMPBELL
HARL D. BYRD
BRUCE D. BLACK
MICHAEL B. CAMPBELL
WILLIAM F. CARR
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February 19, 1981

Case 7189

Mr. Joe D. Ramey
Director
Oil Conservation Division
New Mexico Department of
Energy and Minerals
Post Office Box 2088
Santa Fe, New Mexico 87501

Re: Application of Threshold Development Company for an N.G.P.A. Determination, Eddy County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Threshold Development Company in the above-referenced matter.

The applicant requests that this matter be included on the docket for the examiner hearing scheduled to be held on March 11, 1981.

Very truly yours,

William F. Carr

WFC:lr

Enclosures

cc: Mr. Bill Aycock
Mr. David Pace

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

APPLICATION OF THRESHOLD
DEVELOPMENT COMPANY FOR AN
N.G.P.A. DETERMINATION
EDDY COUNTY, NEW MEXICO

Case 7189

APPLICATION

Comes now THRESHOLD DEVELOPMENT COMPANY, by and through its undersigned attorneys, and hereby seeks a new onshore reservoir determination in accordance with Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission in the Morrow formation for the Conoco 7 State No. 1 Well located in Unit N of Section 7, Township 19 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, and in support thereof would show the Division:

1. That applicant is the operator of the subject well.

2. That said well has been completed in the Morrow formation with perforations from 11,036 feet to 11,050 feet.

3. That there are other wells in the area which have penetrated and are completed in the Morrow formation.

4. That geologic and engineering data establish that the subject well is completed in a new reservoir in the Morrow formation not connected to any other Morrow well in the area.

5. That granting the application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant requests that this application be set for hearing before the Division's duly appointed examiner, and that after notice and hearing as required by law, the Division enter its order granting this application and making such other and further provisions as may be proper in the premises.

Respectfully submitted,

CAMPBELL, BYRD AND BLACK, P.A.

By _____
William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE ME

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

APPLICATION OF THRESHOLD
DEVELOPMENT COMPANY FOR AN
N.G.P.A. DETERMINATION
EDDY COUNTY, NEW MEXICO

Case 7189

APPLICATION

Comes now THRESHOLD DEVELOPMENT COMPANY, by and through its undersigned attorneys, and hereby seeks a new onshore reservoir determination in accordance with Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission in the Morrow formation for the Conoco 7 State No. 1 Well located in Unit N of Section 7, Township 19 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, and in support thereof would show the Division:

1. That applicant is the operator of the subject well.

2. That said well has been completed in the Morrow formation with perforations from 11,036 feet to 11,050 feet.

3. That there are other wells in the area which have penetrated and are completed in the Morrow formation.

4. That geologic and engineering data establish that the subject well is completed in a new reservoir in the Morrow formation not connected to any other Morrow well in the area.

5. That granting the application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant requests that this application be set for hearing before the Division's duly appointed examiner, and that after notice and hearing as required by law, the Division enter its order granting this application and making such other and further provisions as may be proper in the premises.

Respectfully submitted,

CAMPBELL, BYRD AND BLACK, P.A.

By William F. Carr

William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

APPLICATION OF THRESHOLD
DEVELOPMENT COMPANY FOR AN
N.G.P.A. DETERMINATION
EDDY COUNTY, NEW MEXICO

Case 7187

APPLICATION

Comes now THRESHOLD DEVELOPMENT COMPANY, by and through its undersigned attorneys, and hereby seeks a new onshore reservoir determination in accordance with Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission in the Morrow formation for the Conoco 7 State No. 1 Well located in Unit N of Section 7, Township 19 South, Range 29 East, N.M.P.M., Eddy County, New Mexico, and in support thereof would show the Division:

1. That applicant is the operator of the subject well.

2. That said well has been completed in the Morrow formation with perforations from 11,036 feet to 11,050 feet.

3. That there are other wells in the area which have penetrated and are completed in the Morrow formation.

4. That geologic and engineering data establiish that the subject well is completed in a new reservoir in the Morrow formation not connected to any other Morrow well in the area.

5. That granting the application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, Applicant requests that this application be set for hearing before the Division's duly appointed examiner, and that after notice and hearing as required by law, the Division enter its order granting this application and making such other and further provisions as may be proper in the premises.

Respectfully submitted,

CAMPBELL, BYRD AND BLACK, P.A.

By _____
William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7189

Order No. R-6680

APPLICATION OF THRESHOLD DEVELOPMENT COMPANY FOR AN NGPA DETERMINATION, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 11, 19 81, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of March, 19 81, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Threshold Development Company, seeks a determination by the Division, in accordance with Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the

applicable rules of the Federal Energy Regulatory Commission, that its Conoco 7 State Well No. 1 located _____ in Unit N of Section 7, Township 19 South, Range 29 East NMPM, Eddy County, New Mexico, has discovered a new onshore reservoir from which natural gas was not produced in commercial quantities before April 20, 1977.

(3) That said well was completed in the Morrow formation with perforations from 11,036 feet to 11,050 feet, and a plugged-back depth of 11,223 feet after having been drilled to a total depth of 11,610 feet.

(4) That although there are ~~several~~ wells in the general vicinity of the subject well which have penetrated and are or were completed in the Morrow formation, which might disqualify the subject well from a category 102 determination, wells pressures and productive capacity encountered in said Conoco 7 State Well No. 1 as compared to said wells are completely distinctive and are indicative of non communication therewith ~~of an undrained reservoir~~.

(5) That the combined geological and engineering data presented establishes that said Conoco 7 State Well No. 1 has been completed in a new onshore reservoir as defined by the provisions of Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission.

IT IS THEREFORE ORDERED:

(1) That the Conoco 7 State Well No. 1 located in Unit N of Section 7, Township 19 South Range 29 East, NMPM, Eddy County, New Mexico, is completed in a new onshore reservoir as defined by Sections 2 (6) and 102 of the Natural Gas Policy Act of 1978, and the applicable rules of the Federal Energy Regulatory Commission.

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

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