

CASE 7194: SOUTHLAND ROYALTY COMPANY  
FOR AN NGPA DETERMINATION, EDDY COUNTY, 2  
NEW MEXICO

Case No.

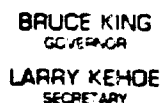
7194

Application

Transcripts

Small Exhibits

ETC



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

POST OFFICE BOX 2000  
STATE LAND OFFICE  
SANTA FE, NEW MEXICO 87501  
(505) 827-2444

May 6, 1981

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

Re: CASE NO. 7194  
ORDER NO. R-6684

**Applicant:**

**Southland Royalty 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. 7194  
Order No. R-6684

APPLICATION OF SOUTHLAND ROYALTY  
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, Southland Royalty 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 Parkway State Well No. 1 located in Unit K of Section 15, 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 11,201 feet to 11,280 feet, and a plugged-back depth of 11,380 feet after having been drilled to a total depth of 11,558 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



-2-  
Case No. 7194  
Order No. R-6684

the subject well from a category 102 determination, pressures and productive capacity encountered in said Parkway 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 Parkway 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 Parkway State Well No. 1, located in Unit K of Section 15, 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 K L

fd/

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

Application of Threshold Development Company for an NCPA 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 22 East.

CASE 7189: Application of Threshold Development Company for an NCPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Morrow formation for its Conoco 7 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 NCPA 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 NCPA 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 NCPA 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 NCPA 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 NCPA 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  
BRADFORD C. BERGE  
WILLIAM G. WARDLE

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TELEPHONE: (505) 988-4421  
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February 19, 1981

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

*Case 7194*

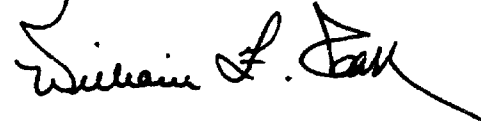
Re: Application of Southland Royalty Company for  
an N.G.P.A. Determination, Eddy County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Southland  
Royalty 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 SOUTHLAND  
ROYALTY COMPANY FOR AN  
N.G.P.A. DETERMINATION  
EDDY COUNTY, NEW MEXICO

Case 7194

APPLICATION

Comes now SOUTHLAND ROYALTY 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 Parkway State 1 Well located in Unit K of Section 15, 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 11,201 feet to 11,280 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.

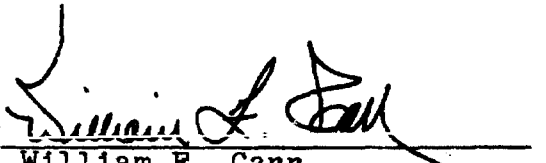
5. That granting the application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

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 THE  
OIL CONSERVATION DIVISION  
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

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

Case 7194

APPLICATION

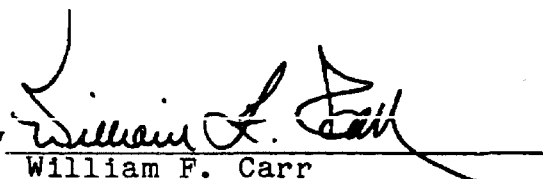
Comes now SOUTHLAND ROYALTY COMPANY, by and through its undersigned attorneys, and hereby seeks a new onshore reservoir determination in accordance with Section 102 of the Natural Gas Policy Act of 1978 and the applicable rules of the Federal Energy Regulatory Commission in the Morrow formation for the Parkway State 1 Well located in Unit K of Section 15, 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 11,201 feet to 11,280 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 THE  
OIL CONSERVATION DIVISION  
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

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

Case 7194

APPLICATION

Comes now SOUTHLAND ROYALTY 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 Parkway State 1 Well located in Unit K of Section 15, 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 11,201 feet to 11,280 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.



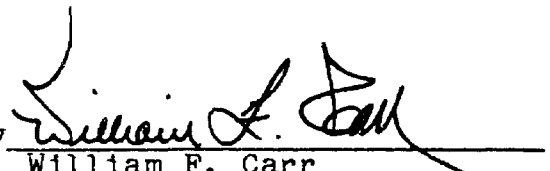
5. That granting the application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.

