1 2	STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO				
3	1 February 1989				
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5	EXAMINER HEARING				
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7	IN THE MATTER OF:				
8	Application of Nearburg Producing Comp- CASE any for an unorthodox gas well location, 9568				
9	Eddy County, New Mexico.				
10					
11					
12	BEFORE: David R. Catanach, Examiner				
13					
14					
15	TRANSCRIPT OF HEARING				
16					
17	APPEARANCES				
18	For the Division:				
19					
20	For Nearburg Producing William F. Carr Company: Attorney at Law				
21	CAMPBELL and BLACK, P. A. P. O. Box 2208				
22	Santa Fe, New Mexico 87501				
23					
24					
25					

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I'll call Case 9568.

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MR. CATANACH: At this time

The application of Nearburg Producing Company for an unorthodox gas well location, Eddy County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr. We represent Nearburg Producing Company.

This case was heard on January the 4th. At the time of the hearing it was discovered one party had not received notice. Notice was provided by certified mail on that date and now the case can be taken under advisement based on the record made on January 4th.

MR. CATANACH: There are no other appearances in this case at this time?

If not, Case 9568 will be taken under advisement.

(Hearing concluded.)

CERTIFICATE

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.

Salley W. Boyd CSR

a complete record of the proceedings in the Examiner hearing of Case No. 9508 heard by me on february/ 1989

Dind R. Catarol, Examiner
Oil Conservation Division

1 2 3 4	STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO  4 January 1989			
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8	location, Eddy County, New Mexico.			
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11	BEFORE: David R. Catanach, Examiner			
12				
13	TRANSCRIPT OF HEARING			
15				
16	APPEARANCES			
17	For the Division: Robert G. Stovall			
18	Attorney at Law Legal Counsel to the Division State Land Office Bldg.			
19	Santa Fe, New Mexico			
20 21	For Nearburg Producing Scott Hall Company: Attorney at Law			
22	CAMPBELL and BLACK, P. A. P. O. Box 2208 Santa Fe, New Mexico 87501			
23	34.124 10, 110.1100 07301			
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		2	
1			
2	INDEX		
3			
4	CHARLES E. NEARBURG		
5	Direct Examination by Mr. Hall	3	
6	Cross Examination by Mr. Catanach	10	
7			
8	LOUIS J. MAZZULLO		
9	Direct Examination by Mr. Hall	11	
10	Cross Examination by Mr. Catanach	18	
11			
12			
13			
14	EXHIBITS		
15			
16	Nearburg Exhibit One, Plat	5	
17	Nearburg Exhibit Two, Plat	6	
18	Nearburg Exhibit Three, Structural Map	12	
19	Nearburg Exhibit Four, Isopach	14	
20	Nearburg Exhibit Five, Isopach	14	
21	Nearburg Exhibit Six, Letter	8	
22			
23			
24			
25			

3 1 MR. CATANACH: Call next Case 2 9568. 3 STOVALL: MR. Application of Nearburg Producing Company for an unorthodox gas well 5 location, Eddy County, New Mexico. 6 MR. CATANACH: Are there 7 appearances in this case? 8 MR. HALL: Mr. Examiner, Scott Hall from the Campbell & Black law firm on behalf of the 10 We have two witnesses in this case this applicant. 11 morning. 12 MR. CATANACH: Any other 13 surprise appearances? 14 Will the witnesses please 15 stand to be sworn in. 16 17 (Witnesses sworn.) 18 19 CHARLES E. NEARBURG, 20 being called as a witness and being duly sworn upon his 21 oath, testified as follows, to-wit: 22 23 DIRECT EXAMINATION 24 BY MR. HALL: 25 Q For the record, please state your name

4 1 and by whom you're employed. 2 My name is Charles Nearburg. I live in 3 Dallas and I'm employed by Nearburg Producing Company as its president. 5 And have you previously testified before 6 the Examiner and had your credentials made a matter of re-7 cord? 8 Yes, several times. Α 9 Q Are you familiar with the application 10 and the subject lands in this case? 11 Α Yes, I am. 12 MR. HALL; Mr. Examiner, are 13 the witness' credentials still acceptable today? 14 MR. CATANACH: They are. 15 Q is it that Nearburg seeks by this 16 particular application? 17 Basically Nearburg seeks the approval of 18 an unorthodox Morrow well location at a point 1980 feet 19 from the north line and 990 from the west line of Section 20 26, Township 19 South, Range 25 East, Eddy County, New 21 Mexico. 22 Q And are you familiar with the rules 23 covering development of the Morrow formation in the area? 24 Yes, I am. Α 25 Q What are those locational requirements?

