STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico

14 August 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Southland Royalty Company for pool creation, special pool rules, and the contraction of this horizontal limits of the Scharb-Wolfcamp Pool, Lea County, New Mexico.	CASE 8676

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Jeff Taylor Legal Counsel to the Division Oil Conservation Division State Land Office Bldg. Santa Fe, New Mexico 87501
For the Applicant:	William F. Carr Attorney at Law CAMPBELL & BLACK O. A. P. O. Box 2208 Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. STOGNER: Call next Case 8676.

MR. TAYLOR: The application of Southland Royalty Company for pool creation, special pool rules, and the contraction of the horizontal limits of the Scharb Wolfcamp Pool, Lea County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm of Campbell and Black, P. A., of Santa Fe, appearing on behalf of Southland Royalty Company.

I have three witnesses.

MR. STOGNER: Are there any other appearances?

Will the witnesses please stand and be sworn?

(Witnesses sworn.)

JULIE J. STEVENS,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Would you please state your name and place of residence?

A Julie Stevens, Midland, Texas.

Q Miss Stevens, by whom are you employed and in what capacity?

A Southland Royalty, as a petroleum landman.

Q Have you previously testified before this Division?

A No, I have not.

Q Would you review your educational background and work experience for Mr. Stogner?

A Following graduation from the University of Texas with a BBA in petroleum land management, I took a position as a landman with Getty Oil Company.

After three years with Getty I took a position as a landman with Southland Royalty Company, where I've been employed for three and a half years.

Q Are you familiar with the application filed in this case on behalf of Southland?

A Yes, I am.

Q Are you familiar with the subject area?

A Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STOGNER: When were you with Getty?

A 1971 until 1982.

MR. STOGNER: In what office?

A I was initially in New Orleans and now I've transferred to Midland, Texas.

MR. STOGNER: When were you in Midland?

A I've been in Midland since 1981.

MR. STOGNER: She is so qualified.

Q Miss Stevens, could you briefly state what Southland seeks in this hearing today?

A Southland seeks pool creation and special pool rules, including 80-acre spacing in the Scharb Wolfcamp Area, Lea County, New Mexico.

There have been some questions raised about the need for contraction of the Scharb Wolfcamp Pool as stated on the docket. This is to be further addressed by a geological witness.

Q Would you please refer to what has been marked for identification as Southland Royalty Company Exhi-

bit Number One, identify this, and review the information contained thereon?

A All right. The area covered by this plat in outlined hachured marks is the subject of this application.

The plat has been color coded to show Southland's acreage position.

The arrows, you can see, identify Southland's leasehold acreage. The red identifies the acreage that we have controlled through farm-ins.

We've also completed, drilling, and proposed wells within a proposed pool boundary.

Starting from the top, the People's State 32 No. 2 Well is a currently drilling well.

The People's State 33 No. 1 Well is a recently completed well.

The People's State 32 No. 1 Well is also recently completed.

The Forrest "B" Lea State is a proposed well.

And the Smith 5 No. 4 is a proposed to drill deeper well.

Q And these are all wells that are either drilled into or projected to the Wolfcamp formation.

A That's right.

Q Are there any special rules in effect for this portion of the Wolfcamp formation?

A No, there are not.

Q And so what would be the current spacing requirements in the area?

A Statewide 40 acres.

Q Did you prepare Exhibit Number One?

A Yes, I did.

MR. CARR: At this time, Mr. Stogner, we would offer into evidence Southland Royalty Company Exhibit Number One.

MR. STOGNER: Exhibits One will be admitted into evidence.

MR. CARR: That concludes my examination of Miss Stevens.

MR. STOGNER: I have no questions of Miss Stevens at this time.

MR. CARR: At this time we call Mr. James.

A. DARRYL JAMES,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Would you state your full name, please?

A Arthur Darryl James.

Q Mr. James, where do you reside?

A Midland, Texas.

Q And by whom are you employed?

A Southland Royalty Company.

Q What is your position with Southland?

A I'm District Exploration Manager.

