

1 STATE OF NEW MEXICO  
2 ENERGY AND MINERALS DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 STATE LAND OFFICE BLDG.  
5 SANTA FE, NEW MEXICO

6  
7 12 August 1987

8 EXAMINER HEARING

9 IN THE MATTER OF:

10 Application of Terra Resources, Inc. CASE  
11 for compulsory pooling and an unor- 9192  
12 thodox gas well location, Eddy  
13 County, New Mexico.

14 BEFORE: Michael E. Stogner, Examiner

15 TRANSCRIPT OF HEARING

16 A P P E A R A N C E S

17 For the Division: Jeff Taylor  
18 Attorney at Law  
19 Legal Counsel to the Division  
20 State Land Office Bldg.  
Santa Fe, New Mexico 87501

21 For the Applicant: Scott Hall  
22 Attorney at Law  
23 CAMPBELL & BLACK P.A.  
24 P. O. Box 2208  
25 Santa Fe, New Mexico 87501

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

## I N D E X

## KEVIN PFISTER

Direct Examination by Mr. Hall 5

Cross Examination by Mr. Stogner 9

## MAURICE P. GADDIS

Direct Examination by Mr. Hall 11

Cross Examination by Mr. Stogner 18

## RODNEY THOMPSON

Direct Examination by Mr. Hall 22

Cross Examination by Mr. Stogner 28

## KEVIN PFISTER RECALLED

Redirect Examination by Mr. Hall 31

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

E X H I B I T S

Terra Exhibit One, Plat	6
Terra Exhibit Two, Breakdown	6
Terra Exhibit Three, Letters	7
Terra Exhibit Four, Letters	8
Terra Exhibit Five, AFE	12
Terra Exhibit Six, C-101 & C-102	14
Terra Exhibit Seven, Diagram	15
Terra Exhibit Eight, Diagram	16
Terra Exhibit Nine, Cross Section	23
Terra Exhibit Ten, Isopach	24
Terra Exhibit Eleven, Isopach	25
Terra Exhibit Twelve, Isopach	25
Terra Exhibit Thirteen, Structure Map	27

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

MR. STOGNER: Call next Case  
Number 9192.

MR. TAYLOR: The application of  
Terra Resources, Inc., for compulsory pooling and an  
unorthodox gas well location, Eddy County, New Mexico.

MR. STOGNER: Call for  
appearances.

MR. HALL: Scott Hall, from the  
Campbell & Black Law Firm, Santa Fe, on behalf of Terra  
Resources.

I have three witnesses this  
morning.

MR. TAYLOR: Will the witnesses  
stand and raise your right hands, please?

(Witnesses sworn.)

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

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

DIRECT EXAMINATION

BY MR. HALL:

Q For the record, state your name.

A My name is Kevin Pfister.

Q Mr. Pfister, where do you live and by whom are you employed?

A I live in -- at 3804 Willingham in Midland, Texas, and I'm employed by Terra Resources, Inc..

Q What do you do for Terra?

A I am their Senior District Landman.

Q Mr. Pfister, have you previously testified before the Division?

A Yes, I have.

Q And were your credentials accepted?

A Yes, they were.

MR. HALL: Mr. Examiner, are Mr. Pfister's credentials acceptable today?

MR. STOGNER: Mr. Pfister is so qualified.

Q What is it that Terra seeks by this application today?

A We seek a compulsory pooling of Chevron's interest and an unorthodox location for the drilling of a 9,350 foot Morrow test to be located 660 from the north and

1 east lines of Section 7, Township 16 South, Range 28 East,  
2 Eddy County, New Mexico.

3 Q All right, let's look at Exhibit One.  
4 What is Exhibit One intended to reflect?

5 A Exhibit One indicates, first of all  
6 you'll notice that the orange acreage is the Chevron acreage  
7 and the yellow acreage indicates the acreage owned by  
8 Marshall and Winston.

