

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

6  
7  
8 5 June 1985

9 EXAMINER HEARING

10 IN THE MATTER OF:

11 Application of Southland Royalty Company  
12 for a non-standard gas spacing and pro-  
13 ration unit, San Juan County, New Mexico.

CASE  
8608

14  
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16  
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18  
19 BEFORE: Gilbert P. Quintana, Examiner

20 TRANSCRIPT OF HEARING

21 A P P E A R A N C E S

22 For the Oil Conservation  
23 Division:

24 Maryann Lunderman  
25 Attorney at Law  
Energy and Minerals Department  
Santa Fe, New Mexico 87501

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2  
3 MR. QUINTANA: We'll call next  
4 Case 8608.

5 MS. LUNDERMAN: Application of  
6 Southern Oil Royalty Company for a non-standard gas  
7 spacing and proration unit, San Juan County, New Mexico.

8 MR. QUINTANA: Okay, this case  
9 has been previously heard by Mike Stogner in the case and  
10 was readvertised. Are there further--is there further  
11 testimony in this case?

12 Appearances? If not, Case 8608  
13 will be taken under advisement.

14 (Hearing concluded.)  
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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 correct and true copy of the proceedings in the Executive Order No. 8608, heard by me on June 5, 1985.  
Gilbert P. Quintana Examiner  
Oil Conservation Division



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A P P E A R A N C E S

For Dugan, et al:                    Robert G. Stovall  
   Attorney at Law  
   Dugan Production Corporation  
   P. O. Box 208  
   Farmington, New Mexico 87499

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MR. STOGNER: We'll call next Case Number 8608.

MR. TAYLOR: Application of Southland Royalty Company for a nonstandard gas spacing and proration unit, San Juan County, New Mexico.

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

We have one witness.

MR. STOGNER: Are there any other appearances in this matter?

MR. STOVALL: Yes, Mr. Examiner. Robert G. Stovall of Dugan Production, appearing on behalf of Dugan Production and also on behalf of Emery A. -- Emery C. Arnold, Steven Arnold, and Lola N. Arnold, in opposition.

MR. TAYLOR: Okay, what was your last name?

MR. STOVALL: Stovall, S-T-O-V-A-L-L.

MR. STOGNER: Mr. Stovall, are you an attorney?

MR. STOVALL: Yes, I am.



1 MR. STOGNER: In Farmington or  
2 --  
3 MR. STOVALL: Farmington.  
4 MR. STOGNER: You've appeared  
5 before here before?  
6 MR. STOVALL: I have been here.  
7 I've never actually appeared before.  
8 MR. STOGNER: Okay. Who are  
9 you appearing on behalf, Dugan?  
10 MR. STOVALL: Dugan Production,  
11 may I say the Arnold Family, that would be Emery C. Arnold,  
12 Lola Arnold, and Steven Arnold.  
13 MR. STOGNER: Do you have any  
14 witnesses?  
15 MR. STOVALL: I have two wit-  
16 nesses.  
17 MR. STOGNER: Are there any  
18 other appearances?  
19 Will all three witnesses please  
20 stand and be sworn?  
21  
22 (Witnesses sworn.)  
23  
24 MR. CARR: At this time I'd  
25 call Dave Blandford.

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DAVID M. BLANDFORD,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A David Michael Blandford. I live in Dur-  
ango, Colorado.

Q Mr. Blandford, by whom are you employed  
and in what capacity?

A I'm employed by Southland Royalty Company  
as a petroleum engineer.

Q Have you previously testified before the  
Oil Conservation Division and had your credentials accepted  
and made a matter of record?

A No, I have not.

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

A I received a Bachelor of Science degree  
in civil engineering from Colorado State University in  
December, 1980, at which time I was employed by Texaco and  
assigned to the Cortez Office and worked in the Four Corners

1 area as a production engineer for two and a half years.

2 Was then assigned to the Division Office  
3 in Denver; worked there for a little over a year.

4 In August of 1984 I accepted employment  
5 with Southland Royalty in Farmington, New Mexico, where I've  
6 been employed since that time.

7 Q Does your area of responsibility for  
8 Southland include the area in which today's proposed spacing  
9 unit lies?

10 A Yes, it does.

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

13 A Yes, I am.

14 Q Are you familiar with the subject area?

15 A Yes.

16 Q Are you familiar with Southland's plans  
17 to develop the subject acreage?

18 A Yes, I am.

19 MR. CARR: Are the witness'  
20 qualifications acceptable?

21 MR. STOGNER: They are.

22 Q Mr. Blandford, would you briefly state  
23 what Southland Royalty Company is seeking with this applica-  
24 tion?

25 A Okay. Southland Royalty is seeking a

1 160-acre nonstandard proration unit for the northwest quar-  
2 ter of Section 15, Township 29 North, Range 14 West, in San  
3 Juan County.

4 Q And why is Southland Royalty Company  
5 seeking this nonstandard unit?

6 A To limit the unit to productive acreage  
7 in the section.

8 Q Will the well that Southland proposes to  
9 drill on this spacing unit be located at a standard loca-  
10 tion?

11 A Yes, it will.

12 Q And what is the primary objective in that  
13 well?

14 A The Basin Dakota Pool.

15 Q What is the standard spacing for the  
16 Basin Dakota Pool?

17 A 320 acres.

18 Q Has infill drilling been approved in this  
19 pool?

20 A Yes, it was by Order R-1670-V.

21 Q And what is the effective spacing pattern  
22 as a result of the infill drilling order?

23 A 160 acres.

24 Q Is the Basin Dakota Pool a prorated pool?

25 A Yes, it is.

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

3           A           Yes, we have.

4           Q           Would you refer to what has been marked  
5 for identification as Southland Royalty Company Exhibit  
6 Number One and identify this for the Examiner?

7                        Would you first refer to the type log on  
8 Exhibit One and review this, please?

9           A           Figure Number Three on Exhibit One is a  
10 type log of Southland Royalty's Lot No. 1, which is located  
11 in Section 3 of 29 North, 14 West.

12                       The log is a copy of the Dakota and we  
13 have divided that into three main zones.

14                       The top zone is actually the Graneros,  
15 which we call the upper bar complex, a series of marine  
16 sandstones.

17                       The middle zone is actually the main  
18 Dakota pay and as we've called, the lower bar complex, and  
19 the Lower Dakota, below that, is a channel complex, which we  
20 call a channel complex.

21           Q           Mr. Blandford, would you go to Figure  
22 Number Two and identify that and explain what that shows?

23           A           Okay. We will progress through this log.  
24 We have a net pay Isolith for each zone we have divided the  
25 Dakota into, and we will work from the bottom up.

1                   The first is the Dakota channel complex,  
2 which is normal to the northeast strike of the main Dakota  
3 pay and we show in the proposed location in the northwest  
4 quarter of Section 15 that the net pay does not exist. The  
5 net pay was contoured on a resistivity of greater than or  
6 equal to 15 ohms and a porosity of greater or equal to 6  
7 percent.

8                   Q           Now, if we look at Figure Number Two, the  
9 proposed location is indicated by an arrow, is that correct?

10                  A           That is correct.

11                  Q           And what is the dashed line that is imme-  
12 diately south of that?

13                  A           This is an approximate boundary of the  
14 Navajo Indian Reservation.

15                  Q           Would you now go to Figure Number Five  
16 and review that for Mr. Stogner?

17                  A           Figure Number Five is an Isolith map of  
18 the net pay in the lower bar complex of the main Dakota pay,  
19 which is the main objective of the proposed well. We pro-  
20 ject there will be between 5 and 10 feet of net pay, net  
21 Dakota pay, based on resistivity of 50 ohms and porosity of  
22 6 percent at the above location.

23                  Q           Would you now go to Figure Number Four  
24 and review that?

25                  A           Figure Number Four is a map of the Gran-

1 eros, or upper bar complex, and it is mapped also on a re-  
2 sistivity cutoff of 50 ohms and a porosity of 6 percent and  
3 we expect no upper bar complex net pay at the proposed loca-  
4 tion.

5 Q So the main Dakota pay is the only zone  
6 which you would anticipate to contain commercial reserves  
7 under the proposed location.

8 A That is correct.

9 Q Now if you would go to the structure map,  
10 which is Figure Number One on Exhibit One, and explain the  
11 significance of the structure map to the Examiner.

12 A The structure map shows the dip of the  
13 Dakota formation and as we move to the southeast, which is  
14 in the direction of the trend we are following with our pro-  
15 posed well, we are moving up dip and towards the Dakota out-  
16 crop, which we suspect to be wet, as we extend up dip.

17 Q Have you run production tests on the  
18 McWhorter Duncan No. 1, the well immediately north of the  
19 proposed location?

20 A The McWhorter Duncan No. 1, which is in  
21 the southwest quarter of Section 10, has not been connected  
22 to a pipeline but we've conducted recent production tests,  
23 which show that the well is making an average of 45 barrels  
24 of water a day.