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

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. 7194

Order No. K-6684

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All  
JHR  
APPLICATION OF SOUTHLAND ROYALTY  
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, Southland Royalty 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

-2-  
Case No.  
Order No.

applicable rules of the Federal Energy Regulatory Commission,  
that its Parkway State Well No. 1

located \_\_\_\_\_ in Unit K  
of Section 15, 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 11,201 feet to 11,280  
feet, and a plugged-back depth of 11,386 feet after having  
been drilled to a total depth of 11,558 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 distinguish the subject well from a category 102 determination,*  
pressures and productive capacity encountered in said Parkway  
*State Well No. 1* as compared to said wells are completely  
distinctive and are indicative of *non communitarian there with.*  
~~an undrained reservoir.~~

(5) That the combined geological and engineering data  
presented establishes that said Parkway 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 Commis-  
sion.

IT IS THEREFORE ORDERED:

(1) That the Parkway State Well No. 1  
located in Unit K of Section 15, 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.

-3-  
Case No.  
Order No.

(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.

Exhibits and Transcripts: Cases 7171, 7179, 7190, 7192, 7193, and 7194.

Case No.

7194

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 Com-  
pany for an NGPA Determination, Eddy  
County, New Mexico.

CASE  
7192

and

Application of Southland Royalty Com-  
pany for an NGPA determination, Eddy  
County, New Mexico.

CASE  
7193

and

Application of Southland Royalty Com-  
pany for an NGPA determination, Eddy  
County, New Mexico.

CASE  
7194

1  
2 BEFORE: Richard L. Stamets  
3  
4

5 TRANSCRIPT OF HEARING  
6  
7

8 A P P E A R A N C E S  
9

10 For the Oil Conservation  
11 Division:  
12  
13

Ernest L. Padilla, Esq.  
Legal Counsel to the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

14 For the Applicant:  
15 Threshold Development Co.  
16 and  
17 Southland Royalty Co.  
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William F. Carr, Esq.  
CAMPBELL, BYRD, & BLACK P.A.  
Jefferson Place  
Santa Fe, New Mexico 87501



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I N D E X

WILLIAM P. AYCOCK

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DAVID PACE

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WILLIAM P. AYCOCK RECALLED

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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.

1  
2 Is there any objection to this consoli-  
3 dation? These cases will be consolidated for purposes of  
4 testimony.

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

7  
8 (Witnesses sworn.)

9  
10 MR. CARR: At this time I would call  
11 William P. Aycock.

12  
13 WILLIAM P. AYCOCK  
14 being called as a witness and being duly sworn upon his oath,  
15 testified as follows, to-wit:

16  
17 DIRECT EXAMINATION

18 BY MR. CARR:

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

21 A William P. Aycock, Midland, Texas.

22 Q By whom are you employed and in what  
23 capacity?

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

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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

1  
2 7 State No. 1 is a single completion for which the 102 appli-  
3 cation in the Morrow zone is being sought in Case -- former  
4 Case 7189.

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

9 In former Case 7191 Southland Royalty  
10 Company is seeking -- I beg your pardon, 7192, I'm sorry.  
11 7191 is not a part of this application.

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

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

20 And in case -- former Case 7194 South-  
21 land Royalty Company is seeking an NGPA determination for a  
22 new on-shore reservoir in the Morrow formation for its Park-  
23 way State Well No. 1.

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

1  
2 of the subject wells?

3 A Yes, sir, I have.

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

6 A Yes, sir, I have.

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

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

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

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

25 In the northwest quadrant of the circle,

1  
2 which is colored blue, indicates it is an Atoka marker well,  
3 and then in the south quadrant of the circle surrounding each  
4 marker well, if it is colored yellow it indicates that it is  
5 a Strawn marker well.

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

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

19 Q Mr. Aycock, one of the marker wells in-  
20 dicates that it is a marker well in the Strawn, is that  
21 correct?

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

24 Q We're not seeking any determination  
25



1  
2 under Section 102 of the NGPA in the Strawn in these cases,  
3 however.

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

9 Q Mr. Aycock, in preparing this and sub-  
10 sequent exhibits, have you reviewed data on all the wells in  
11 this general area which could reasonably be expected to  
12 provide data relative to this hearing?

13 A Yes, sir, I have.

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

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

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

1  
2 well.