9 The yellow acreage we obtained a farmout  
10 from Marshall and Winston and the plat also indicates the  
11 location for the Chevron 7 Federal Well No. 1, and the red  
12 outline indicates the proration unit that would be assigned  
13 to that well.

14 Q All right, and this is a Morrow well, is  
15 it not?

16 A Yes, it is.

17 Q Let's look at Exhibit Two. What does  
18 that exhibit show?

19 A Exhibit Two is an ownership breakdown to  
20 further define the interest of all the parties in the  
21 particular proration unit.

22 Number 1 indicates the proration unit to  
23 be the east half of Section 7.

24 Number 2-A indicates the lease owned by  
25 Chevron. That lease is held by production. It has a 1/8th

1 royalty and an override of 5 percent.

2 2-B indicates the lease held by Marshall  
3 and Winston. It is a 1/8th royalty lease with a 4 percent  
4 override. It is an undeveloped acreage.

5 And 2-C indicates the terms of the Mar-  
6 shall and Winston farmout to Terra Resources.

7 Q All right. Why don't you explain the  
8 percentage interest dedicated or committed to the well at  
9 this point and explain who you're seeking to pool today?

10 A All right. At the present time 12-1/2  
11 percent is dedicated to this unit; however, Chevron has in-  
12 dicated Tuesday morning in a telephone conversation with  
13 Mickey Cohlma of their Land Department that Hobbs has ap-  
14 proved a farmout of their interest, but at the present time  
15 we have nothing in writing to confirm that.

16 Q So it's the Chevron interest you're seek-  
17 ing to pool?

18 A It is the Chevron interest, yes.

19 MR. STOGNER: I'm sorry, before  
20 we go any further, how much is the Chevron interest?

21 A It's 280 acres, 87.5 percent.

22 MR. STOGNER: Okay.

23 Q All right, let's look at Exhibit Three  
24 and what is Exhibit Three?

25 A Exhibit Three are a series of letters

1 that have been prepared to try and get Chevron to farmout  
2 their interest to Terra.

3 The first letter is dated January 29th,  
4 '87, and it was a farmout request to Chevron based on the  
5 terms outlined in the Marshall and Winston farmout.

6 Their response to our request is the  
7 second part of this exhibit and that letter is dated July  
8 15th, 1987, and indicates that they were not interested in  
9 farming out this acreage.

10 The next, the third letter, is a letter I  
11 sent to them on July 17th, basically including a copy of the  
12 AFE for this well and a copy of the proposed operating  
13 agreement for the proration unit.

14 Q Do you feel that Terra has made a good  
15 faith effort to seek Chevron's joinder in the well?

16 A Yes, I do.

17 Q All right, let's look at Exhibit Four.  
18 Are the letters that make up Exhibit Four the notices you've  
19 directed your attorneys to send out advising the interest  
20 owners of this hearing?

21 A Yes, sir.

22 Q And have you also given notice to the  
23 offset interest owners?

24 A Yes, we have.

25 Q Did you receive any objections?

1 A No objections.

2 Q And did you receive any waivers?

3 A We have received two waivers. One from  
4 Mesa Petroleum, which is the operator in Section 5 and from  
5 Samedan, which is the operator in Section 18 and part of 17.

6 Q All right. Do you know if the OCD rules  
7 require you to obtain waivers from all the offset owners?

8 A No, sir.

9 Q All right. Mr. Pfister, in your opinion  
10 will you -- do you believe that this application will be in  
11 the interest of conservation, the protection of correlative  
12 rights, and the prevention of waste?

13 A Yes, sir, I do.

14 MR. HALL: That concludes our  
15 direct to this witness.

16 We'd move the admission of Ex-  
17 hibits One through Four.

18 MR. STOGNER: Exhibits One  
19 through Four will be admitted into evidence at this time.

20

21 CROSS EXAMINATION

22 BY MR. STOGNER:

23 Q What's the latest correspondence you've  
24 had from Chevron concerning this? Any telephone conversa-  
25 tions?

1           A           The latest correspondence I have is the  
2 July 15th letter where they elected not to farmout.

3           Q           But subsequent to July 21st you haven't  
4 received anything from them.

5           A           No nothing written, no, sir. I did have  
6 a telephone conversation, as I stated, Tuesday morning,  
7 which indicated, this was Mickey Cohlma in Midland who is  
8 in the Land Department, that he has received permission from  
9 Hobbs to farm this acreage out but we have at this  
10 particular point nothing in writing.