25 Q Do you have a water analysis on that

1 water?

2 A Yes, we do.

3 Q What does that show?

4 A That shows it to be formation water.

5 MR. STOGNER: Mr. Blandford,  
6 before you continue with Exhibit Number Two, could you go  
7 back over here to Exhibit Number One, Figure Number One, and  
8 explain to me again what the shaded areas stand for and what  
9 the different shaded areas are?

10 A Okay, the shaded areas are Southland Roy-  
11 alty acreage in the area. Okay, and this shaded area right  
12 here, of course, is our requested nonstandard proration  
13 unit, and the shaded acreage is what we have already gotten,  
14 as far as leasehold purchases.

15 MR. STOGNER: That's the one  
16 with the dots.

17 A Right.

18 MR. STOGNER: How about the  
19 Figure One to the north with the --

20 A The diagonal lines on it?

21 MR. STOGNER: Yes.

22 A The diagonal lines? That is our acreage,  
23 also. I'm not familiar with exactly -- I don't know why  
24 that is hatched diagonally and this is just dotted.

25 These are farmouts, farmout acreage, and



1 this is acreage we've acquired ourselves.

2 MR. STOGNER: "These" being the  
3 east half of Section 3 and the other is --

4 A Right, and I'm not sure exactly what this  
5 is but I --

6 MR. STOGNER: Okay, thank you.

7 Q Would you now go to Exhibit Number Two  
8 and review that exhibit for Mr. Stogner?

9 A Okay. We have here a cross section of  
10 the Dakota, striking from south to north from our McWhorter  
11 Duncan No. 1 to our Lot No. 2 and to our Lot No. 1 Well.

12 The Lot No. -- we'll go from south to  
13 north because that's the orientation of the cross section.

14 The latest well drilled was the McWhorter  
15 Duncan No. 1, and it was drilled in May of 1984, and it is  
16 completed in the lower bar -- channel complex, from the  
17 channel complex, the lower bar complex, and in the upper bar  
18 complex.

19 This is a well we're production testing  
20 right now and it is producing about 45 barrels of water per  
21 day.

22 The next well in the cross section is the  
23 Lot No. 2. The well potentialled for 2544 MCF a day and is  
24 currently waiting on pipeline connection. We do not have  
25 tests beyond our initial potential tests on this well. It

1 should be connected within the next two weeks or so.

2                   The northernmost well is the Lot No. 1,  
3 which potentialled for 670 -- 666 MCF a day and is perforated  
4 only in the main Dakota pay, or the lower bar complex, and  
5 it's currently producing into a pipeline right now; making  
6 about one barrel of water a day.

7                   So as we move from north to south we seem  
8 to be picking up a little water production.

9                   Q           Mr. Blandford, what conclusions can you  
10 reach from your general study and review of this area?

11                   A           Based on our conclusions, as we move  
12 south southwest and up dip in the Dakota formation we're  
13 moving into potentially wet sands.

14                   Q           Do you have an opinion as to what acreage  
15 in Section 15 is capable of contributing commercial produc-  
16 tion to a well located thereon?

17                   A           Just the northwest quarter.

18                   Q           And as you move toward the south, are you  
19 moving away from the existing production in the area?

20                   A           Yes, we are.

21                   Q           And are you moving toward dry holes?

22                   A           Yes.

23                   Q           Are there dry holes shown on any of these  
24 maps?

25                   A           Just in -- there's a dry hole in the

1 southwest quarter along the same trend.

2 Q And it's several miles away.

3 A Yes, it is.

4 Q In your opinion will granting the appli-  
5 cation of Southland Royalty Company be in the best interest  
6 of conservation, the prevention of waste, and the protection  
7 of correlative rights?

8 A Yes, it will.

9 Q If additional acreage other than the  
10 northwest quarter is placed in the spacing unit from which  
11 this well produces, what effect will that have on Southland?

12 A It may potentially cause us not to drill  
13 the well.

14 Q And if you don't drill the well, would  
15 that result in hydrocarbons being left in the ground?

16 A Yes, it will.

17 Q If you do drill the well and have this  
18 other acreage included, what would that do to your interest?

19 A Well, it could potentially dilute our in-  
20 terest and we may have to carry more interest through the  
21 drilling of the well and as the prospect is somewhat mar-  
22 ginal at this point, it may kill the well altogether, as far  
23 as we're concerned.

24 Q If your interest is diluted, would that  
25 impair your correlative rights; if the interest of Southland

1 is diluted with this other acreage, would that impair the  
2 correlative rights of Southland Royalty Company?

3 A Yes.

4 Q Have you reviewed Exhibits One and Two  
5 and can you testify from our own knowledge as to their ac-  
6 curacy?

7 A Yes, I can.

8 MR. CARR: At this time, Mr.  
9 Stogner, we would offer into evidence Southland Royalty Com-  
10 pany Exhibits One and Two.

11 MR. STOGNER: Exhibits One and  
12 Two will be admitted into evidence, if there are no objec-  
13 tions.

14 MR. STOVALL: There's no objec-  
15 tion.

16 Q Mr. Blandford, does Southland request  
17 this order to expedited?

18 A Yes, we do.

19 Q And why is that?

20 A We have a lease in the northwest quarter  
21 of the section that's expiring on June 30th.

22 Q Do you have anything further to add to  
23 your testimony?

24 A No, I do not.

25 MR. CARR: That concludes my

1 direct examination of Mr. Blandford.

2 MR. STOGNER: Mr. Stovall, your  
3 witness.

4 MR. STOVALL: Just a couple of  
5 questions, Mr. Examiner.

6

7

CROSS EXAMINATION

8 BY MR. STOVALL:

9 Q Now, based upon your -- particularly your  
10 Exhibit Number One, is it not true that your proposed loca-  
11 tion is in fact at the outer edge of the known Dakota Field  
12 in this area?

13 A Yes.

14 Q Does that not mean that your geology of  
15 the proposed location is actually based upon projections and  
16 not on known data?

17 A Yes, it is.

18 Q Are you aware of any other wells within  
19 Section 15, the section in which you're proposing to drill  
20 your well, any other wells penetrating the Dakota formation?

21 A No, I'm not.

22 MR. STOVALL: I have no further  
23 questions.

24 MR. STOGNER: Thank you, Mr.  
25 Stovall.

1 Mr. Carr, any redirect?

2 MR. CARR: No redirect.

3 MR. STOVALL: Excuse me just a  
4 minute, Mr. Examiner.

5 One other question, if I may.

6 Q You mean, you did make the statement that  
7 the infill drilling program in the Basin Dakota Pool effec-  
8 tively established a 160-acre spacing.

9 A Yes.

10 Q Is that -- that's not actually a correct  
11 statement, is it, that the true spacing for that field is  
12 320 acres.

13 A That is correct.

14 Q With the option.

15 A Option to drill one infill well.

16 MR. STOGNER: Mr. Carr.

17

18 REDIRECT EXAMINATION

19 BY MR. CARR:

20 Q Mr. Blandford, are you familiar with Or-  
21 der R-1670-V, which was entered by the Division approving  
22 infill drilling in this pool?

23 A Yes, I was.

24 Q Are you aware of anything in that order  
25 which relates to the effective drainage of wells in this

1 pool?

2           A           Just that it states that a 300 -- a well  
3 spaced on 320 acres will not effectively drain the Dakota  
4 formation.

5                       MR. CARR:    If it -- with the  
6 permission of the Examiner, I would request that you take  
7 notice of Findings 13 through 17 of Order R-1670-V.

8                       MR. STOGNER:   The Findings 13  
9 through 17 of Order --

10                      MR. CARR:    Of Order 1670-V.

11                      MR. STOGNER:   Administrative  
12 notice will be taken.

13                      MR. CARR:    I have nothing fur-  
14 ther.

15                      MR. STOGNER:   Are there any  
16 other questions of the witness?

17                      MR. TAYLOR:   Yes, I have some.

18

19

CROSS EXAMINATION

20 BY MR. TAYLOR:

21           Q           You stated that dilution of your interest  
22 would impair correlative rights, your correlative rights.

23           A           Yes.

24           Q           Could you explain that?

25           A           Dilution of our interest such that we

1 have to carry more interest over the -- over the life of the  
2 well will impair our rights, as it will make -- we will have  
3 less production for the money spent on the project.

4 We will net less.

5 Q Okay.

6

7

CROSS EXAMINATION

8 BY MR. STOGNER:

9 Q Mr. Blandford, you were asked if other  
10 interest -- that other interest would dilute your interest,  
11 that's essentially the statement, I think that's right.

12 What other interest were referred to?

13 A Well, there -- there are certain leases  
14 that are not -- that we do not have under our jurisdiction  
15 at this point and we feel that these leases may have to be  
16 force pooled and through force pooling we will potentially  
17 have to carry interest for the well and that could dilute  
18 our interest in the well.