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

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

24 Indicated on this -- the first page of  
25 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.

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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 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

1  
2 and subsurface pressures were in the vicinity of 4000 to 5000  
3 pounds lower for the marker well than for any of the wells  
4 for which this application is being submitted, whether viewed  
5 on an initial pressure basis or all pressure basis.

6 Q Will you now refer to Applicant's Ex-  
7 hibit Number Three and review this for Mr. Stamets?

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

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

21 A The graphs.

22 MR. CARR: -- on the Atoka.

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

25 Okay, Three is a presentation of the

1  
2 individual pressures for each of the Atoka application wells  
3 as compared to the entire pressure history of the marker well.  
4 There are three graphs together.

5 MR. STAMETS: Three graphs together re-  
6 present Exhibit Three.

7 A Yes, sir.

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

11 A No, sir, this is just graphical present-  
12 ation of the data that was in -- part of the data that was  
13 included in Exhibit Two.

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

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

22 A Yes, sir.

23 MR. STAMETS: All right.

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

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

4 MR. STAMETS: All right.

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

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

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

17 A Exhibit Number Four, for the Morrow, is  
18 similar to what Exhibit Number Two was for the Atoka, with  
19 the exception of the fact that it includes all of the Morrow  
20 wells in the area in addition to those for which this appli-  
21 cation is being presented.

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

1  
2 of this township, 19 South, 29 East. Excuse me, I couldn't  
3 see the -- couldn't see the determination there. And those  
4 wells are located on the following places on -- on the exhibits  
5 presented -- the table that's presented on the initial page  
6 of Exhibit Four.

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

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



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

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

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

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

22 Then along with that we have tabulations  
23 of both the initially measured pressures and all measured  
24 pressures to document the graphs. This once again is a sim-  
25 ilar scheme of organization to what was used in the Atoka.

1  
2 All of this information was extracted  
3 from information that's been submitted to the Commission. In  
4 fact we have complete copies of the Commission's files from  
5 the Artesia District, from which this information was taken,  
6 and it was checked against the operator's files in the cases  
7 of Petroleum Corp. of Delaware, Threshold Development, and  
8 Southland Royalty.

9 Q Mr. Aycock, will you now refer to Ex-  
10 hibit Number Five and review that data for Mr. Stamets?

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

14 A What we're presented to you, Mr. Examiner,  
15 is three tabulations in Exhibit Number Four, which is a sum-  
16 mary tabulation for the Morrow; then a tabulation of initially  
17 measured pressures for the Morrow wells, not all of which are --  
18 come from the summary tabulation are included in the pressure  
19 tabulations for purposes of convenience only; and then fol-  
20 lowing that is a tabulation of all observed pressures for the  
21 wells, the marker wells and the wells that are the subject  
22 of this application in the Morrow zone; and then the last  
23 two pages of this exhibit are graphs of the initially ob-  
24 served pressures, both surface and subsurface, for the  
25 marker wells and the application wells; and then the final

1  
2 portion of this exhibit is a graph of all observed pressures  
3 for the Morrow application wells and Morrow marker wells,  
4 both surface and subsurface. It is the data that is included  
5 on the two tabulations of initial and all measured pressures  
6 simply presented in graphical form.

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

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

15 MR. STAMETS: Let's clarify this.

16  
17 VOIR DIRE EXAMINATION

18 BY MR. PADILLA:

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

1  
2 cation should -- unless you can show an exception of the  
3 behind pipe exclusion.

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

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

9 A Uh-huh, that's right.

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

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

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

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

1  
2 what it should be initially, and being radically different  
3 for nearby wells, that they're all actually draining indivi-  
4 dual reservoirs. There's no commonality between them whatso-  
5 ever.

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

8 A Correct, that's correct.

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

11 A That's correct.

12 Q Okay.

13 A We have three people --

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

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

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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.

1  
2 MR. PADILLA: The reason I'm asking  
3 these questions is because when people have drawn this circle  
4 it has not confused us but it has confused the FERC and they  
5 have requested information that would -- could extend into  
6 the township to the north simply because they wanted to find  
7 out whether these other wells to the north were in communica-  
8 tion with any of the wells that you --

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

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

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

25 A You're talking about the Tenneco wells

1  
2 in Section 11 there?