Q Have you previously testified before this Commission or one of its examiners and had your credentials accepted and made a matter of record?

A Yes, I have.

Q And how were you qualified at that time?

A I was qualified as a geological witness.

Q Are you familiar with the application filed in this case on behalf of Southland Royalty Company?

A Yes, I am.

Q Are you familiar with the subject area?

A Yes, I am.

Q Have you made a study of the Wolfcamp formation in this area?

A Yes, I have.

MR. CARR: Are the witness' qualifications acceptable?

MR. STOGNER: They are.

Q Mr. James, have you prepared certain exhibits for indtroduction in this case?

A I have.

Q Would you refer to what has been marked for identification as Southland Exhibit Number Two, identify this, and review it for Mr. Stogner?

A Yes. Exhibit Number Two is an index map of southeastern New Mexico. Note the state lines of New Mexico and Texas for geographical orientation.

Geological provinces, the Central Basin Platform, the Delaware Basin, the Northwest Shelf, and the Tatum Basin are shown.

I'll be presenting maps of the area highlighted in pink. With these maps I'll show the probably limits and trapping mechanism of a new pool, which we propose as the Scharb Lower Wolfcamp.

The mapped area is on the Northwest Shelfl, close to the edge of the Central Basin Platform, as shown. It is about 18 miles west of Hobbs, New Mexico.

Q Would you now go to Exhibit Three?

A Exhibit Three is a structure map contoured on the base of a lower Wolfcamp chert zone. This

chert zone is present throughout the mapped area and overlies the new pool, the Scharb Lower Wolfcamp.

The chert zone is approximately 11,200 feet below the surface in this area. Later I'll point out this mapping point on cross sections.

The contour interval of this map is 100 feet. The scale on this map, and all the maps I'll present, are one inch equals 2000 feet.

Only 20 wells of the more than 200 wells in the mapped area penetrate the Lower Wolfcamp chert zone. All the deep control was utilized in constructing this map and later maps.

Regional dip is to the southwest. Note that the dip rate decreases from northeast to southwest. The most -- the northeastern part of the map shows a 45 degree slope dipping off a Lower Wolfcamp Shelf Edge, which is farther to the northeast off the mapped area.

In the southwestern part of the map the dip rate decreases to approximately 2 degrees as the deeper plain of the basin is approached.

The structure map implies that the trapping mechanism for the Lower Wolfcamp in this area is purely stratigraphic. Structure plays no role in the trapping mechanism. As you can see, there are no structural closures or structural noses on this map.

Later exhibits will define the reservoir limits of the Scharb Lower Wolfcamp.

Southland's acreage position is shaded on this map and the subsequent maps. Our proposed proration units for our two producing wells, our drilling well, and our planned deepending well are shown as stippled rectangular boxes.

Q Would you now go to Southland Exhibit Number Four, your net dolomite Isopach, and review this for the examiner?

A Yes. This is a net dolomite Isopach of the Lower Wolfcamp pay zone. The contour interval is 20 feet. This map shows a north/south trending dolomite thick. This thick is composed of two dolomite facies: A brown to tan dolomite conglomerate that is not porous or permeable in this area, and a white dolomite conglomerate with sucrosic and vugular porosity, which is often fractured.

We have interpreted these sediments to be turbidites, which were deposited in a submarine channel with a deep marine environment from sources to the north.

The brown dolomite was deposited first and the white dolomite was deposited on top of it in a cut-and-fill relationship.

This map shows the presence and thickness of both dolomite facies but does not define reservoir lim-

its. The next exhibit does.

Q Will you go to that exhibit, please? That's Exhibit Number Five.

A Exhibit Five is actually two maps, a porosity Isopach map of the pay zone, and a map showing facies below the Lower Wolfcamp chert zone.

The white contoured area is the net effective porosity Isopach map of the Lower Wolfcamp pay zone. This facies, as I mentioned earlier, is the white, highly fractured, sucrosic dolomite. The Scharb Lower Wolfcamp Reservoir is restricted to this facies.