19 Q So to set up a standard 320-acre, or  
20 thereabouts, would dilute your interest.

21 A Most potentially, yes.

22 Q And we're talking about a standard 320  
23 taking in the west half or the north half of Section 15?

24 A The west half.

25 Q The west half. Mr. Blandford, do you



1 know of any other Basin Dakota wells or any wells that pene-  
2 trated the Basin Dakota to the south of your proposed loca-  
3 tion?

4 A There are some wells to the northeast --  
5 or to the southeast, excuse me, shown on these maps over  
6 here, where we have looked at the logs of those wells and  
7 determined that based on our definition of net pay, net pay  
8 does not exist in those wells.

9 Q And you're referring to those maps on  
10 Figure One, I mean Exhibit One.

11 A Yes, on Exhibit One.

12 Q Does Southland control all the interest  
13 at this time in the northwest quarter of Section 15?

14 A No, we do not.

15 Q What part don't they control then in that  
16 160?

17 A There's a 20-acre section that's being  
18 subdivided by Foutz and Foutz that we do not currently con-  
19 trol.

20 Q And they are the interest owners?

21 A For the most part, yes, sir. In the sub-  
22 division there is lot that they have released the mineral  
23 interest on, but they own the majority of interest in that  
24 20-acre plot.

25 Q I assume, since you're ot asking for com-

1 compulsory pooling that you'll be gaining those interests in a  
2 short time.

3 MR. CARR: Mr. Examiner, if we  
4 cannot gain those interests in a very short time we will be  
5 back for a compulsory pooling.

6 MR. STOGNER: Thank you, Mr.  
7 Carr, for clearing that up.

8 I have no further questions for  
9 Mr. Blandford.

10 Are there any other questions  
11 of this witness before --

12 MR. STOVALL: I'd just like to  
13 ask one other question.

14

15

REDIRECT EXAMINATION

16 BY MR. STOVALL:

17 Q Are you committing all of your interest  
18 which you have in the west half of Section 15 to this well?  
19 Is there any interest which Southland has in Section 15  
20 which is not being committed to this well?

21 A If this order is granted, yes.

22 Q What interest would that be? Can you  
23 identify it?

24 A It would be in the southwest quarter of  
25 the section; the interest, shaded interest in the southwest

1 quarter of the section.

2 Q And do you know who -- that is leased by  
3 Southland?

4 A Yes, it is.

5 Q And do you know who you are leasing it  
6 from?

7 A The Arnold Family.

8

9 RE CROSS EXAMINATION

10 BY MR. STOGNER:

11 Q That would appear to be roughly 60 acres,  
12 is that right?

13 A More or less.

14 Q More or less, okay.

15 MR. STOGNER: Any other ques-  
16 tions of this witness?

17 Mr. Carr.

18

19 REDIRECT EXAMINATION

20 BY MR. CARR:

21 Q Mr. Blandford, we don't want you to get  
22 off easily.

23 A Okay.

24 Q If a north half unit, standard 320-acre  
25 unit were dedicated to this well, there's acreage in the

1 northeast quarter that would share in the production, is  
2 there not?

3 A That is correct.

4 Q And this would dilute the interest of  
5 Southland Royalty, would it not?

6 A Yes, it would.

7 Q If there is a west half unit, there's ac-  
8 reage in the southwest quarter that would also share in pro-  
9 duction from that well, is that not true?

10 A And what effect would that have on South-  
11 land?

12 A That would dilute our interest.

13 Q And would that impair your correlative  
14 rights?

15 A Yes.

16 MR. CARR: Nothing further.

17

18 RE CROSS EXAMINATION

19 BY MR. STOGNER:

20 Q Aren't your interests diluted somewhat  
21 nw, even if you got a 160-acre --

22 A Yes.

23 Q How much is it diluted?

24 A Depends on the agreement we come up with  
25 on the forced pooling.

1 MR. CARR: That's right.

2 MR. STOGNER: Is there any  
3 other questions of Mr. Blandford?

4 If not, he may be excused.

5 A Thank you.

6 MR. STOGNER: I think we're  
7 ready to proceed, Mr. Stovall.

8 MR. STOVALL: I'll call Mr.  
9 John Roe.

10 Prior to examining this wit-  
11 ness, Mr. Examiner, I'd like to present a letter which was  
12 hand delivered to Southland Royalty about two days ago.

13 Dugan Production, Mr. Tom Dugan  
14 has previously signed a waiver on this application before  
15 thoroughly examining that.

16 We are at this time withdrawing  
17 our waiver and so notified Southland.

18 MR. STOGNER: Before we  
19 continue, Mr. Carr --

20 MR. CARR: Yes.

21 MR. STOGNER: -- are you aware  
22 of this letter?

23 MR. CARR: -- but we don't dis-  
24 pute the fact that Mr. Dugan is withdrawing his waiver.

25 MR. STOGNER: Okay.

MR. CARR: We'd ask that the

1 letter be included in the record of the proceeding but we're  
2 aware that Mr. Dugan is in opposition.

3 MR. STOGNER: Mr. Stovall, what  
4 was the date of the waiver that this letter withdrew?

5 MR. STOVALL: To be quite  
6 honest, sir, I can't answer that question because I never  
7 saw it. The information that I have, that it was submitted,  
8 Mr. Dugan told me it was submitted. It may be, I don't  
9 know, Southland may have it. We don't have the waiver in  
10 hand.

11 MR. STOGNER: We will take  
12 notice of this letter of Dugan Production Corporation to  
13 Southland Royalty dated May 20, 1985.

14 Please continue, Mr. Stovall.

15 MR. STOVALL: This witness, as  
16 I said, is Mr. John Roe.

17

18 JOHN ROE,  
19 being called as a witness and being duly sworn upon his  
20 oath, testified as follows, to-wit:

21

22 DIRECT EXAMINATION

23 BY MR. STOVALL:

24 Q Mr. Roe, would you state your name and  
25 address and place of employment?

1           A           My name is John Roe. I live in Farming-  
2 ton, New Mexico, and I am employed by Dugan Production as a  
3 petroleum engineer.

4           Q           Mr. Roe, have you ever testified before  
5 this Commission and had your credentials accepted?

6           A           Yes, I have.

7                           MR. STOVALL: I would move that  
8 Mr. Roe be admitted as an expert.

9                           MR. STOGNER: If there are no  
10 objections --

11                           MR. CARR: There are no objec-  
12 tions.

13                           MR. STOGNER: -- Mr. Roe is so  
14 qualified.

15           Q           Are you familiar with the application in  
16 this case, Mr. Roe?

17           A           Yes, I am.

18           Q           Does Dugan Production have an interest in  
19 this matter?

20           A           We have an interest relative to this mat-  
21 ter from the standpoint that we have a leasehold interest in  
22 acreage that offsets the quarter that is involved in the  
23 nonstandard proration unit.

24           Q           Would you refer to what has been marked  
25 as Dugan Production Corporation Exhibit Number One and iden-

1 tify that --

2 A Okay.

3 Q -- acreage in which we have lease inter-  
4 est?

5 A The Exhibit Number One is a copy of a  
6 copy of a map that's provided by El Paso Natural Gas of well  
7 locations in the San Juan Basin.

8 I've made a reproduction of their map and  
9 on that map I've identified in the cross hatched unit, the  
10 northwest quarter of Section 15 of Township 29 North, Range  
11 14 West, which is the 160-acre unit that Southland proposes  
12 to establish as a nonstandard unit.

13 Dugan Production has leasehold interest  
14 in the northeast quarter of Section 15 immediately adjacent  
15 to this 160 in the northwest quarter. Our lease comprises  
16 approximately 108 acres in the northeast quarter, consisting  
17 of the north half of the northeast quarter and the southeast  
18 quarter of the northeast quarter.

19 Q Would that acreage be included in a  
20 standard proration unit consisting of the north half?

21 A If a standard proration unit were estab-  
22 lished comprising the north half, yes, that would be in-  
23 cluded.

24 Q Is Dugan Production Corporation opposed  
25 to this application?



1           A           We are -- we are opposed to the estab-  
2 lishment of a 160-acre production unit within the bounds of  
3 the Basin Dakota Field, which is being developed on 160-acre  
4 spacing units.

5                       We are not opposed to Southland drilling  
6 a well in the northwest quarter.

7           Q           Excuse me, if I may correct, is it being  
8 developed on 160-acre spacing unit or 320-acre spacing unit?

9           A           The Basin Dakota is developed on 320 and  
10 we're opposed to the establishment of a 160 unit within the  
11 bounds of the pool that has been developed on 320 acres.

12          Q           Can you tell me why Dugan is opposed to  
13 this nonstandard 160?

14          A           Because it is our opinion that there is  
15 no actual evidence in support of the establishment of 160-  
16 acre nonstandard unit. There are no wells that have pene-  
17 trated the Dakota within Section 15. The testimony that  
18 we've heard from Southland is based upon geology. It pro-  
19 jects the Dakota development onto 15. There are no wells to  
20 the south of Section 15, or at least within a near vicinity,  
21 the nearest well being approximately five miles to the  
22 southwest.