3 MR. STAMETS: Right.

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

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

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

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

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

17 MR. STAMETS: I'm trying to determine  
18 whether or not those are wells which we need to be considering  
19 at this hearing today. For example, the Amoco well in Section  
20 6, if that were a Morrow well completed back in 1976, that  
21 might be significant.

22 A It was completed 8-29-78. It's Well No.  
23 1 on our summary tabulation here, the most -- it's in Unit C  
24 of Section 5, is that the one we're talking about, or the  
25 one in 6?



1  
2 MR. STAMETS: Well, I was talking about  
3 the one in Section 6.

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

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

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

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

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

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

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

1  
2 any depletion in most cases.

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

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

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

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

6 MR. STAMETS: Okay.

7  
8 DIRECT EXAMINATION CONT'D

9 BY MR. CARR:

10 Q Mr. Aycock, will you now refer to Ex-  
11 hibit Five and review this for Mr. Stamets?

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

1  
2 comparison well, further indicating that there is no -- no  
3 pressure commonality between them.

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

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

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

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

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

1  
2 clusions can you draw from the data presented?

3 A That the -- the pressures reported for  
4 the application wells, whether in the Atoka or the Morrow,  
5 were equivalent to what would be expected for initial pres-  
6 sures as reported to the Commission on Form C 122; that they  
7 are not in pressure communication with any pre-existing wells  
8 or they would have showed depletion, and they're certainly  
9 not in communication with those with which we compared them  
10 because there's a radical difference in pressure; and the --  
11 the pressures for some of the intervening wells are even  
12 lower than the -- on initial completion are even lower than  
13 what they were for the wells with which we compared them; so  
14 by inference, if we made -- if we've made a presentation of  
15 the same data we would have indicated there was even more  
16 difference in pressure than what we've indicated for the com-  
17 parison wells.

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

21 A No.

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

24 A No.

25 Q In reaching this conclusion did you use

1  
2 all data reasonably available to you?

3 A Yes.

4 Q In your opinion would granting these  
5 applications result in recovery of additional gas that other-  
6 wise would not be recovered?

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

16 Q In your opinion will granting the appli-  
17 cation impair the correlative rights of any property owner  
18 in the pool?

19 A No.

20 Q Were Exhibits One through Six prepared  
21 by you?

22 A They were prepared under my supervision,  
23 yes.

24 Q Can you testify as to their accuracy?

25 A Yes.

1  
2 MR. CARR: At this time, Mr. Examiner,  
3 we would offer Applicant's Exhibits One through Six.

4 MR. STAMETS: These exhibits will be  
5 admitted.

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

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

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

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

18 MR. STAMETS: Okay.

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

1  
2 mination.

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

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

7  
8 DAVID PACE  
9 being called as a witness and being duly sworn upon his oath,  
10 testified as follows, to-wit:

11  
12 DIRECT EXAMINATION

13 BY MR. CARR:

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

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

18 Q By whom are you employed and in what  
19 capacity?

20 A I am employed by Threshold Development  
21 Company as Exploration Manager.

22 Q Have you previously testified before  
23 this Commission?

24 A No, I have not.

25 Q Will you review your educational back-



1  
2 ground and work experience for Mr. Stamets?

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

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

9 At this time I went to work for Threshold  
10 Development Company two years ago in the capacity as Explora-  
11 tion Manager, with my area being assigned that of southeast  
12 New Mexico and west Texas, and I was responsible for explora-  
13 tion in these areas.

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

17 A Yes, I am.

18 Q And are you familiar with the subject  
19 wells?

20 A Yes, I am.

21 MR. CARR: Are the witness' qualifications  
22 acceptable?

23 MR. STAMETS: They are.

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

1  
2 general area which is the subject of these consolidated cases?

3 A Yes, I did.

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

6 A Yes, sir.

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

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

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

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

1  
2 that this mapping on this marker would indicate structure  
3 applicable both to Upper Morrow, Lower Morrow, and to certain  
4 degree, the Atoka formation.

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

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

12 A Yes. Exhibit Number Eight is a strati-  
13 graphic cross section.

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

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

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

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

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

1  
2 A As you can see on Exhibit Eight, there  
3 is a map which shows where this particular cross section lays  
4 in relationship to the township and range.