The colored areas show facies distributions. The green area is a basin facies which consists of dark limestone and shale. The brown area shows the distribution of the brown to tan dolomite. The brown dolomite has less than 3 percent porosity and is not a reservoir rock.

The distribution of these facies is easier to see and understand by looking at the diagrammatic, block diagram in the lower lefthand corner of the exhibit.

This block diagram was sliced along line A/B, which is shown on the map as a red line. Along the A/B face of the block diagram you can see the turbidite channel and the presence of the white, detrital dolomite, which was deposited after the brown dolomite.

The Lower Wolfcamp discovery well is the

discovery well

Southland Royalty Company People's State ~~"32" No.~~ 1. This well is located in the southeast quarter of the southeast quarter of Section 32 in Township 18 South, Range 39 East. The well was completed on March 24th, 1985, for initial potential flow of about 530 barrels of oil per day.

Since then this well has produced 40,051 barrels of oil and 25-million cubic feet of gas.

On June 30th it was flowing at a rate of 328.62 barrels of oil per day and 251.62 thousand cubic feet of gas per day.

Southland next drilled its People's State "33" No. 1. This well is located in the northwest quarter of the southwest quarter of Section 33. It has 18 net feet of porous white dolomite present, while the discovery well has 44 net feet.

The SRC People's State "33" No. 1 was completed on July 11th, 1985, for initial potential flow of 357 barrels of oil per day.

Yesterday it was producing at -- pumping at a rate of 64 barrels of oil, 15 barrels of load water, and 145,000 cubic feet of gas per day, and it's still cleaing up after a treatment was recently given to it.

Southland is drilling a well in Section 32. This well is the SRC People's State "32" No. 2. It is located in the southeast quarter of the northeast quarter of

the section. It is drilling below 10,200 feet.

Forest Oil has announced a location in the northeast quarter of the northeast quarter of Section 5 of Township 19 South, Range 35 East. This well is the Forest "B" Lea State No. 1. This well will be drilled down to the Lower Wolfcamp zone and should spud shortly.

Southland also has plans to deepen a well in the Scharb Field to the Scharb Lower Wolfcamp zone. This well is the Southland Royalty Company Smith 5 No. 4 and is located in the northeast quarter of the southeast quarter of Section 5. This well is currently completed in the Upper Bone Spring zone, where it is uneconomical to produce.

Q Would you now go to your cross section C-C' and review that?

A This cross section is oriented west/east and is datumed on top of the 1st Bone Spring Sand. This cross section connects the two Southland producing wells in the Lower Wolfcamp zone.

The orange colored zone on the cross section shows the Upper Bone Spring pay interval, which is the main producing interval of this area.

The top of the Wolfcamp is shown on the cross section as a green line. Below it the Upper Wolfcamp pay interval is shaded in green. The Upper Wolfcamp pay interval consists of lenticular carbonates, which, as you can

see in the cross section, are variable and irregular in appearance and extent. The green shaded region of the cross section approximates the gross producing interval of the Upper Wolfcamp.

The new pay zone, the Lower Wolfcamp, lies deeper in the section. It occurs below a continuous carbonate marker present on all the deep control in this area. This marker defines the top of the Lower Wolfcamp and is indicated by the red line on Exhibit Six.

The reddish brown area is a chert zone which caps the Lower Wolfcamp pay zone and is present throughout the mapped area.

The structure map I showed earlier was mapped at the base of this chert zone.

The Lower Wolfcamp pay zone is shown in purple on this cross section. The red areas on the wells show the perforated interval.

Q Now, Mr. James, to be sure I understand what you're talking about, the zone which is the subject of this hearing has been present throughout the area.

A It's present in several wells throughout the area, as indicated on the maps.

Q Okay. And it is producing in how many wells in the area?

A Two wells.

Q And what you're talking about is just the -- that limited zone that is -- and is it in the purple at the bottom of the cross section?

A That's correct.

The Upper and Lower Wolfcamp zones are clearly separate reservoirs. The Lower Wolfcamp pay interval is separated from the Upper Wolfcamp pay interval by 300 to 600 feet of interbedded shales and carbonates. None of the Upper Wolfcamp producing wells are deep enough to evaluate this new zone in the Scharb area.