23          Q           Can you, referring again to the Dugan  
24 Production Exhibit Number One, can you identify any wells  
25 which -- within this area, which have penetrated the Dakota



1 well within this area that has any production at all, other  
2 than that tested during completion.

3                   The Lot No. 1 was completed in June of  
4 '83. It tested at a rate of 666 MCF a day on a one-hour --  
5 or at the end of three hours on a standard 3-hour flow test  
6 and as of April 1st, cumulative production amounts to 10,764  
7 MCF.

8                   With the exception of the Lot No. 1 there  
9 is no production history from this area and the Lot No. 1 is  
10 approximately a mile and a half from the proposed location  
11 that Southland proposes in the northwest quarter of Section  
12 15.

13                   Q           Based upon the information which you have  
14 a personal knowledge of, and the testimony presented by  
15 Southland Royalty, do you have an opinion as to whether or  
16 not you could limit the production from the Dakota formation  
17 to the northwest quarter of Section 15, or whether the Basin  
18 rules, proration rules should apply?

19                   A           It is my firm opinion that there is no  
20 data that exists that could preclude the development of the  
21 Dakota formation from the southwest quarter of Section 15 or  
22 the northeast quarter of Section 15, which would be the  
23 quarters that would be involved should a standard 320-acre  
24 unit be established for this well.

25                   Q           You heard testimony by Southland that --

1 to the effect that they feel their interest would be diluted  
2 by having a standard proration unit in this -- in Section  
3 15. Did you not hear that testimony?

4 A I did. It's my opinion that that's --  
5 any time you have less than 100 percent of acreage that that  
6 is a factor, yes.

7 Q If a standard proration unit were estab-  
8 lished which included -- which was the north half of Section  
9 15, I believe you testified before that would include ac-  
10 reage which Dugan Production now holds, is that correct?

11 A That is correct.

12 Q Do you have any knowledge of whether or  
13 not Dugan Production would be willing to join in drilling of  
14 the well in Section 15, in the northwest quarter of Section  
15 15 and commit their acreage to it?

16 A As I previously indicated, Dugan Produc-  
17 tion is not opposed to Southland's plan to drill a well. We  
18 would -- we're not even advocating that the production unit  
19 be the north half.

20 Should that be the case, we would either  
21 join or we would work with Southland in any manner that  
22 would result in them being able to drill a well with farming  
23 out or participating.

24 Q And that would, in effect, negate any di-  
25 lution of -- of Southland's interest in the well, is that



1 questions.

2 MR. STOGNER: Mr. Carr, your  
3 witness.

4

5 CROSS EXAMINATION

6 BY MR. CARR:

7 Q Mr. Roe, what interest does Dugan Petro-  
8 leum Corporation, or Mr. Dugan, own in the northwest quarter  
9 of this section? Does he own anything there?

10 A No, sir, we have no leasehold interest in  
11 the northwest quarter.

12 Q If a north half unit were developed in  
13 the north half of Section 15, do you know what percent of  
14 that north half unit Mr. Dugan would actually own?

15 A It would be approximately 108/320ths, or  
16 roughly, a third. I haven't figured that out exactly but  
17 our acreage in the northeast quarter is approximately 108  
18 acres.

19 Q And a north half unit would satisfy Mr.  
20 Dugan's concern?

21 A We would be pleased with a north half  
22 unit from the standpoint that our acreage would be repre-  
23 sented by production; however, as I indicated, we're not ob-  
24 jecting even to a west half.

25 We're just objecting to the development

1 of the production unit that is inconsistent with the pool  
2 rules.

3 Q Now, if a west half unit, if I understand  
4 your testimony, then, would not be objectionable to you.

5 A That is correct.

6 Q And you would have no interest in a west  
7 half unit whatsoever.

8 A That is correct.

9 Q And you would be free, in that instance,  
10 to drill an east half unit if you -- if you desired?

11 A That is correct.

12 Q And you would be able to produce a full  
13 allowable from your well, at least in terms of the acreage  
14 factor, from an east half unit.

15 A Yes, sir.

16 Q And if the northwest quarter is approved  
17 as a nonstandard unit, you would still have the opportunity  
18 to develop with an east half unit, would you not?

19 A Yes, you're exactly right, but then we  
20 would have a standard unit offsetting a well that's devel-  
21 oped on a nonstandard, and we'd then be in a position that  
22 an additional nonstandard unit would be necessary in the  
23 southwest quarter.

24 Q And do you have any interest in the  
25 southwest quarter that you're interested in protecting with

1 this testimony today?

2           A           We do not, It would be, basically,  
3 though, placing the leasehold ownership in that quarter in a  
4 position that in order to protect their correlative rights,  
5 that they would absolutely have to drill a third well in  
6 Section 15, where the pool rules provide that more than two  
7 wells within a section are necessary only if the operator  
8 views it is necessary from an economic or necessary to pro-  
9 tect drainage.

10           Q           Have you had much personal experience in  
11 drilling wells in the Dakota pools, in the Basin Dakota  
12 Pool?

13           A           I'm glad you asked that question because  
14 our attorney was supposed to ask that question.

15                       We have just recently -- we operate 8  
16 wells located in the general vicinity to the northwest in  
17 what we call our Turk's Toast area. That development has  
18 been recent.

19                       Dugan Production also operates 21 wells  
20 in Townships 29 and 30 North and Ranges 14 West, just to the  
21 -- I've identified on Exhibit One wells that have penetrated  
22 the Dakota based upon my research.

23                       I've identified those with a circle and  
24 the majority of those wells are wells that Dugan Production  
25 operates.



1           Q           How long have you been with Dugan Produc-  
2           tion Company?

3           A           I have been with Dugan Production since  
4           the last part of August, 1982.

5           Q           Are you familiar with the acreage posi-  
6           tion of Mr. Dugan in the area?

7           A           Yes, I am.

8           Q           Are you aware that the acreage which is  
9           the subject of today's hearing was actually acquired by  
10          Southland from Mr. Dugan?

11          A           Yes, I am.

12          Q           And do you have any idea how long Mr. Du-  
13          gan held that acreage prior to conveying it to Southland?

14          A           I am unaware of that.

15          Q           Do you have any information as to why Mr.  
16          Dugan did not elect to develop this acreage?

17          A           I only have an opinion that it was pos-  
18          sibly because we did not have plans to drill acreage and we  
19          had indication from Southland that they had a desire to  
20          drill on acreage, and the farmout arrangement which was  
21          made, which it's my understanding was the Dakota rights on-  
22          ly, was basically in a manner that Dugan Production would be  
23          happy with.

24          Q           Now based on your experience in the area,  
25          do you believe that Basin Dakota wells drill at -- drain 320

1 acres?

2 A There has been a tremendous amount of  
3 testimony presented on that. It is my personal opinion that  
4 it's not likely that in this particular area a Dakota well  
5 will drain 320 acres, that's correct.

6 Q Are you familiar with the infill order  
7 for the Basin Dakota, Order R-1670-V?

8 A Yes, I am.

9 Q And you are aware that that order pro-  
10 vides that additional wells are necessary on each 320-acre  
11 tract to effectively and efficiently drain the reserves?

12 A I am not sure that the order says they're  
13 necessary. The -- it's an additional well within an estab-  
14 lished 320 can be drilled if it is the opinion of the opera-  
15 tor that it is -- it's the operator's option, but it's not  
16 established that it has to be drilled.

17 Q The order probably speaks best for it-  
18 self.

19 Could I hand you a copy of what's been  
20 marked -- or a copy of Oil Conservation Division Order R-  
21 1670-V and ask you just to read into the record Finding 13?

22 A Okay. Finding 13 of the Order 1670-V  
23 states that, that the producing formation of the Basin Dako-  
24 ta Gas Pool is comprised of various sands of low permeabil-  
25 ity and porosity which are not being effectively and effi

1 ciently drained by existing wells in the various proration  
2 units in the pool, and which can be more efficiently and ef-  
3 fectively drained by the drilling of additional wells pur-  
4 suant to the rule changes proposed by the applicant.

5 Q Thank you. Now if -- if we look at your  
6 Exhibit Number One and the proposed location for the South-  
7 land Royalty Company well, in your professional opinion will  
8 a well at that location drain substantial reserves from the  
9 southwest quarter of Section 15?

10 A I, based upon what I know about the area,  
11 it's not likely that that will happen, but also based upon  
12 what I know about the Dakota and with reference to the  
13 potentials that I -- I identified in my earlier testimony,  
14 within a half mile location offset that Southland has, they  
15 tested a well that had deliverability of 666.

16 Adjacent to that, the next location  
17 south, 2.5-million, and then within that half mile location  
18 they had a well with 3.9-million.

19 So, until you actually have a test of the  
20 Dakota to know what acreage that well really has ability to  
21 drain, it's almost impossible to predict.