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

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

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

19 And the Morrow formation, I have indi-  
20 cated it with the dark line in addition to which I've differ-  
21 entiated it with a yellow pencil.

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

1  
2 Then the series of lines, which in my  
3 opinion differentiate separate zonations within these forma-  
4 tions, to help facilitate the correlations which I'm attempting  
5 to make.

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

11 Where you have gas effects or an indica-  
12 tion of sands and possible hydrocarbon bearing reservoirs,  
13 I have colored the gas effect or separation in the curves  
14 with red.

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

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

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

1  
2 either in blue, which indicates water-bearing sands, or in  
3 red, which indicates possible gas-bearing sands.

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

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

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

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

1  
2 A Yes, I will. If I might, I would like  
3 to take each individual application well and attempt to show  
4 how it may or may not correlate with wells in the area, ap-  
5 plication area.

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

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

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

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

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

1  
2 It's shown here with the blue in the gamma ray side and red  
3 on the CNL density side, indicating possible gas sands present.  
4 The well was perforated from the interval 10748 to 10758.

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

8 A Right, I will first take --

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

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

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

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

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



1  
2 of gas per day.

3 At this time I might add that on the pur-  
4 pose of all these exhibits, Eight, Nine, Ten, and Eleven,  
5 the data at the bottom, I have shown where the well was com-  
6 pleted, the formation it was completed in, the completion  
7 date, completion interval, initial potential rated at calcu-  
8 lated absolute open flow, shut-in wellhead pressures, shut-in  
9 bottom hole pressures, gas gravities, condensate gravities,  
10 and GOR.

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

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

17 Q Uh-huh.

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

25 MR. STAMETS: Let's go off the record

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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

1  
2 East.

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

5 A Yes, it was.

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

8 A No, there were not.

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

13 A Yes, sir, I do.

14 Q And what do you mean by reasonable area?

15 A By reasonable area I mean in this case  
16 2-1/2 miles.

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

19 A Yes, it is. We felt like anything over  
20 2-1/2 miles would not be applicable to these cases.

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

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

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

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

20 The application well was completed in  
21 the Upper Morrow formation from an interval from 113 -- ex-  
22 cuse me, 11296 to 11308 in the Upper Morrow formation.

23 This zone, which we feel is geologically  
24 equivalent to the zones completed in the Union "TX" Well --  
25 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 application 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. Therefore, 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

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

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

9 Q Is there Morrow production in that well?

10 A No, sir, there is not.

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

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

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

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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

1  
2 some of the same wells that appeared on the A-A' cross section?

3 A. Yes, sir, I do. I have attempted to  
4 show on this cross section all wells which pertain to the  
5 application. Of these wells two, which were within a reason-  
6 able area and penetrated either the Morrow or the Atoka form-  
7 ation prior to April 20, 1977. In this particular case the  
8 Union Texas State Ccm No. 1, which I referred to with, and  
9 in accordance with, Exhibit Number Eight, is a well which  
10 did penetrate this prior to the April 20 date, so I have in-  
11 cluded it on this cross section.

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

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

20 This well was initially completed in  
21 the Lower Morrow formation from interval 11 -- an overall  
22 interval -- excuse me, I would like to take each individual  
23 interval -- originally completed in intervals 11418 to 11426,  
24 11430 to 11448, 11496 to 11520. These intervals do appear  
25 in what is called the Lower Morrow formation.



1  
2 This well was initially completed on  
3 6-28-1978 from the Lower Morrow interval and produced gas  
4 from this formation. The zone consequentially depleted in  
5 the Lower Morrow and it was recompleted in the Upper Morrow  
6 formation.

7 The intervals which it was recompleted  
8 in are as follows: 11201 to 11205, 11208 to 11227, 11236 to  
9 11242, 11260 to 11267, 11269 to 11280. These perforations  
10 are within the Upper Morrow formation. They straddle several  
11 intervals in which I have designated within the cross section  
12 area, the purpose for this being -- also some of the perfor-  
13 ations, the lower two intervals of perforations, fall within  
14 a zone which might be reasonably correlated with the Lower  
15 Morrow formation in the Union Texas State Com No. 1, some  
16 of which also fall above that interval in Union Texas No. 1.  
17 I believe that it can be reasonably shown by the pressure  
18 data presented by Mr. Aycock that this well should be consi-  
19 dered for a 102 classification in the Morrow formation.