Q Would you now go to Exhibit Number Seven and explain the purpose of this exhibit and review what it shows?

A Yes. Exhibit Seven is a production map of the area. The various colors depict different producing zones.

The orange area shows the area's main producing interval, the Upper Bone Spring, which I showed you on the cross section.

Another important producing zone is the Middle Bone Spring, which is shown in blue, and this zone is restricted to the outlined area.

The light green area is the Upper Wolfcamp zone I discussed earlier and showed you on the cross section. Wells completed in this area are colored in large

green circles in the Upper Wolfcamp. This zone in this area is designated Scharb Wolfcamp in the annual report of the New Mexico Oil and Gas Engineering Committee.

To date only Southland's two mentioned wells are completed in this new zone, the Lower Wolfcamp, and these wells are shown in Sections 32 and 33 by the large purple circles.

Q So you have not depicted with a circle on this map the zone which is the subject of today's hearing.

A That's right.

Q Would you now go to your Exhibit Number Eight and review that?

A Exhibit Eight is a cross section, B-B', and is oriented in the north/south orientation, and it's colored in the same format as the previous cross section.

It compares the Lower Wolfcamp producing zone in the Southland Royalty Company People's "32" No. 1 Well with the Wolfcamp and Bone Spring producing zones in the Scharb area.

Clearly the Lower Wolfcamp is stratigraphically separate from the Upper Wolfcamp completions to the south.

The third well from the left on this exhibit is Southland's People's Smith 5 No. 4. No, I'm sorry, it's the Southland Smith 5 No. 4.

We plan to deepen this well about 1500 feet to complete in the Lower Wolfcamp pay zone.

In summary, the geological exhibits make four points:

The Upper Wolfcamp and our new Lower Wolfcamp zones are separate and are correlative.

The trapping mechanism for the Lower Wolfcamp pay is stratigraphic.

The productive limits of this zone include Sections 28, 29, 32, and 33, of Township 18 South, Range 35 East, and Sections 4 and 5 of Township 19 South, 35 East.

And four, the Lower Wolfcamp is a new zone.

We request creation of a new pool, and since we are dealing with a new and separate zone, we do not need to contract horizontal limits of the present Scharb Wolfcamp Pool.

Q Now other than the development plans that you've discussed, does Southland have any further development plans in the area at this time?

A We have contingent plans for next year but these plans would be contingent on the success of our drilling well, the planned well by Forest Oil, and our planned deepening to the south in the Scharb -- in the Scharb

area.

Q Were Exhibits Two through Eight either prepared by you or compiled under your direction and supervision?

A Yes, they were.

Q And can you testify from your own knowledge as to their accuracy?

A Yes, I can.

MR. CARR: At this time, Mr. Stogner, we would offer into evidence Southland Royalty Company Exhibit Two through Eight.

MR. STOGNER: Exhibits Two through Eight will be admitted into evidence.

MR. CARR: And that concludes my direct examination of Mr. James.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. James, so I understand it right, you're not proposing to contract the horizontal limits of the Scharb Wolfcamp. In other words, let the Scharb Wolfcamp exist as it is.

A That's correct.

Q However, the Scharb Wolfcamp as it now stands, would that not include your Lower Wolfcamp interval,

if I may call it that?

A I don't believe it would but I am not certain of that.

Q The Scharb Wolfcamp, I believe, would take in all Wolfcamp zones in a pool, so we may have to re-advertise this --

MR. CARR: For some kind of a vertical contraction.

MR. STOGNER: Yes.

MR. CARR: Also, it might be appropriate even -- it might be appropriate to key the interval in this new Lower Wolfcamp Pool to a particular -- a particular well. I don't know -- Mr. James, do you have a recommendation as to a well log or an interval that --

A Yes.

MR. CARR: -- could be used to define the lower zone.

A I think we could define this zone accurately with the Southland Royalty Company People's "32" State No. 1 that I mentioned and the interval in this well that's the new Lower Wolfcamp Pool would be at 11,124 feet to 11,168 feet.