11          Q           Was there anything mentioned about the  
12 unorthodox location in that conversation?

13          A           Yes, sir. They said they had no problem  
14 where the well was located.

15          Q           Okay.

16                               MR. STOGNER: I have no further  
17 questions of Mr. Pfister at this time.

18                               If there are no other questions  
19 he may be excused.

20  
21                               MAURICE P. GADDIS,  
22 being called as a witness and being duly sworn upon his  
23 oath, testified as follwos, to-wit:  
24  
25

## DIRECT EXAMINATION

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

BY MR. HALL:

Q State your name, please.

A My name is Maurice P. Gaddis, Junior.

Q And where do you live and by whom are you employed and in what capacity?

A I live at 2511 (unclear) View in Midland, Texas. I'm employed by Terra Resources, Inc., as a reservoir engineer.

Q Have you previously testified before the Division?

A No.

Q All right. Why don't you give the Examiner a brief summary of your educational background and work experience?

A I hold a Bachelor of Science in petroleum engineering, with undeclared minors in geology and chemistry, from the University of Texas at Austin, 1976.

I also hold a Bachelor of Science in petroleum engineering, undeclared minor in computer science, from the University of Texas at Austin, 1977.

I'm a Registered Professional Engineer.

I've been employed by Gulf Oil Corporation. Sipes, Williamson & Associates, Stringer Oil and Gas,

1 a now defunct Gaddis Petroleum Consultants, Inc., and cur-  
2 rently Terra Resources.

3 Q Is your area of supervision, is that in-  
4 clusive of the eastern part of New Mexico?

5 A Yes, it does.

6 Q And are you familiar with the subject ap-  
7 plication and the subject well?

8 A Yes.

9 Q And the subject lands?

10 A Yes.

11 MR. HALL: Are the witness'  
12 qualifications acceptable?

13 MR. STOGNER: Defunct. Yeah,  
14 we'll go ahead and qualify the witness.

15 Q All right, Mr. Gaddis, I understand you  
16 prepared some exhibits in connection with this case.

17 Why don't we look at what's been marked  
18 Exhibit Five, if you could identify that and go over that  
19 with the Examiner?

20 A Okay, Exhibit Five is our AFE form that  
21 we have sent out. It's a -- it's our standard AFE form of  
22 which we have total drilling test costs of \$265,000 and com-  
23 pletion costs of \$228,000 for a total of \$493,000.

24 Q All right, are these costs in line with  
25 what's being charged in the area?

1           A           Yes, they are.

2           Q           Has Terra drilled or participated in  
3 other Morrow wells in the area?

4           A           Yes, we have.

5           Q           Are you prepared to make a recommendation  
6 to the Examiner for a risk penalty that should be assessed  
7 against the nonconsenting interest?

8           A           Yes, we have. We recommend 200 percent.

9           Q           What's the basis of that recommendation?

10          A           Basically, our experience in the Morrow  
11 trend in this area. It has shown to be a high risk area as  
12 shown by the drilling and completion statistics and we can  
13 again refer to Exhibit One, if you'll note the close proximi-  
14 ty of dry holes in the area we wish to drilling.

15                   Our geological witness will address this  
16 and the risk involved more elaborately later.

17          Q           All right, so do you believe that there  
18 is a chance you could drill an unsuccessful well?

19          A           Yes, I believe that risk is there.

20          Q           All right. Have you made an estimate of  
21 the overhead and administrative costs while drilling the  
22 well and while producing the well?

23          A           Yes. For drilling we have \$3500 per  
24 month and producing, \$350 per month.

25          Q           And are those costs commensurate with

1 what's being charged in the area?