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

24 This well was completed on March 29th,  
25 1979, from Upper Morrow perforations from 11178 to 11186.

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

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

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

16 The intervals in which the Southland  
17 Royalty State Com 14 No. 1, located 1980 from the north line,  
18 660 from the west line of Section 14, Township 19 South,  
19 Range 29 East, is completed in in the Morrow is from an inter-  
20 val at 11214 to 11218 and from 11230 to 11238, 11306 to 11312.

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

1  
2 the particular zone which does correlate across the area.

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

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

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

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

22 Q Will you now proceed to discuss EXhibit  
23 Number Ten, your cross section C-C'?

24 A Yes, sir. Again at this time I would  
25 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

1  
2 Morrow formation.

3 The Southland Royalty Parkway State No.  
4 1 application contains some wells within a reasonable area  
5 which penetrated the Morrow and the Atoka formations, and I  
6 would like to discuss those wells at this time.

7 The Petroleum Corporation Parkway West  
8 No. 1, located 660 from the north line, 1980 from the west  
9 line of Section 28, Township 19 South, Range 29 East, was  
10 completed as a dual Atoka and Strawn producer on March 26th,  
11 1973. As Mr. Aycock brought up in his testimony, we are not--  
12 the Strawn formation is not applicable to this case and there-  
13 for will not be discussed.

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

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

1  
2 any other Atoka zones in which we're applying for a 102  
3 classification.

4 I would also like to compare the Southland  
5 Royalty Parkway State No. 1, which is the application well  
6 for a 102 determination in the Morrow, with another well which  
7 did penetrate the Atoka and Morrow formations prior to April  
8 20, 1977, that well being the Petroleum Corporation Parkway  
9 West Unit No. 2.

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

13 This well was completed in two separate  
14 perforated intervals in the Upper Morrow formation. The in-  
15 tervals in which it was perforated, those being 11110 to  
16 11114, and 11141 to 11149, could reasonably be inferred to  
17 be in zones correlative to the application well, that well  
18 being Southland Royalty Parkway State No. 1.

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

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

1  
2 on-shore reservoir classification in the Morrow formation.

3 The second application well I would like  
4 to talk about on this Exhibit Ten is the Southland Royalty  
5 Parkway A State Com No. 1, located 1980 from the north line,  
6 990 from the east line of Section 15, Township 19 South, Range  
7 20 East.

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

10 In our search for wells which did pene-  
11 trate the Morrow prior to April 20th, 1977, the two previously  
12 mentioned Petroleum Corporation wells were the only two with-  
13 in a reasonable area which did penetrate the formation, and  
14 I would like to compare the application well with the two  
15 Petroleum Corporation wells at this time.

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

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

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

1  
2 but I feel there is reasonable evidence from the data supplied  
3 by Mr. Aycock in this hearing, with pressure and reservoir  
4 data, that these two wells are completed within the same re-  
5 servoir.

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

9                   I would also like to add at this time  
10 that in the Southland Royalty Parkway State Com No. 1 there  
11 is an interval in the Atoka formation of this well which  
12 reasonably correlates with the two wells previously considered  
13 in this hearing, that being Threshold Development's Conoco  
14 10-A State No. 1-Y and the Conoco 10 State Com No. 1. We  
15 have shown -- we have attempted to show that this zone in the  
16 Atoka is not correlative with anything -- any wells which  
17 penetrated the Atoka prior to April 20th, 1977, and that I  
18 feel if an attempt is made to Southland Royalty to recomplete  
19 this well in the Atoka formation from a zone in the Atoka at  
20 11758 to 11770, it should be considered at that time for a  
21 possible 102 classification in the Atoka formation.

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



1  
2 which is applying for a 102 application determination in the  
3 Morrow formation.

4 This well was perforated in an Upper  
5 Morrow interval from 11214 to 11238 overall. These perfor-  
6 ations cover several intervals in which I have subdivided the  
7 Morrow formation and could reasonably be assumed to correlate  
8 with the Petroleum Corporation Parkway West No. 1 and the  
9 Petroleum Corporation Parkway West No. 2.