The location requirements for the pool rules in the Boyd Morrow Pool call for 320-acre gas proration units with wells located no closer than 660 to the side boundary and 1980 feet from the end boundary, with 1320 feet between wells.

Q So how much closer to the outer boundary of the spacing unit is this location?

A This well would be 990 feet closer to the end boundary.

Q All right, let's refer to Exhibit One, if you would explain that to the Examiner, please, sir.

A Exhibit One is a land plat which shows our acreage position and the existing wells, dry holes and producers, in the area. Basically, Nearburg Producing Company operates all the offset producing wells, most of which are very marginal Morrow producers.

The -- within the last year Nearburg drilled the Perino 23 "L" No. 2, which is a fairly marginal Morrow well.

We also drilled the Boyd State 26 "M" No. 1, which is a, I'd say, a good, average Morrow well.

Our other Morrow well, the Perino No. 1, subsequent to drilling the Perino No. 2, the Perino No. 1 was recompleted in the Strawn formation.

Basically, Nearburg has 100 percent of

the working interest in the proposed well to be drilled and, let's see here, I guess that's the long and short of this.

Q All right, let's look at Exhibit Two.

Does that exhibit shows the offsets and does it also show
the proposed location and a standard location for this
proration unit?

A Yes, Exhibit Number Two is basically just another version of Exhibit Number One, although a smaller or larger scale, depending on how you want to look at it.

Q And why is this unorthodox location being proposed in this case?

A Basically the geology will more thoroughly cover this, but basically, we don't feel like we have much of a chance, if any, of making a Morrow well if we move it off of this location.

We've had difficulty making good wells in the area in any case, and based on our geologic data gathered in the drilling of the two offset wells, which I just referred to, including dipmeters, et cetera, this appears to be the only location in that north half proration unit which makes any sense.

Q All right, and you have another witness who will --

Α Yes.

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Q -- provide geologic testimony, do you

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not?

Yes, Mr. Mazzullo will. Α

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All right, Mr. Nearburg, do you believe Q that the production from the subject well should be restricted or penalized due to its location?

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8 Α Well, no, I don't believe it should,

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being as we operate all the offset wells and also by virtue

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of the fact that there's not been any particularly astound-

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ing production in this immediate area, and given the dif-

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ficulty that we're having marketing the gas in the first

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place and the prices that we're receiving for it, no, I

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would request that it not be penalized.

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Q Did you request that a minimum allowable be set for the well if, in fact, its production is penal-

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Α I think, yes, at least a million -- 1000

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MCF per day.

Q

ized?

well?

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affect would that have on your plans to go forward with the

Should production be penalized,

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Α Oh, I think we would seriously reconsider our plans to drill it. It would be -- it would be very difficult to convince our, you know, our partners in the

well that it would -- that it would justify the risk.

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So we -- the well would probably not be

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drilled.

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All right. Mr. Nearburg, do you believe that granting your application will be in the best interest

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of conservation, the prevention of waste, and the protect-

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ion of correlative rights?

Α

please, sir?

Α

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I do. We try to do a very thorough job of drilling and evaluating this area and I think this is

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sort of a last proration unit, one of the last proration

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units in the immediate area that can be tested.

Yes.

their objection to this well location.

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All right. Let me refer you to what's Q

Exhibit Six is a letter, a waiver

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been marked as Exhibit Six. Could you identify that,

of opposition letter from Mr. Michael Engeler (sic), Land

Manager of American National Petroleum Company, which is

the -- which is the owner of the southeast quarter of

Section 27, 19 South, 25 East. We have been working with

American National Petroleum Company and this is a waiver of

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der in this matter?

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Α We would not -- well, wait a minute,

Is Nearburg requesting an expedited or-

maybe I should --

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And if so, why? Q

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Well, we don't desire to present any Α undue hardship on the Commission, but we -- part of the economics of our drilling in this area have been -- have been -- are based on being able to make a deal with a drilling contractor to move from one successive location to the next, and therefore we have three wells that we would like to drill back to back in order to get these economies in scale.

If we have to stop between wells and he has to move off and come back, it adds significantly to the cost, and for that reason we are not in this particular case -- well, I won't comment -- anyway, under a particular land bind, it's just a matter of economics at this point.

Q All right. Were Exhibits One, Two and Six prepared by you or at your direction?

Yes, they were.

MR. HALL: We'd move the ad-

mission of the --

Α Well, Six wasn't. I mean we requested the letter.

> Q All right.

MR. HALL: I'll move the admission of Exhibits One, Two and Six, anyway.