2 A Yes, they are.

3 Q Do you recommend that those figures be  
4 incorporated into an order resulting from this hearing?

5 A Yes.

6 Q And Terra is to be operator, is it not?

7 A Yes.

8 Q Are you familiar with the pool rules for  
9 the Morrow Pool?

10 A Yes.

11 Q What are the standard well location re-  
12 quirements for the Morrow?

13 A It's 660 feet from the long line of the  
14 320 acres and 1980 from the short line.

15 Q And our location is what again?

16 A Our location will be 660 feet from the  
17 north and east lines.

18 Q All right, let's look at Exhibit Six,  
19 which is the C-101 and C-102 forms. Do those show the foot-  
20 age locations on there?

21 A Yes, they do. The standard Form C-102  
22 shows the location -- standard footage location. (Not  
23 clearly understood) that and the 101 is just our determina-  
24 tion of (unclear) Permit to Drill.

25 Q Now if Terra drills a successful well do

1 you believe that production should be restricted or pena-  
2 lized due to the unorthodox location?

3 A No.

4 Q Why not?

5 A The basic problem that we have with re-  
6 strictions would be the risk involved, of course, but the  
7 chance for a -- the chance for completing this well is again  
8 in the risk situation. The --

9 Q All right, Mr. Gaddis, I understand  
10 you've prepared some exhibits demonstrative of the drainage  
11 situation out there.

12 Let's turn to Exhibits Seven and Eight  
13 and explain those.

14 A Okay. Exhibit Seven is more or less a  
15 theoretical drainage area. What I've drawn here was the  
16 drainage areas of each of the wells if they had drained 320  
17 acres. You will note that you see some overlapping but be-  
18 cause of our location the only drainage area that we would  
19 even come close to touching would be Chevron's Callaway Fed-  
20 eral No. 3 Well, and that is speculative at best, whether we  
21 would actually be affecting that well.

22 Again let me restate that this is theo-  
23 retical based on complete 320-acre drainage.

24 Q All right, now I understand you are  
25 standard with respect to the eastern boundary, is that cor-

1 rect?

2 A That's right.

3 Q There's no additional encroachment across  
4 the lease line.

5 A Across the lease line to the east there  
6 is no additional encroachment. That is a standard amount of  
7 drainage, theoretical, that would be to the east side of  
8 that boundary.

9 Q Okay. Let's look at Exhibit Eight. What  
10 does that show?

11 A If you'll attention to Exhibit Eight, we  
12 just more or less turned our volumetric equation around and  
13 calculated the acres of drainage in that we took the actual  
14 estimated ultimate recovery of which the Chevron wells have  
15 come quite close to approaching, and we plug in our numbers  
16 that we had available from log data, and for porosity, gas  
17 saturation, and PVT factors from formation volume factors,  
18 so with an application of all of this we were able to calcu-  
19 late what we feel like is an actual drainage radius that  
20 these wells exhibit, considering a cylindrical flow, and if  
21 you'll notice, even when we give the proposed, our proposed  
22 location a full 320 acres of drainage, it does not encroach  
23 upon any type of theoretical drainage pattern exhibited.  
24 The actual calculated drainage pattern, as you can see from  
25 the Chevron wells, do not cause any type of encroachment

1 from our well.

2 Q All right, so your calculations are based  
3 upon actual historic production, is that correct?

4 A Based on actual historical production and  
5 log analysis.

6 Q And so it shows that there is in fact  
7 less than 320-acre actual drainage.

8 A Yes, actual drainage is less than 320 ac-  
9 res.

10 Q Are you asking that no penalty be imposed  
11 against production on your well?

12 A That's right.

13 Q If a production penalty is imposed, would  
14 your plans for the well change?

15 A We probably will not drill it if we are  
16 penalized on this well.

17 Q In your opinion will the correlative  
18 rights of any of the other interest owners offsetting the  
19 well be affected without a penalty?