Q And that's on the People's Com -- or "32" No. 1 Well.

A That's correct.

MR. STOGNER: And what were those footage intervals again?

A 11,124 feet to 11,168 feet. That's the top and bottom of the pay interval.

MR. STOGNER: Subsequent to this hearing, would you submit to me a bigger copy of the well log? It's difficult to see that on here.

A Yes.

MR. CARR: We can do that and I agree with you, Mr. Stogner. I think it would have to be readvertised for a vertical contraction of that upper pool.

A We could photocopy the log and present it to you today, if you like.

MR. STOGNER: If you don't mind, I would appreciate it. It would maybe speed things up somewhat.

A Yes.

MR. STOGNER: I believe we can hash that out later. Don't you agree, Mr. Carr?

MR. CARR: Yes, sir.

MR. STOGNER: Back to the exhibits.

Q Let's first go to Exhibit Number Eight and we'll work backwards. That's the B-B' --

A Yes, the cross section.

Q -- cross section. You had no other wells that penetrated the Lower Wolfcamp -- well, let's call it the Lower Wolfcamp for your new pool for all intents and purposes.

That penetrated that area, is that right?

A Yes, sir. No wells to the south in this area that penetrated this zone.

Q So the only two wells in this -- in your exhibit that penetrated this particular zone would be your People's State "33" Well No. 1 and your People's State "32" Well No. 1, is that right?

Other than the C-C' -- other than what is shown on your Exhibit Number Six, is that correct?

A Well, let me state it differently so it's precise.

There are other wells that are drilled deep enough to see this zone and there are other wells that have this zone present but in a different facies. But there are only two wells that are productive and only two wells that have found the -- this white sucrosic dolomite facies that is productive in this area.

Q Okay.

A As you can see from the maps, you'll be able to see that there are other wells that have -- that have control, that have drilled deep enough to either see

this well and it was not present or that the correct facies wasn't present.

There are perhaps eight or ten wells that are drilled deep enough in this entire mapped area.

Q Okay. Let's go to Exhibit, or map, Number Five, Exhibit Number Five, that shows the white dolomite area.

Approximately in the wells that are in Section 4, 5, and 8 and 9, for that matter, how many of those wells would you say penetrated this Lower Wolfcamp zone?

A None.

Q None? What did you use for the basis to map the white dolomite section?

A We used the -- our environmental interpretation and our conceptual model and the available control.

Exhibit Four, for example, is a map of -- of net dolomite and includes both facies, and from it we got the -- using its control and given the model that we had, the conceptual model, we got the outline. As you'll see, this outline matches the brown and white outline for Exhibit Number Five.

And within the dolomite thick, which is composed of two facies, we have further restricted the pro-

ductive area based on, again, our model and the available control. As I mentioned only two wells have found this correct facies, or found this productive facies. And, basically, that's how we did it. It's based on the control and our interpretation of control.

There's one symbol on the map, let me explain in case you're reviewing these things later, you may have a question.

The well in Section 1 of --

Q What map are you looking at?

MR. CARR: Exhibit Number Four.

A Either map; either Four or Five.

Q Okay. That being the American Petroleum?

A Yes, that well right there. The symbol on that means we did not have that log available. That means not available.

Q Okay.

A But it is -- it was deep enough to have seen this, but it was not productive in this zone.

Q Were there any geophysical reports in this area that you got information from?

A No.

Q So this was all essentially well control.

A Strictly subsurface work.

Q Yes. What's the difference between your

white dolomite and your brown dolomite?

A The brown dolomite has less than 3 percent porosity in it. It is not generally fractured. It is brown to tan in color. It is tight.

The white dolomite is sucrosic; generally very porous; generally greater than 8 percent porosity, and we do see, at least in our two wells that have found this facies, extensive fracturing.

Q Within a mile to the west of your proposed pool, specifically over in Section 30 and 31, there exists the Airstrip Wolfcamp Pool. Did you take in those subsurface --

A Yes, sir, we did. We only had one piece of control and that was in Section 5, the Amoco 1 "FU" and this well had limestone present at the correlative interval where the dolomite should be present.