> MR. CATANACH: Exhibits One,

10 1 Two and Six will be admitted as evidence. 2 HALL: Nothing further of MR. 3 this witness. 5 CROSS EXAMINATION 6 BY MR. CATANACH: 7 Q So you're not currently drilling the 8 well? 9 Α Oh, no. 10 Q Do you know what the well, the Perino 11 on the south half of 23, what does that make, appro-12 ximately, do you know? 13 Right now it's making on the order of 14 250 MCF per day, or less. It's been declining. When we 15 initially put it on production it started off at about 500 16 and it's been steadily declining in rate and pressure since 17 then. 18 How about the Boyd State No. 1? Q 19 Α The Boyd State's been producing, I be-20 lieve, somewhere in the range of 1-million or 1000 MCF to 21 1500 MCF per day and while we are seeing some decline in 22 the flowing tubing pressure, it does not appear near as

Q Is that a Morrow gas well in the south-west quarter of Section 27?

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drastic as the Perino has.

1 That well was drilled by Coquino and it Α 2 was called the Coquina (unclear) State and it was drilled 3 and did test the Morrow formation and encountered very tight sands and I don't believe I'm misstating the fact 5 that they -- I think they ran -- well, the logs are fairly 6 conclusive that the well did not produce. I believe they 7 also ran a DST which recovered nothing. I'm not positive 8 about the DST. 9 So that well is not producing? Q 10 No, it never has produced. Α 11 MR. CATANACH: I have no fur-12 ther questions. The witness may be excused. 13 14 LOUIS J. MAZZULLO, 15 being called as a witness and being duly sworn upon his 16 oath, testified as follows, to-wit: 17 18 DIRECT EXAMINATION 19 BY MR. HALL: 20 For the record please state your name. Q 21 My name is Louis Mazzullo. Α 22 Mazzullo, by whom are you employed Q Mr. 23 and in what capacity? 24 Α I'm a geological consultant under con-

tract to Nearburg Producing Company of Midland, Texas.

25

Q And you've previously testified before the Examiner and had your credentials made a matter of record, have you not?

A I have.

Q And you're familiar with the subject well and the application we're here for today?

A I am.

MR. HALL: Mr. Examiner, are the credentials of the witness acceptable?

MR. CATANACH: They are.

Q Mr. Mazzullo, let's refer to Exhibit Three, if you would, please, sir, if you would explain that to the Examiner.

A Exhibit Three is a structure map drawn on the top of the Middle Morrow, which in this area defines the top of the pay interval of the Morrow formation.

The Morrow formation pays from an interval of approximately 200 feet. Within that interval of 200 feet are a number of discrete sandstones which constitute the pay in the Morrow.

The structure map shows regional dip to the southeast around the proposed location that's indicated by the red dot and the red arrow. This easterly dip is defined on the top of the Middle Morrow on the contour interval of 50 feet on this map.

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24 25 Please note that in the southwest quarter of Section 26 is the Nearburg Boyd State 26 No. 1, with a subsea of 5862 feet.

The proposed location is anticipated to be up dip of that Boyd State 26-1 by a number of feet, perhaps as much as 10 to 12 or 15 feet high to the well in southwest quarter. The well is proposed at this location for a number of reasons, not the least of which is structural favorability on two of the major Morrow reserzones that we're targeting in the proposed well. we were to move this well towards a standard location, that is, towards the east by 990 feet, we run the risk of coming down dip, perhaps even further down dip than the 26 No. 1. Nearburg has already testified to the fact that the 26 1 is declining in flowing tubing pressure, even though production hasn't shown any substantial decrease yet, but by being as far up dip as possible, we are firstly reducing the amount of risk of drilling a depleted zone or at least getting into -- at the very least getting into a possible waterleg, which you do get into in this area.

Q How many Morrow zones are productive in this area?

A Oh, there are a number of zones. I've zoned the Morrow in this region into, perhaps, up to 12 different zones, but not all of them pay in every well.

Each well out here pays almost -- you could almost say that every well pays out of a different zone, although that's not strictly the case.

All the wells that you see on this -- on this map that are colored in solid black are Morrow wells, but they all produce out of variously different zones in that 200 foot interval.

Q Are there typically multiple pay zones for each well on this?

A Yes, that's not -- that's pretty common in this area.

Q All right. Let's look at Exhibits Four and Five, if you would, please.