22 Q The information available from a geologic  
23 point of view in this general area, particularly in Section  
24 15, is limited at best. Is that a fair characterization?

25 A That is the basis for our feeling that

1 for our feeling that you cannot project the development of  
2 the Dakota solely upon the northwest quarter, yes, sir.

3 Q And when the well that is proposed in the  
4 northwest quarter is drilled, if in fact it is drilled, that  
5 would give additional data, provide additional data that  
6 would enable all operators or interest owners in that sec-  
7 tion to evaluate the property.

8 A That is correct.

9 Q And the information on that well might,  
10 in fact, have an adverse effect on the values of everyone in  
11 that -- that section.

12 A Yes sir, you're right. It could.

13 Q And it could also have the flip side of  
14 that. It could also prove up or improve the potential or  
15 the perceived potential for the entire section.

16 A Yes, sir, that's correct.

17 Q And if, in fact, that is a very good  
18 well, it might show that there is acreage outside that spac-  
19 ing unit that -- that is capable of commercial production.

20 A Yes, and that's basically why we feel it  
21 should be developed on the pool 320's is that then you would  
22 have the option to infill that acreage.

23 Q And you still would be able to put an ad-  
24 ditional well on either of the offsetting 160-acre tracts  
25 if, in fact, this application was approved, would you not?

1           A           Yes.

2           Q           Now, suppose that well comes in as a very  
3 marginal or a poor well. That might have the effect of, if  
4 not condemning, at least casting doubt on the productive  
5 capability of the southwest quarter. Isn't that possible?

6           A           It would definitely provide more informa-  
7 tion that would -- would go toward evaluating offsets, yes,  
8 sir.

9           Q           And if it appeared that there was very  
10 limited Dakota pay under that well, it might also tend to  
11 show that the prospects in the southwest quarter are not  
12 very good.

13          A           That is correct, but it still would not  
14 put the people holding leases under the southwest quarter in  
15 a position that they were certain their mineral rights were  
16 not being drained by a well in the northwest quarter.

17          Q           They could go out and protect their in-  
18 terest by drilling a well, could they not?

19          A           Which -- yes, they could.

20          Q           And conversely, if there are no reserves  
21 down there and that becomes apparent, it's barren acreage,  
22 and that's only for the purpose of this question, if the ac-  
23 reage is barren down there and yet that acreage and the own-  
24 ers of that acreage are sharing in production from the well  
25 in the northwest, that would in effect dilute the interest

1 of Southland in the northwest, would it not?

2 A Provided that the Dakota formation as  
3 barren under the southwest quarter, yes, sir.

4 Q And if -- unless you own all the acreage,  
5 I think it was your testimony that you always dilute it  
6 somewhat unless you own all the acreage in the tract.

7 A That's correct.

8 Q But if the acreage which is being contri-  
9 buted to that well is productive, everyone in that tract is  
10 then just getting their fair share. Isn't that right?

11 A Yes, sir.

12 Q But if it's barren acreage, which does  
13 not have reserves in it and yet you're being asked to share  
14 the proceeds from that well with those people, then your in-  
15 terest in fact is being diluted.

16 A Yes, but in order to know that, you're  
17 forcing the drilling of two wells which, should that occur,  
18 and it likely will occur should Southland complete a semi-  
19 marginal well in the northwest quarter, then that is econo-  
20 mic waste which the Commission is, part of their responsibi-  
21 lity is to help eliminate economic waste.

22 Q But to get that information, you'd have  
23 to really drill two wells, anyway, wouldn't you?

24 A Yes, but you wouldn't be near as likely  
25 to drill two wells if the economics of the well in the

1 northwest quarter were questionable and you also had acreage  
2 in the southwest -- west quarter participating in that pro-  
3 duction.

4 One way you're insuring that it's going  
5 happen; the other way it provides ownership option.

6 Q If you stand with the 320, then you're  
7 going to provide all the ownership with the -- with the op-  
8 tion, where, if not, you're going to be only -- I'm sorry, I  
9 just didn't understand your answer.

10 A My answer was that if you drill and have  
11 only 160-acre spacing unit, and you obtain a marginal well,  
12 it's very likely that the ownership of the offsetting ac-  
13 reage will have to drill a well to establish whether that  
14 acreage is in fact barren or should have been participating  
15 all along, and so with 160-acre spacing unit you're almost  
16 guaranteeing that there will be two wells drilled, one in  
17 the northwest quarter and one at each of the adjacent quar-  
18 ters.

19 Where if you have a standard unit that  
20 the pool rules provide for, you allow the people that are  
21 sharing in the northwest quarter to develop the southwest  
22 quarter only -- or the northeast quarter, only if they can  
23 economically justify that.

24 Q You're not testifying that if the south-  
25 west quarter is barren it should in fact share in production

1 from the northwest side?

2           A           No, I'm not saying we should space non-  
3 productive acreage with productive acreage, but I am stating  
4 that there is no evidence that -- that we can know the  
5 southwest quarter or northeast quarter is barren until that  
6 acreage is either penetrated with a well.

7           Q           Okay.

8                           MR. CARR: I have nothing fur-  
9 ther.

10                          MR. STOGNER: Mr. Stovall, re-  
11 direct?

12

13

REDIRECT EXAMINATION

14 BY MR. STOVALL:

15           Q           Mr. Roe, you expressed some opinions in  
16 response to Mr. Carr's questions. He has thrown out some  
17 statements of conditions. Do you have any knowledge of  
18 whether the statements that he has -- the conditions which  
19 he has expressed exist or are they suppositions as to condi-  
20 tions that could exist?

21           A           The questions Mr. Carr asked me are ques-  
22 tions that could pertain to any formation that has estab-  
23 lished production in it.

24                          You -- you have in the back of your mind  
25 always what acreage are you really draining. There, even if



1 we were drilling on forties, you would have a question of is  
2 there maybe a 5-acre tract within that 40 that's really bar-  
3 ren if a well was drilled on it. That's basically the pur-  
4 pose of spacig, is to provide an orderly means of develop-  
5 ment within a pool.

6 Q Do not the rules of the Basin Dakota and  
7 the infill order, I'm sorry, I've forgotten the number of  
8 it, but --

9 A 1670-V.

10 Q -- allow in fact for that, the type of  
11 develoment that he is suggesting and are you not saying that  
12 that is the better way to --

13 A That is specifically my understanding of  
14 why the Basin Dakota Pool rules originally provided for 320s  
15 and then were modified to provide that an infill well could  
16 be developed -- drilled, if the data that existed truly sug-  
17 gested that an infill well was necessary to economically  
18 produce the reserves.

19 Q Based on the information that is actually  
20 available, would you see any justification for modifying  
21 those rules for this particular --

22 A I see none.

23 Q And if those rules are modified, once  
24 again I'd ask, would -- is there the potential that correla-  
25 tive rights on adjacent properties could be adversely af-

1 fected?

2 A It is my opinion that that would happen.

3 MR. STOVALL: Nothing further.

4

5 RE CROSS EXAMINATION

6 BY MR. CARR:

7 Q Well, Mr. Roe, I'm going to take you back  
8 to the infill order one more time, and I just want to be  
9 sure that we have in the record Paragraph 14 of this order,  
10 and I'd ask you to read that.

11 A Okay. I might add that what item four-  
12 teen is, it is Finding 14 of R-1670-V, and Finding 14 says  
13 that the infill drilling of a second well on an established  
14 proration unit in the Basin Dakota Pool is necessary to ef-  
15 fectively and efficiently drain a portion of the reservoir  
16 covered by the proration unit, which cannot be effectively  
17 and efficiently drained by any existing well within the pro-  
18 ration unit.

19 Q And so if, in fact, there's going to be  
20 full production of, say, the west half of 15, a second well  
21 would have to be drilled there.

22 A Yes, and if you establish it on 320s, a  
23 second well would be drilled there only if the economics of  
24 the well in the northwest quarter would support that, and  
25 again, I think I've indicated, without that protection a

1 second well would -- would have to be drilled there irre-  
2 gardless of what the economics were.

3 And so again we're talking about economic  
4 waste that's insured should 160 acres be designated for es-  
5 tablished production.

6 Q And there would also be physical waste if  
7 the second well wasn't drilled.

8 A Yes, there could be physical waste. It  
9 would be uneconomical to drill and develop.

10 MR. CARR: I have nothing fur-  
11 ther.

12 MR. STOVALL: One point of  
13 clarification, Mr. Examiner, if I may.

14  
15 REDIRECT EXAMINATION

16 BY MR. STOVALL:

17 Q And we are talking, in effect, of a west  
18 half unit. The same answers would apply whether we talked  
19 about a north half unit or a west half unit, is that not  
20 correct?

21 A That is correct. Dugan Production is  
22 taking no position as to which the unit should be.

23 Q Thank you, sir.

24 MR. STOVALL: No further ques-  
25 tions, Mr. Examiner.

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CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Roe, does Dugan plan in the near future to develop the east half of Section 15?