Q I'm talking about the Airstream Wolfcamp Pool to the west.

A Yes, I'm talking about the well in Section 25.

Q Oh, 25. I thought you said --

A I'm sorry.

Q -- I'm sorry.

A I may have said 5.

Q Okay, and that's on Exhibit Number Four,

you show that with a big zero.

A Right. That's the only deep control we have in that area, in the Airstrip Field, or Airstrip Pool.

Most of those wells also did not penetrate this zone.

Q Do you know if that's on 40 or 80-acre spacing?

A 40-acre spacing.

Q Okay, now to the north is the South Vacuum Wolfcamp Pool, which specifically takes in portions of Section 16 and 21, and that seems to be off your map. Was there any well control in that area?

A We did not -- we mapped a few miles further north in our studies of this immediate area and didn't have any additional deep control, but we didn't make regional maps that would go much farther than, say, three or four miles further north.

Then we cut our maps off for purposes of this hearing to the area that we thought was germane to the request, but to answer your question, I know of no other Wolfcamp wells producing from this zone in the immediate area or in the area within several miles.

MR. STOGNER: I have no further questions of Mr. James at this time.

Are there any other questions

of this witness?

If not, he may be excused.

A Thank you.

MR. CARR: At this time we call Steve Palko.

STEVE PALKO,

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

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name, please?

A My name is Stefan E. Palko.

Q And how do you spell your last name?

A P-A-L-K-O.

Q Mr. Palko, by whom are you employed?

A Southland Royalty Company.

Q And in what office are you located?

A In the Ft. Worth Office.

Q And what is your current position with Southland Royalty Company?

A Vice President of Reservoir Engineering.

Q Have you previously testified before this Commission or one of its examiners?

A No, I have not.

Q Would you review your educational background and your work experience for Mr. Stogner?

A Okay. I have a Bachelor of Science in electrical engineering from the University of Texas at El Paso.

Following graduation from college I worked for a period of five years for Exxon Corporation in a variety of engineering and supervisory situations.

Following that I worked a year for Intercomp Resource Development and Engineering as a consulting engineer.

Following that I worked two years for Shenandoah Oil Corporation as a Manager of Reservoir Projects.

My next assignment was with Energy Reserves Group, Incorporated, as Chief Engineer.

Following that I worked a year for Kaiser-Francis Oil Company and for the past three years I've been employed by Southland Royalty Corporation, initially as Manager of Reservoir Engineering, and most recently as Vice President of Reservoir Engineering.

Q Mr. Palko, are you familiar with the application filed in this case on behalf of Southland Royalty Company?

A Yes, I am.

Q And are you familiar with the area which is the subject of the application?

A Yes, I am.

MR. CARR: We tender Mr. Palko as an expert witness in the area of reservoir engineering.

MR. STOGNER: He is so qualified.

Q Mr. Palko, have you prepared certain exhibits for introduction in this case?

A Yes, I have.

Q Will you refer to what has been marked for identification as Southland Royalty Company Exhibit Number Nine, identify this, and review it for the examiner?

A Okay. Exhibit Number Nine illustrates the production history of the People's State "32" NO. 1 Well. Indicated on the vertical axis is barrels of oil per day and on the horizonatal axis is days.

In general this exhibit shows that the well has produced on average approximately the top allowable rate of 320 barrels per day. I've also indicated on here two shut-in periods at which time we obtained bottom hole pressure build-up information.

Q Would you now go to Southland Exhibit Number Ten and review that, please?

A Okay. Southland Exhibit Number Ten summarizes the results of the pressure build-up tests on the People's State "32" No. 1 Well.

As indicated, on March 8th, 1985, we obtained an initial drill stem test on the well. Following an initial flow of 10 barrels of oil, the well was shut-in for a period of an hour. The highest recorded pressure at that time was 5620 psi.

Using the pressure build-up information we obtained a calculated reservoir pressure of 5632 psi.