A Exhibit Number Four is an isopach map or a thickness map of total sand in one of the zones, one of the major intervals that is productive in the Morrow. I designate this as Morrow Zone 1-A. Other operators in the area might assign this to Zone D or C, depending on terminology.

at the top of the Morrow reservoir that encompasses a number of different sandstone units. These sandstone units have been lumped together and a net sand value for each well in this zone has been assigned on the basis of cleanliness as we define it on a gamma ray log. So, for

example, the South Boyd -- the Boyd State 26 No. 1 in the southwest quarter of the subject section contains 16 feet of clean sand within this 50-foot interval that I've mapped.

The interval, or the trends of the sands or the elongation from north to south in this unit reflects the dominantly fluvial character of the sand. In other words, these sands were deposited in rivers which flowed from the north to the south. As I show, a thickness in the sand may reach a maximum in the vicinity of the proposed location.

The reason I've drawn this map and the trends the way I have is based upon dipmeter data that we've been able to get out of this zone in the Boyd State 26 No. 1 and in the Perino No. 2 in the southwest quarter of Section 23. This dipmeter data indicates that this particular sand unit, or the sand units that comprise this mapping horizon are flowing from the south to the north -- from the north to the south, rather, and that they are thickening in a direction away from and east of the Boyd State 26 No. 1.

You'll notice alongside the 25 No. 1 there's a little arrow. That arrow is pointing southeastward in the direction of flow of this fluvial unit, with a little arrow pointing towards the east, which indicates a

thickening in that direction.

This is the major target horizon in the Morrow that we're going after. It pays -- it's perforated, I should say, in the No. 23-2, indicated by the solid triangle with the number 19 indexed on it, but that well contains a minimum amount of porosity, which I consider to be productive in this area.

The dotted pattern on this map indicates areas where there is more than 10 feet of 8 percent porosity in the Morrow Sands, which in this area constitutes an arbitrary cutoff value for an economic well.

By putting the location nonstandard as we are, we're towards the west section line of Section 26, I hope to get us into a structurally favorable position as I defined on the previous exhibit, as well as tapping into an area of maximum porosity development, or at least I hope there to be maximum porosity development at that location.

If I were to move the location further to the east, I will probably be in a similar porosity situation, but I'll be down dip and run the risk of getting into water in this zone, which is a problem.

Q So in your opinion do you believe that there is a greater likelihood of success drilling the well at the unorthodox location than the standard location?

A Yes, I do.

 Q And it's less likely that you'll encounter unacceptable amounts of water production at that location?

A Yes, it is less likely to produce any damaging water at that proposed location.

Q All right, let's look at Exhibit Five.

Do you have anything you wish to add about that?

A No, that's all I have.

Q Okay. Mr. Mazzullo, in your opinion is -- do you believe that the granting of the application will be in the best interest of conservation, the prevention of waste, and protection of correlative rights?

A Do you want to comment on this?

Q That's Five.

A Exhibit Five.

Q That's what I asked you.

A Oh, I'm sorry, I misunderstood counsel.

In regard to say -- there's not much I could add on Exhibit Number Five except that this is a lower mapping horizon below the major objective in the Morrow. It's mapped similar to the way I've mapped the Zone 1-A. It is entirely more risky, it's a more risky target horizon than the previous one because we have a limited -- only a limited amount of data from offset wells to suggest that this trend actually exists.

If it does exist, and if -- if the thickening of the unit is as I show it on this well, again, I would prefer to stay up dip, on the up dip flank of the channel unit in order to maximize productivity of gas and minimize productivity of water.

Q Right. Let me ask you again, do you believe that granting the application will be in the best interests of conservation, the prevention of waste and protection of correlative rights?

A I do.

Q Were Exhibits Three, Four and Five prepared by you or at your direction?

A They were prepared by me.

MR. HALL: We move the admission of Exhibits Three, Four and Five, and that concludes our direct of this witness.

MR. CATANACH: Exhibits Three, Four and Five will be admitted as evidence.

## CROSS EXAMINATION

21 BY MR. CATANACH:

Q Mr. Mazzullo, does Zone 2 produce in this area?

A Yeah. If you look on the map, there are two wells that are indexed with solid triangles, one in

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 Section 22 and one in Section 27, both of which are operated by Nearburg Producing Company. They produce out of this zone but as you can tell, they're not in a productive porosity fairway, as I've defined it by the dotted patterns.

I'm not even sure that this fairway is going to exist at the proposed location. It's highly speculative, so it makes this zone extremely risky and just speculative at this point.

Q But if in fact it does exist, you're moving further away from the area of maximum porosity development.

Well, again, we might -- we might -- if we move further to the east, particularly in Zone No. 2, which is already stratigraphically lower than Zone 1-A.