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

16 Q Is there anything else you want to pre-  
17 sent using your C-C' cross section?

18 A Yes, there is. I would also like to  
19 discuss Southland Royalty's application for a 102 classifi-  
20 cation in the Atoka in this well, that well being the South-  
21 land Royalty State Com 14 No. 1.

22 This well was dually completed with the  
23 Upper Morrow in the Atoka formation from a completion inter-  
24 val of 10760 to 10768 on July 27th, 1980.

25 It is my opinion that the zone present

1  
2 in the Atoka in which the well was perforated and completed  
3 in the Atoka is correlative with the Atoka zone applied for  
4 by Threshold in the Conoco 10-A State No. 1-Y and the Conoco  
5 10-A State No. 1. With the evidence presented in talking  
6 about the two wells, the two Threshold wells, I believe it was  
7 clearly shown that this Atoka zone was present in no other  
8 wells within a reasonable area; therefore I feel it should be  
9 considered for a 102 classification in the Atoka formation.

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

12 A Yes, I do.

13 Q The D-D'?

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

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

21 A Yes, sir, I will.

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

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

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

10 I would like to compare this well at  
11 this time with two other wells within a reasonable area,  
12 which did penetrate the Morrow formation on or before April  
13 20th, 1977.

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

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

1  
2 The interval in question, that being the perforated intervals  
3 in the Union "TX" State Com No. 1 and the application well,  
4 Conoco 7 State No. 1, was drill stem tested and found to be  
5 nonproductive. The interval tested occurred from 11116 to  
6 11221, was open for 2-1/2 hours, they had gas to surface in  
7 45 minutes at a rate too small to measure.

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

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

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

1  
2 in line with the two; therefor most likely to have the same  
3 reservoir present. There is two dry holes between the appli-  
4 cation well and the well referred to, the Parkway West Unit  
5 No. 2. Those two wells being dry holes are the Petroleum  
6 Corporation Parkway West Unit No. 4-C, located 660 from the  
7 north line and 1980 from the west line of Section 20, Town-  
8 ship 19 South, Range 29 East, and the Hondo Drilling Exxon  
9 State Com No. 1, located 660 from the north line and 1980  
10 from the west line of Section 7, Township 19 South, Range  
11 29 East. Both these wells were plugged and abandoned without  
12 establishing commercial production from the interval in  
13 question on the application well.

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

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

19 A Yes, it does.

20 Q Would you like to sit down?

21 A Yes.

22 Q Mr. Pace, would you brie-fly just summarize  
23 the conclusion you can draw from the data you've presented?

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

1  
2 about the area in general, which would apply to the applica-  
3 tion of all six wells referred to in this hearing.

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

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

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

19 Fourthly, also the fact that none of  
20 the marker wells within the application area produced from  
21 the Lower Morrow formation; therefor, any commercial comple-  
22 tions in the application area should be considered as a new  
23 reservoir in the Lower Morrow.

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

1  
2 for a new on-shore reservoir determination.

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

7 A Yes, sir, that is correct.

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

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

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

22 A Correct.

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

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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



1  
2 bit about what we knew prior to the hearing about these wells  
3 and why we did not bring them up in the hearing.

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

17 Q Do you have anything further to add to  
18 your testimony?

19 A No, I do not.

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

22  
23 CROSS EXAMINATION

24 BY MR. STAMETS:

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

1  
2 cussing the manner in which this study was conducted, and I  
3 believe I understood you to say that all the wells within  
4 2-1/2 miles of the wells that you're seeking a determination  
5 for today had been examined, all the records on these wells  
6 had been examined.

7 A Yes, sir, that is correct.

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

13 A Yes, sir, that is correct.

14 Q Okay, fine.

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

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

21 A Yes, sir, that is correct.

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

1  
2 abandoned, does it?

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

10 Q I hope you're right.

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

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

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

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

1  
2 witness.

3 MR. CARR: I intend to recall him.

4 MR. STAMETS: Very good.

5 You may be excused.

6 MR. CARR: At this time I'd like to re-  
7 call Mr. Aycock.

8  
9 WILLIAM P. AYCOCK

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

12  
13 DIRECT EXAMINATION

14 BY MR. CARR:

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

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

1  
2 that are the subject of this application in various wells  
3 prior to April 20th, 1977.