On April 25th, 1985, after production of 9,877 barrels, we shut the well in for a period of 67 hours, obtained bottom hole pressure information with a bottom hole pressure bomb.

Our highest recorded pressure at the end of 67 hours was 4,177 psi.

Using the build-up data again, we obtained a static, or calculated static reservoir pressure of 4,770 pounds.

On June 20th the well was again shut in following cumulative production of 25,939 barrels.

We shut the well in for 71 hours, obtained, again, pressure data with a bomb. Our highest recorded pressure at that time was 2,780 pounds and we determined a statis reservoir pressure of 3,160 psi from the

build-up calculation.

Q And in calculating these reservoir pressures you used the Horner method, did you not?

A That's correct.

Q Would you now go to Exhibit Number Eleven?

A Okay. Exhibit Number Eleven is an illustration of the material balance equation, which we utilized in order to determine from available production and pressure information the original oil in place.

The material balance equation indicated inside the box is basically for calculation of oil in place above the bubble point, assuming no water influx, which we believe to be the situation for this particular reservoir.

A continuation of this exhibit on the next page, again we have summarized the date, cumulative oil production, our estimate of static reservoir pressure, the oil formation volume factor, which we're estimating, associated with given pressure value, and the delta pressure from original pressure.

Utilizing that information and the previous material balance equation, for the April 25th data we calculated an original oil in place of 1,088,000 barrels.

Using the June 20th data we -- in the equation, we calculate an original oil in place of 896,950

barrels.

The average of those two values is 992,697 barrels of oil, or original oil in place in communication with this well.

Q Would you now review the calculations of the drainage area that are set forth on your Exhibit Twelve?

A Okay. On Exhibit Number Twelve we utilized the calculated original oil in place from material balance to determine the effective area in communication with this well.

The top part of this exhibit illustrates the reservoir properties which we derived from the well logs on People's State "33" No. 1 and "32" No. 1.

From these well logs we determined average porosity to be 10 percent; average net pay to be 31 feet; and average water saturation to be 30 percent.

Entering those values into volumetric equation for original oil in place, we back calculated 90 acres to be effectively in communication with the "32" NO. 1 Well.

Q And that's the acreage you would anticipate being drained?

A Yes, sir.

Q Will you now go to Exhibit Thirteen?

A Okay. Exhibit Number Thirteen shows a

Horner plot obtained from a drill stem test on the second well on the reservoir, the People's State "33" No. 1.

As indicated on this exhibit, we have an estimated static pressure obtained from this build-up pressure information of 3003 psi, which indicates that significant drainage has occurred in this reservoir as a result of production from the first well, "32" No. 1.

In addition, this drill stem test was obtained in close proximity to the last buld-up test on the "32" No. 1 and the pressure values are relatively close in both wells.

As a consequence we suspect these wells to be effectively in communication.

Q Could you summarize the conclusions that you can reach from the study you have made of this area?

A Okay. I believe that the engineering data obtained from the two wells indicates that first of all, approximately a million barrels of oil in place are in communication with the People's State "32" No. 1; that this represents a drainage area of approximately 90 acres; and that the second well on the reservoir is effectively in communication with the first well.

As a consequence we feel like these wells will drain at least an effective area of 180 acres and as such, we currently our request.

Q So you're recommending 80-acre spacing for this pool.

A Yes, that's correct.

Q For what period of time are you seeking the promulgation of temporary rules?

A For a period of time of two years.

Q In your opinion will granting this applicaiton be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A Yes, it iwll.

Q Were Exhibits Nine through thirteen prepared by you or compiled under your direction and supervision?

A Yes, they were.

MR. CARR: At this time, Mr. Stogner, we would offer into evidence Southland Royalty Company Exhibits Nine through Thirteen.

MR. STOGNER: Exhibits Nine through Thirteen will be admitted into evidence.

MR. CARR: That concludes my direct examination of Mr. Palko.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Palko, you show your average net pay to be 31 feet. What are the perforated intervals in both these wells?