This zone here tends to be wet. If you look down in Section 35, there's a well that has 47 feet of sand. That well is wet, doesn't produce out of this zone. It tested wet out of this zone even though it has the thickest sand in the whole -- in the whole area. So if -- if in fact this zone does exist at the proposed location, I'd sure -- I would sure like -- prefer to keep it as far up dip on the flank of the unit as possible.

Q Is the well in the south -- the Boyd State No. 1, does that -- does that produce any water at

all?

A Not -- not at present, and it's not perforated in either one of these zones. It's perforated in what I would call Zone 1-B, and it's not -- it doesn't -- I don't anticipate Zone 1-B being developed at the proposed location. That's a different animal altogether.

Q So your primary target would be Zone 1-A?

A 1-A.

Q Do you have any data which indicates where the -- where the gas/water contact might be in Section 26?

A In 26, it's very hard to predict that because we don't have enough -- we don't have enough wells that penetrate a good porosity section in this zone. The only one that's penetrate -- well, there aren't any on this map that penetrated a good porous section of this zone, so it's hard to tell.

Elsewhere along this trend, if you'd follow this trend down towards the south or up towards the north, you'll find a number of wells that have -- that have tested wet in this zone, but because these porosity zones are isolated and separated by tight rock, it's hard to pin down, they'd be different in different areas along the trend. You could have the oil -- the gas/water contact at

one level at one point and another level in another point, because along trend you don't even have pressure connection.

 $$\operatorname{MR.}$$  CATANACH: I don't have any more questions. The witness may be excused.

Is there anything further in this case?

MR. HALL: Yes, Mr. Examiner. Notice in this case was timely sent to all interest owners entitled to notice. Unfortunately due to an administrative error it was for the wrong case.

We had to send out notice again on December 27th and we therefore request that this matter be kept open for the docket on the 18th of this month to enable those (unclear) to appear if they so desire.

MR. CATANACH: This hearing will be continued to leave the record open to January 18th.

What interest owners did you

have to re-notify?

MR. HALL: I'll be glad to supplement the record with an affidavit or I can read them to you here today.

MR. CATANACH: Why don't we do

both?

MR. HALL: Okay. Would you

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like the addresses as well?

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MR. CATANACH: No.

HALL:

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Okay. Notice was sent on both December 13th and December 27th to the fol-

MR.

6

lowing: Edward Judson, Kim Williams, William Martin of

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Midland; Coquina Oil Company, Midland; Kelly Maria Taylor,

Midland; James D. Taylor, Midland; Marshall and Winston,

Midland; Anadarko Petroleum Corporation, Incorporated,

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Midland; American National Petroleum Company, Houston. I

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believe that's all.

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MR. CATANACH: Mr. Hall, do you know the interest these various companies hold in this

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area?

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MR. HALL: We've got Mr. Near-

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burg to testify to that.

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MR. CATANACH: Okay.

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MR. NEARBURG: I'm not quali-

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fied to comment as to their exact interest because I don't

20 have a land take-off.

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American National Petroleum Company, we

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received a letter that was previously admitted that I know

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is the only one that has a significant interest.

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I believe Anadarko's interest involved

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some small leases in the -- in the west half of the west

half of Section 22, and we have previously worked with all of the other people that we've sent notice to, MWJ and Marshall and Winston, we have previously worked with them on other interests in these areas, but to my knowledge, with the exception of American National Petroleum Company, all the other interests are very -- are quite small and I don't even think that -- well, I think they're mostly concentrated up in the west half of Section 22.

I don't think that there's much in the way of those interests that directly offsets the proposed well.

MR. CATANACH: That's the question I had. It seems to me that the only affected interest is American National Petroleum Company. Other than that, it looks Nearburg owns 100 percent of the affected acreage.

MR. NEARBURG: These interests are very -- I'm real comfortable in saying although I don't have the take-off with me, I'm very comfortable in saying that most of these other interests are very, very small, but for the sake of completeness, you know, they -- they were notified.

As we previously, obviously, have proration units offsetting every direction except for the ANP, American National Petroleum pieces, so you know,

we previously -- if these people have interests in those offset proration units, we've dealt with them and, you know, tried to develop their acreage for them by the drilling of those wells, so --

MR. CATANACH: Okay, we'll leave the record open then until January 18th and call for appearances at that time.

There being nothing further we'll leave the record open until January 18th, at which time we'll call for any further testimony or appearances in this case.

(Hearing concluded.)

## CERTIFICATE

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.

Solly W. Boyd CSTZ

i do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9564 heard by me on 12 man 4 1985

Oll Conservation Division