A Well, of course our development plans, the east half of Section 15 is not within our current development program.

Our interests are to the northwest up in what we call the Turk's -- our current plans for development are up in the northwest portion of 30 North, 14 and 15 West, and other areas of the San Juan Basin.

However, if -- if a well is drilled in the northwest quarter and that well does not include the acreage that Dugan Production would have an interest in in the northeast quarter, we would have to re-evaluate our drilling priorities at this time, yes.

So I don't know if that answers your question, but we -- we have no plans immediately but should Southland make a well, we would -- not only would we want to as a prudent operator, but we do have under lease a Federal -- our lease is a Federal acreage, and the Federal people are very prompt in forcing operators to evaluate whether or not drainage is or possibly will occur, and that is one of the bases for our concern, because we're almost guaran-

1 teed that we will be put in a position that we will have to  
2 drill a well or justify our not drilling that well to a very  
3 fine degree.

4 Q Federal acreage where? What Federal  
5 acreage are you talking about?

6 A Our whole lease, Mr. Stogner, is a  
7 Federal lease and that would be the north half of the  
8 northeast quarter and what is called Lot 1, and that is  
9 approximately the southeast of the northeast, and again,  
10 that totals to be approximately 108 acres.

11 And that's Federal Lease SF-07811-0.

12 Q All right.

13 A Did you get that, SF-07811-0? The  
14 southeast of the northeast is an irregular unit. It is not  
15 a 40-acre tract. It's approximately 28-1/2 acres.

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

18 Are there any other questions  
19 of Mr. Roe?

20 MR. STOVALL: May it please the  
21 Examiner, maybe one little technical detail. It's been  
22 awhile since I've been in a proceeding of this nature.

23 MR. STOGNER: Please continue.

24

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## REDIRECT EXAMINATION

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BY MR. STOVALL:

Q Mr. Roe, with respect to Exhibit One, you indicated that that was a map provided by El Paso Natural Gas, which you copied and which you placed a mark on indicating the northwest quarter of Section 15.

You also indicated that you placed the circles around the other penetrations of the Dakota formation on that map, is that correct?

A That is correct.

Q And you have -- this was done by you and you have knowledge of the accuracy of the information insofar as you have identified certain wells and have made marks on the map.

A That is correct.

MR. STOVALL: I would move admission of Exhibit One.

MR. STOGNER: Thank you for catching me on that.

Are there any objections?

MR. CARR: No objection.

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

Are there any other questions of the witness?

1 If not, he may be excused at  
2 this time.

3 Mr. Stovall?

4 MR. STOVALL: I'd like to call  
5 Mr. Emery Arnold.

6

7 EMERY C. ARNOLD,  
8 being called as a witness and being duly sworn upon his  
9 oath, testified as follows, to-wit:

10

11 DIRECT EXAMINATION

12 BY MR. STOVALL:

13 Q Would you state your name and address and  
14 occupation, please?

15 A My name is Emery C. Arnold. I live at  
16 200 Crandall Drive, Aztec, New Mexico.

17 Q Are you currently employed, Mr. Arnold?

18 A Yes, I'm employed as a consultant.

19 Q By whom and --

20 A By myself.

21 Q By yourself? Mr. Arnold, Mr. Arnold,  
22 have you ever testified before the Commission and had your  
23 credentials accepted?

24 A I've worked for the Commission for 25  
25 years and for 8 years I served as -- served on the

1 Commission, and yes, I have testified before the Commission.

2 Q And you are a graduate geologist, is that  
3 correct?

4 A Right.

5 MR. STOVALL: We'd like to of-  
6 fer Mr. Arnold as an expert, unless, of course, I'm chal-  
7 lenged.

8 MR. CARR: We'll stipulate that  
9 Mr. Arnold is an expert.

10 MR. STOGNER: Thank you, Mr.  
11 Carr. Mr. Arnold is so qualified.

12 Q Are you -- are you familiar with the  
13 Basin Dakota Pool, Mr. Arnold?

14 A Yes, I am.

15 Q And are you familiar with the application  
16 in this case?

17 A Yes, I am familiar with the application.

18 Q Do you have any personal interest in --  
19 in this case or in adjacent properties?

20 A Yes. My interest in this case stems from  
21 the fact that my family owns 120 acres of land and mineral  
22 interest in the west half of Section 15, 29 North, 14 West.

23 Sixty acres of this interest is in the  
24 northwest quarter of Section 15 and 60 acres is in the  
25 southwest quarter.



1                   This land is under lease to Southland  
2 Royalty Company and Southland's application would exclude  
3 that portion of our acreage located in the southwest quarter  
4 from the drilling and proration unit.

5                   Approval of 160-acre proration unit for  
6 Southland's well would reduce the allowable assigned to the  
7 well if it were completed as a nonmarginal well by approxi-  
8 mately 50 percent; therefore, the possibility exists that  
9 our interest would be adversely affected and that our royal-  
10 ty would be reduced.

11                  Q               Then I take it that you are opposed to  
12 the application for 160-acre --

13                  A               Yes, I'm opposed to that.

14                  Q               -- spacing unit?

15                                You've heard the testimony of Southland  
16 Royalty and of Mr. Roe, is that not correct?

17                  A               Yes, I did.

18                  Q               Do you feel, in your opinion is there  
19 sufficient development or information in Section 15 or adja-  
20 cent area to support Southland's application?

21                  A               No, I concur with Mr. Roe's testimony in  
22 that regard. I do not believe that there's been sufficient  
23 development in the vicinity of Section 15 to project reser-  
24 voir limits.

25                                As he testified, there have been no wells

1 drilled in Section 15 and there have been no wells drilled  
2 to the south, three or four miles of the south boundary of  
3 Section 15.

4 So there certainly is no control in that  
5 direction.

6 I think that permeability and porosity  
7 trends in the Basin Dakota reservoir are very difficult to  
8 project, even within sections having a -- which already have  
9 an initial well drilled.

10 In this case the only control available  
11 is to the north in Section 10, and I don't believe that it's  
12 (not understood) to attempt to identify reservoir limit from  
13 the available data.

14 Q And you said that the only controls are  
15 on the north in Section 10, and I believe you're referring  
16 to the two wells which Mr. Roe identified, the McWhorter  
17 Duncan and the, I believe it's the Southland Royalty Lot No.  
18 2, is that correct?

19 A That's correct. They're both Southland  
20 Royalty wells in Section 10.

21 Q And you have no production -- know of any  
22 production information from those wells?

23 A They're not at this time connected,  
24 either one of them. I think it was testified to that one  
25 well has undergone some production testing.

1           Q           Based upon your experience as a geolo-  
2 gist, do you have an opinion as to the probability of find-  
3 ing gas in the Dakota formation in Section 15?

4                   In the northwest quarter of Section 15.  
5 I should be more specific.

6           A           I think there's a reasonable possibility  
7 that -- that a successful well can be completed in the  
8 northwest quarter of Section 15, and I presume, also, that  
9 Southland Royalty is of that opinion or they wouldn't be  
10 drilling the well there.

11           Q           If gas were found in the Dakota formation  
12 in the northwest quarter of Section 15 in commercial quanti-  
13 ties, would it be reasonable to presume that such gas in  
14 commercial quantities could not be found in the southwest  
15 quarter or the northeast quarter of Section 15?

16           A           No, in general, Basin Dakota rules spec-  
17 ify 320 acres. It's a stratigraphic reservoir with very  
18 highly variable porosity and permeability trends.

19                   I do not believe that acreage should be  
20 excluded from any standard unit without irrefutable evidence  
21 such acreage is totally nonproductive.

22                   I don't believe that the evidence in this  
23 case supports the approval of 160 acres.

24           Q           In other words, it's your opinion that  
25 there is insufficient evidence to determine the limits of

1 the reservoir, particularly as it lies in Section 15?

2 A Right.

3 Q And do you believe that the granting of  
4 this petition would be in the interest of conservation or  
5 prevention of waste, or protection of correlative rights?

6 A No, I don't believe it would.

7 MR. STOVALL: I have no further  
8 questions.

9 MR. STOGNER: Mr. Carr, your  
10 witness.

11

12 CROSS EXAMINATION

13 BY MR. CARR:

14 Q Now, Mr. Arnold, as I understand your  
15 testimony, you are a consultant for yourself.

16 A I'm a consulting geologist.

17 Q In this case you're consulting for your-  
18 self.

19 A I actually am appearing in this case as  
20 an interest owner, and agent for my mother and my brother.

21 Q When consulting for yourself do you keep  
22 accurate records for tax purposes?

23 All right, Mr. Arnold, if I understand  
24 your testimony, you have 60 acres in the northwst of Section  
25 15.

1                   You also have 60 acres in the southwest  
2 quarter of Section 15, is that correct?

3                   A           That's correct.

4                   Q           So your percentage ownership in this  
5 spacing unit would not change if it was a northwest quarter  
6 or west half unit.