A I probably need to defer to the geological witness in order to give you that. I don't have an exhibit with me that indicates exactly what those perforated intervals are.

MR. STOGNER: Mr. James?

MR. JAMES: Let's see, the perforated intervals are indicated in red graphically on the cross sections.

MR. STOGNER: I've got that here but I can't read them and --

MR. JAMES: I gave you the perforated intervals on the "32" No. 1 already.

Let me look at the log.

We'll furnish you that data before the end of the morning.

MR. CARR: If that's all right with you.

MR. JAMES: If that's okay with you.

MR. STOGNER: Yeah, it will be.

Thank you, Mr. James. We will get that information later.

Q And you got your average water saturation off the logs on both those wells, right?

A Yes, that's correct.

Q That would be 30 percent in that particular interval or the whole Wolfcamp area?

A Just in the particular interval.

Q Same with the average porosity?

A Right, and those would be the average for the interval that we would consider to be net pay.

Q How does the reservoir pressure, the initial reservoir pressure in this Lower Wolfcamp differ from the Upper Wolfcamp in these two wells?

A In these two wells? I don't believe we have a pressure measurement in the Upper Wolfcamp in these two wells. Our drill stem test was confined to the Lower Wolfcamp, which indicated the shows when they were initially drilled through.

MR. STOGNER: I have no further questions of this witness.

Are there any other questions of Mr. Palko?

MR. CARR: Nothing further.

MR. STOGNER: If not, he may be

excused.

Are there any other further questions of any of these witnesses at this time?

If not, I don't either, so the additional information we're waiting on, Mr. Carr, would be perforations --

MR. CARR: In the two wells and a --

MR. STOGNER: -- in the two wells.

MR. CARR: __section of the log from the People's "32" No. 1.

MR. STOGNER: Right. Also I will get with you subsequent to this hearing --

MR. CARR: Concerning a read-vertisement.

MR. STOGNER: Yes. Now this readvertisement won't get to go out until the Examiner's hearing scheduled for September 11, 1985.

I should be around at that time. If there would be any additional testimony I will come in and hear it being as I am not the scheduled hearing examiner for that date, but I'll come around. I will be in here.

MR. MIERTSCHIN: Mr. Stogner.

MR. STOGNER: Yes, sir.

MR. MIERTSCHIN: William R. Miertschin with Mesa Petroleum Co., Amarillo, Texas.

We would like to -- we have an interest in this area and we'd like to enter an appearance that we are in support of this application.

MR. STOGNER: How do you spell your name, Mr. Miertschin.

MR. MIERTSCHIN: M-I-E-R-T-S-C-H-I-N.

MR. STOGNER: And what is your title?

MR. MIERTSCHIN: I'm the Supervisor of Regulatory and Safety Information.

MR. STOGNER: Do you have production within the Scharb Wolfcamp Pool?

MR. MIERTSCHIN: We have some in that area and the People's State "33" No. 1 was drilled as an option well on a farmout agreement from MTS Limited Partnership, which Mesa is the general partner.

MR. STOGNER: Thank you. Is there any additional appearances?

There being none, the record will be kept open on Case 8676 pending the readvertisement for September 11th, 1985.

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 (Commission) 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 CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8676, heard by me on 14 August 1985.

Michael E. Stogner, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico

11 September 1985

EXAMINER HEARING

IN THE MATTER OF:

Application of Southland Royalty Company for pool creation, special pool rules, and the contraction of the vertical limits of the Scharb-Wolfcamp Pool, Lea County, New Mexico.	CASE 8676

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Jeff Taylor
Legal Counsel to the Division
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. QUINTANA: We'll call Case 8676, the application of Southland Royalty Company for pool creation, special pool rules, and the contraction of the vertical limits of the Scharb-Wolfcamp Pool, Lea County, New Mexico.

This case was readvertised to correct an error in the previous advertisement and was heard at the last hearing by Hearing Examiner Mike Stogner.

Is there anything further in Case 8676?

If not, Case 8676 will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8676 heard by me on SEPT. 11 1985.

Gilbert P. Quintana Examiner
Oil Conservation Division