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

10 We felt that because of those wells that  
11 had been completed prior to April 20th, 1977, the most import-  
12 ant one was the Union -- was the Hondo Union Texas State No.  
13 1 in Section 17, because it has -- it has accumulated the  
14 largest amount of gas production and is located centrally  
15 with regard to -- approximately centrally with regard to the  
16 application wells.

17 We would like to point out to the Examiner  
18 that there is a dry hole in these Pennsylvanian zones appro-  
19 ximately 1320 feet due south of the Union -- of the Hondo  
20 Union Texas State No. 1, that being the Petroleum Corporation  
21 of Delaware Parkway West No. 4-C in Section 20. There is a  
22 dry hole to the southwest of the Hondo Union Texas State No.  
23 1 in Section 19, 19, 29, that being the Coquina Flag State  
24 No. 1 that's approximately 3/4 of a mile away; and there is  
25 a dry hole in the north part of Section 17 approximately 7/8

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

1  
2 abandoned, and it is further away from any of the application  
3 wells than the wells that we have considered as being a basis  
4 for comparison in this case.

5 So we felt like the fact that we had --  
6 and in addition to that, the nearest well to one of our  
7 application wells, that being the Threshold Conoco State No.  
8 7 is the dry hole located in Unit C of Section 17 that's been  
9 previously referred to in discussing the Hondo Union Texas  
10 State, and that the -- all of the wells in Section 6 and 1  
11 about which the Commission has inquired are further away from  
12 the remaining wells that are the subject of this application  
13 than is a dry hole in the south half of Section 5.

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

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

25 Number one, we think we've shown that

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2 the available pressure information indicates that the contin-  
3 uity of the reservoirs that are included in these applications  
4 is limited and that the early -- the wells that existed at  
5 April 20th, 1977, reasonably do not appear to be in pressure  
6 communication with any of the wells that are the subject of  
7 this application because of large -- because of two facts:  
8 Number One, the initial pressures for the application wells  
9 are essentially equivalent to the wells that existed at April  
10 20th, '77, and those wells that existed at April 20, '77, that  
11 are still producing have pressures as of the date of completion  
12 of the application wells far below them, thousands of pounds  
13 below them, so far below them that it is not reasonable to  
14 assume that the pressures bear any relationship to each other  
15 whatsoever.

16 And the additional fact that we think is  
17 important for the -- to consider in the finding, is that  
18 even where zones appear to be geologically correlative, the  
19 great variation in quality as well as the variation in fluid  
20 content that has been demonstrated, in addition to the vari-  
21 ations in pressure, all tend to verify that all of the re-  
22 servoirs are of very limited areal extent, as far as -- as  
23 long as the areal extent is defined as the amount of area in  
24 any of these zones that can be effectively drained by a  
25 single wellbore.



1  
2 As we testified during the initial part  
3 of the hearing, in general the wells appear to be draining  
4 200 acres or less, based upon the comparison of their pressure  
5 performance and the reservoir pore space as logged.

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

8 A About twelve years.

9 Q How many different wells would you esti-  
10 mate you've advised clients on in the Morrow?

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

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

19 A Neither the -- with a few notable ex-  
20 ceptions, neither the Atoka nor the Morrow formations exhibit  
21 pressure continuity over large areas.

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

1  
2 other is the Morrow formation in the Catclaw Draw Pool. The  
3 rest of them by and large do not drain the areas that are  
4 assigned to them, the acreage that is assigned to them.

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

9 A No.

10 Q -- exceptions you've just noted.

11 A No, definitely not.

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

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

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

1  
2 need to make your -- reach the conclusions you've reached in  
3 this area?

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

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

12 A Yes, sir, I believe they do.

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

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

17 Anything further in this case?

18 The case will be taken under advisement.  
19 If there is nothing further, the hearing is adjourned.

20  
21 (Hearing concluded.)  
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25

## 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 and correct record of the proceedings in the case, the hearing of which was heard by me on 3-10-81.  
Richard L. Stamm, Examiner  
Oil Conservation Division

7170, 7189, 7190, 7192,  
7193, 87194

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