7                   A           No, that's right. It would be 60/160ths  
8 or 37-1/2 percent of the acreage within a 160-acre dedica-  
9 tion, or it would be 120/320ths, or 37-1/2 percent of the  
10 acreage within a 320.

11                  Q           Do you have any ownership interest in the  
12 northeast quarter of Section 15?

13                  A           No.

14                  Q           Would you be opposed to a north half  
15 spacing or proration unit?

16                  A           Basin Dakota rules, of course, allow for  
17 the wells to be drilled in any quarter section or acreage  
18 dedicated in either direction.

19                  Q           And so you would not oppose a north half  
20 unit in Section 15.

21                  A           I think that a problem with a north half  
22 unit, of course, is the fact that the San Juan River runs  
23 across that area and all the acreage is not available for  
24 dedication in the northeast quarter of Section 15.

25                  Q           Well, that same problem would exist with

1 a west half unit, would it not?

2 A That's right. I think that there might  
3 possibly be a solution of forming a nonstandard unit, which  
4 could include that acreage north of the river and in the  
5 west half and that acreage north of the river and the east  
6 half.

7 Q Do you have irrefutable evidence that  
8 would establish that that nonstandard unit would be produc-  
9 tive?

10 A I don't have irrefutable evidence that  
11 the well you're going to drill on the northwest quarter is  
12 going to be productive.

13 Q I thought it was your testimony that be-  
14 fore you changed a spacing or proration unit you thought  
15 there ought to be irrefutable evidence to support that.

16 A Before acreage is excluded which would  
17 normally be within a proration unit is excluded.

18 Q But it's your testimony that without the  
19 same kind of evidence you can add additional acreage to a  
20 proration unit.

21 A Well, it's -- would you repeat the ques-  
22 tion again?

23 Q I'm just trying to understand your testi-  
24 mony, Mr. Arnold. You, as I understand it, testified that  
25 you shouldn't eliminate acreage unless you had irrefutable

1 evidence to establish that, and I'm just asking you if you  
2 think then you can add acreage to a unit without irrefutable  
3 evidence in support of that?

4 A Well, I think that it is -- that it has  
5 been done in many cases in establishing one standard pro-  
6 duction unit in the San Juan Basin, particularly ownership pro-  
7 blems.

8 Q My question is, do you believe there  
9 should be a different standard of proof for enlarging a  
10 spacing unit than there is when you try and create a  
11 nonstandard unit that is less than a standard unit?

12 A Well, I think as Mr. Roe testified, that  
13 really the only way you can determine definitely for certain  
14 that there's any gas in any one of the four quarter sections  
15 within that section would be to drill a well there, and ac-  
16 tually, if you do drill a well on a section in the northwest  
17 of Section 15, then certainly you will learn from the drill-  
18 ing of that well what type reservoir you have and you cer-  
19 tainly can make, you know, more accurate projections as to  
20 whether that production probably extends into neither the  
21 southwest or the northeast quarter of Section 15.

22 Q If I understand your --

23 A However, I wouldn't say that you could,  
24 you know, be totally certain of it (not understood.)

25 Q Now, if I understand your testimony, it

1 was that you believe that should the well drilled by South-  
2 land be drilled and be a nonmargjnal well, and becase there  
3 are only 169-acres to dedicate to it, that it would have a  
4 reduced allowable.

5 A That's right.

6 Q And that would affect your royalty inter-  
7 est.

8 A It would affect the rate at which that  
9 royalty interest was earned.

10 Q If that well was a nonmarginal well, and  
11 if it tended to establish that the southwest was capable of  
12 commercial production, and if a well was drilled down there,  
13 you would be receiving royalty down there and wouldn't that  
14 take care of your problem?

15 A If there were two wells drilled on the  
16 half section.

17 Q And I believe you testified that you  
18 needed to drill a well on each quarter section to establish  
19 whether or not they were capable of commercial production.

20 A Well, I don't think that the Basin Dakota  
21 rules require that you drill two wells in each quarter sec-  
22 tion.

23 Actually, the infill drilling order was  
24 written for the purpose of increasing the recoverable re-  
25 serves, really, within a 320-acre unit and providing for



1 more efficient drainage, is actually a matter of time.

2                   The infill, the order, I don't think, an-  
3 ticipated that one well in many cases wouldn't eventually  
4 drain 320 acres. It simply anticipated that you could in-  
5 crease the recoverable reserves and recover that gas faster  
6 by having two wells on a 320-acre unit.

7                   Q           What is the term of your lease with  
8 Southland Royalty Company?

9                   A           It's a three year lease.

10                  Q           Do you know how long that would run, how  
11 long that runs?

12                  A           It has almost three years to year, three  
13 additional.

14                  Q           And so that would be three additional  
15 years under that same lease if Southland decided to develop  
16 in the southwest quarter, still that time available.

17                  A           As I understand it.

18                  Q           Did you prepare a map or attempt to map  
19 any reservoir limits in the area?

20                  A           No, I haven't.

21                  Q           Do you have any recommendations to make  
22 other than denying the application?

23                  A           Not at the moment. I actually only  
24 learned last Friday that the thing was coming to hearing at  
25 this time, so I --

1 MR. CARR: I have no further  
2 questions.

3 MR. STOVALL: I'd like to clar-  
4 ify one thing. I think perhaps there may have been a misun-  
5 derstanding, Mr. Arnold.

6

7

REDIRECT EXAMINATION

8 BY MR. STOVALL:

9 Q You made mention of a nonstandard prora-  
10 tion unit, but the unit you were describing would consist of  
11 320 acres, is that not correct?

12 A Right, approximately that.

13 Q You -- you talk in terms of the, basic-  
14 ally the portion of the southwest quarter north of the river  
15 and of the northeast quarter north of the river.

16 A Well, of the west half section north of  
17 the river.

18 Q Right, okay.

19 A And the northeast quarter, that portion  
20 of the northeast quarter north of the river.

21 Q And -- but what you would really propose  
22 would be to then follow the survey lines and have a 320-acre  
23 unit that was just irregular shaped.

24 A I'd simply point out that that would be  
25 one solution to a problem where approximately 320 acres

1 would be dedicated to this well, so that in the event it is  
2 an edging marginal well it would require the drilling of an-  
3 other well for everyone to share in the production that they  
4 should, should be able to.

5 Q That would indicate, then, that there  
6 would not be a problem of drainage of 320 -- less than or  
7 more than 320 acres, it would just be the shape of the 320  
8 that we would be dealing with.

9 A That's right.

10 MR. STOVALL: I have no further  
11 questions.

12 MR. STOGNER: Mr. Carr.

13

14 RE-CROSS EXAMINATION

15 BY MR. CARR:

16 Q Mr. Arnold, I apparently missed it in the  
17 direct, what you have suggested is an unit that would, as a  
18 possible alternative, a unit that would be the acreage north  
19 of the river.

20 A Right.

21 Q And that contains about 320 acres.

22 A Right.

23 Q And that would take in all of your ac-  
24 reage.

25 A Right.

1           Q           It would take in all of that of Mr.  
2 Dugan.

3           A           Right.

4                       MR. STOVALL: If I may make a  
5 statement, no, it would not take in all of our acreage as  
6 he's discussing it. It would be the acreage on the north  
7 half of the northeast.

8                       MR. CARR: All right, it would  
9 take in a portion of Mr. Dugan's acreage.

10                      MR. STOVALL: Correct.

11                      MR. CARR: Okay, that's all.

12 Thank you.

13

14

CROSS EXAMINATION

15 BY MR. STOGNER:

16           Q           Mr. Arnold, would you be in a favor of a  
17 north half or the west half, more or less, standard --

18           A           Well, obviously because our interest is  
19 in the west half, I would favor a west half over a north  
20 half dedication if it comes to making that choice.

21           Q           How would this proration unit, what ac-  
22 reage would it consist of?

23           A           Well, I understand that Southland Royalty  
24 has some acreage problems in the west half of Section 15,  
25 not only with the Foutz acreage on the west side of the sec-

1 tion, but by the fact that the river cuts across the south  
2 half of the southwest and some of that acreage is across the  
3 river and I don't believe they have a lease on that, al-  
4 though I'm -- I don't really know what Southland Royalty's  
5 acreage position is, it's total.

6 Q But what acreage would -- would you re-  
7 commend for it to be a standard proration unit?

8 A I don't -- there isn't any way that --  
9 well, let me -- you say what way would I recommend that it  
10 be a standard proration unit?

11 Q Yes.

12 A All right, if I had my choice between two  
13 standard proration units, which would be either the west  
14 half, 320 acres, or the north half, 320 acres, I would pre-  
15 fer a west half dedication.

16 Q Okay. And that would take in portions of  
17 your acreage.

18 A That would take in all of our acreage,  
19 which is why I favor that dedication.

20 Q Let's talk about the west half now. Who  
21 owns the acreage to the south of the river?

22 A The Navajo Tribe, I presume.

23 Q Okay, this is the first time this has  
24 come out.

25 A That actually -- that actually was why I

1 made the suggestion a minute ago that the best way to handle  
2 the problem, probably, is to dedicate the acreage north of  
3 the river in Section 15 to a nonstandard proration unit  
4 which should approximate 320 acres and at the same time sup-  
5 port the formation of a nonstandard proration unit south of  
6 the river, which would include the acreage in Section 15  
7 which is not dedicated to --

8 Q Very interesting comment, have you dis-  
9 cussed this with Southland?

10 A It's not discussed at any great length,  
11 no.

12 MR. STOVALL: If I may correct  
13 that, that has been discussed with Southland but not by Mr.  
14 Arnold.

15 A Right, I'm in no position to be deciding  
16 what Dugan Production's position should be on that.

17 Q But in your interest in the -- we'll call  
18 it south of the proposed nonstandard proration unit, your  
19 acreage that lies south of there, have you discussed it with  
20 Southland?

21 A Yes, I have discussed that possibility.

22 MR. STOGNER: Let's call about  
23 a ten minute break at this time.

24

25 (Thereupon a recess was taken.)

1 MR. STOGNER: I believe at this  
2 time we are ready for closing statements, is that right,  
3 gentlemen?

4 Okay, Mr. Stovall, you may go  
5 first. Mr. Carr, you may go last.

6 Mr. Arnold, yes, you may be ex-  
7 cused.

8 MR. STOVALL: My closing argu-  
9 ment is basically fairly simple.

10 The Basin Dakota rules and the  
11 infill rules subsequently, many of those rules are developed  
12 based on hearing and evidence presented before the Commis-  
13 sion and at that time any variance from those rules, any ex-  
14 ception to those rules, would require justification in terms  
15 of scientific, geological, engineering data.

16 I do not believe that Southland  
17 Royalty has presented sufficient data to justify their posi-  
18 tion that 160-acre spacing is appropriate in Section 15;  
19 that a variance in the pool rules should be granted.

20 They have stated that you can  
21 in effect have 160-acre spacing if you follow an infill  
22 drilling program but it is different to have a mandatory  
23 160-acre spacing with the necessity to drill two wells, as  
24 Mr. Roe and Mr. Arnold have testified, at least two wells, a  
25 well per quarter, versus having the option of determining

1 whether or not the economics of drilling 160 -- drilling on  
2 effective 160-acre spacing units should be in the hands of  
3 the operator.

4   The rules establish a 320-acre  
5 spacing unit in the Basin Dakota Pool. This is in the Basin  
6 Dakota Pool and both Mr. Arnold and Dugan Production do not  
7 feel that any of the evidence which Southland has presented  
8 justifies a variance from those rules, and in fact there is  
9 a considerable lack of evidence in the form of control wells  
10 and Dakota penetrations other than in areas ranging from a  
11 half mile to a mile and a half north of the proposed loca-  
12 tion to justify a variance from the existing pool rules.

13   That's all I need to say, I  
14 think.

15   MR. STOGNER: Thank you, Mr.  
16 Stovall.

17   Mr. Carr?

18   MR CARR: May it please the  
19 Examiner, Southland Royalty Company has come before you to-  
20 day seeking the creation of a nonstandard spacign or prora-  
21 tion unit to consist of the northwest quarter of Section 15.  
22 It's in the Basin Dakota Pool, and clearly the rules were  
23 established for that pool that originally provided for 320-  
24 acre spacing, and those rules were amended some eight or ten  
25 years ago to provide for additional wells on each of those



1 spacing or proration units because it was found the original  
2 wells couldn't drain the reserves from underneath those 320  
3 acre units.

4                   There's a purpose for those  
5 rules, but one of the purposes clearly is not to force non-  
6 productive acreage in with productive acreage so that inter-  
7 est owners have their correlative rights impaired by having  
8 to share production from their wells with the owners of  
9 tracts that cannot and do not produce commercial reserves.

10                   Now Dugan has appeared here to-  
11 day, as has Mr. Arnold, and they have stated that they don't  
12 believe that we have established with irrefutable evidence  
13 or competent evidence that, in fact, there is a real likeli-  
14 hood that anything other than the northewest quarter of this  
15 section wil contribute commercial gas to the well Southland  
16 proposes.

17                   I asked Mr. Arnold if he'd at-  
18 tempted to map the area. He said no.

19                   I don't think any geological  
20 presentation ever presented could be irrefutable. I don't  
21 think you could put two geologists in this room and ever get  
22 to that point. The fact is, the only thing you know is what  
23 you have based on the data you've got available at that  
24 time. As more data becomes available the picture changes.

25                   But if you look at the record

1 in this case, one party has come forward. One party has  
2 mapped the sand stringers, and one party stands before you  
3 having shown with evidence that has been challenged, the  
4 productive interval in this well is a zone that appears to  
5 extend only under the northwest quarter of Section 15.

6 The question before you is cor-  
7 relative rights. There are interest owners in the northwest  
8 quarter of this section and in the southwest quarter of the  
9 section. They're in here and they would like to have a  
10 standard unit. The reason is they're both concerned that  
11 their acreage isn't productive and they'd like to share in  
12 the production from the Southland well.

13 I don't think you can reach any  
14 other conclusion, because both of them have available to  
15 them the opportunity to have a standard spacing unit created  
16 and their acreage dedicated to it.

17 There are problems that they  
18 face coming before you. A west half unit cuts out Dugan and  
19 a north half unit cuts out Mr. Arnold, and although not of-  
20 fered, Mr. Arnold has suggested a nonstandard spacing or  
21 proration unit based on topography. That takes care of Mr.  
22 Arnold; his acreage would be in it.

23 It takes care by and large of  
24 Mr. Dugan. A substantial portion of his acreage would be in  
25 that unit. It also takes care of Southland Royalty. It

1 puts all their acreage in and dedicates it to Southland's  
2 well and a technical presentation here show that the  
3 reserves are coming from the Southland tract, not that of  
4 Mr. Arnold and not that of Mr. Dugan, and in doing this and  
5 in not granting this nonstandard unit, we submit you would  
6 impair the correlative rights, the correlative rights of  
7 Southland, not those of Mr. Dugan, who still is free to de-  
8 velop an east half unit, not those of Mr. Arnold.

9 Mr. Arnold has raised the  
10 allowable question in an effort, really, to confuse what's  
11 before you here today.

12 If in fact the well is drilled  
13 in the northwest quarter and it's a good well, Southland has  
14 three years to go ahead and develop the acreage in the  
15 southwest quarter which probably would be shown to be pro-  
16 ductive if, in fact, the proposed well is good.

17 There'd be two wells and Mr.  
18 Arnold would be sharing a full royalty because he would have  
19 a full acreage factor and two wells on that tract of land.

20 If it's a poor well and it has  
21 the effect of condemning the southern portion of that sec-  
22 tion, Mr. Arnold shouldn't share in that well at all, be-  
23 cause he does not have reserves under his tract that he's  
24 contributing.

25 We submit by and large that the

1 same thing applies with Mr. Dugan. If the well is good and  
2 it draws a drainage demand, and perhaps there are reserves  
3 there, they ought to go drill a well, and if it's poor, then  
4 we submit they can beat the drainage demand and not have to  
5 go out and commit economic waste by drilling an unnecessary  
6 well.

7 Waste is also before you in  
8 this case because if you refuse to approve this nonstandard  
9 spacing or proration unit, Southland is going to have to go  
10 out and pool or somehow bring in additional acreage, acreage  
11 which if it does not participate is going to have an adverse  
12 effect on their economics and, as Mr. Blandford testified,  
13 could result in the well not being drilled at all. That  
14 would result in physical waste of hydrocarbons.

15 We submit if you carry out your  
16 statutory duty to prevent waste, your duty to protect cor-  
17 relative rights, you only have one thing before you that you  
18 can do on this record, and that's grant the application of  
19 Southland Royalty Company.

20 MR. STOGNER: Thank you, Mr.  
21 Carr. Thank you, Mr. Stovall.

22 I'll also reiterate from what  
23 I've said earlier, that this case will be continued to the  
24 Examiner's Hearing scheduled for June 5th, 1985, due to the  
25 publication in the Santa Fe paper.

1                   But before that time, I would  
2 like for, Mr. Carr, you and Mr. Stovall both to present to  
3 me a rough order or a rough draft on an order on this case.

4                   And, hopefully, at such time on  
5 June 5th, 1985, this case will be taken under advisement.

6                   Is there anything further to  
7 come today in Case Number 8608?

8                   Also, I might add that this  
9 case will be readvertised in the Farmington paper due to an  
10 error.

11

12

(Hearing concluded.)

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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. 8608 heard by me on 22 May 1985.

Michael P. Steyer Examiner  
Oil Conservation Division