20 A We feel that the correlative rights could  
21 be affected -- would not be affected without a penalty, no.

22 Q All right. Mr. Gaddis, in your opinion  
23 will the granting of this application be in the best inter-  
24 est of conservation, the prevention of waste, and protection  
25 of correlative rights?

1           A           Yes.

2           Q           And were Exhibits Five, Six, Seven, and  
3 Eight prepared by you or at your direction?

4           A           Yes.

5                       MR. HALL: Mr. Examiner, we'd  
6 move the admission of Exhibits Five, Six, Seven, and Eight,  
7 and that concludes our direct of this witness.

8                       MR. STOGNER: Exhibits Five,  
9 Six, Seven, and Eight will be admitted into evidence at this  
10 time.

11

12                                       CROSS EXAMINATION

13 BY MR. STOGNER:

14           Q           Mr. Gaddis, on Exhibit Number Eight, the  
15 Callaway Federal Well No. 3, how long has that been produ-  
16 cing?

17           A           Okay, I've got that in here. Let me --  
18 let me flip to my production curves and I can tell you.

19                       The Callaway Federal No. 3, I have the  
20 first production occurring in June of 1981.

21           Q           And is that still producing today?

22           A           Yes, it is. The last month of production  
23 I have is April of '87 for a full thirty days and it pro-  
24 duced approximately 4900 MCF that month.

25           Q           That well which is south and west of your

1 proposed location, the, I guess that's the (not understood)  
2 Well No. 1.

3 A Yes.

4 Q Did that penetrate this for your proposed  
5 Morrow and Atoka tests?

6 A Yes, it did.

7 Q And what was the finding in that?

8 A I would like for our geologic witness to  
9 testify to that.

10 Q All right, I'll ask him the same.

11 On the AFE on page two you show footage  
12 contract for a 9300 foot well to be \$15 a foot and I assume  
13 that's to be the standard charges out in this part of the  
14 country for a well that deep?

15 A We have seen quite a fluctuation here in  
16 the recent past but this is an actual bid that we're getting  
17 from the contractor at this point in time.

18 Q What kind of fluctuations have you seen?

19 A Since Christmastime I believe we've seen  
20 it from -- a well this depth from as low as \$11 a foot, but  
21 it has increased with all of our contracts now  
22 significantly.

23 Q Okay, has this contract already been  
24 awarded or are you still looking at --

25 A I don't believe it has been awarded yet.

1 Q Has there been anything higher than \$14 a  
2 foot (inaudible).

3 A Not to my knowledge.

4 Q Now, also down, and I am not denying you  
5 show a day work contract.

6 A Okay.

7 Q Now is this an either/or situation or --  
8 or --

9 A Most of this day work will probably be  
10 mostly dependent upon how much testing we have to do. As  
11 either/or, more than likely that's an -- that's a situation  
12 we will incur, but we will do the testing.

13 Q How about your tubular goods, your cas-  
14 ing? Let me see, I believe you show surface casing of 3500.

15 A Uh-huh.

16 Q Has that changed in the last few years or  
17 last few months?

18 A It's been horrible. We have seen our  
19 large surface pipe go up as much as \$3.50, \$4.00 a foot for  
20 our larger casing of 13-3/8ths or our 8-5/8ths has also in-  
21 creased quite a bit. Tubulars are getting more and more ex-  
22 pensive.

23 Q And how about your intermediate in a pro-  
24 duction string?

25 A Our intermediate 8-5/8ths, yes. We've

1 seen increases there as well as our 5-1/2 inch, our  
2 production string.

3 Q When was this, say, about a year ago?

4 A 5-1/2 inch about a year ago. We could  
5 get some of it, I think, I would say it was as low as 2.75  
6 to 2.25 a foot.

7 Q And what is it, what's the going rate  
8 again now a foot?

9 A Well, if we get this for 4.70 to \$5.00 a  
10 foot, I think we'll be doing pretty good.

11 Q This top of the line stuff or is this the  
12 Japanese brand?

13 A Unfortunately, Japanese is top of the  
14 line stuff. It will more than likely be a load of pipe that  
15 we have in Tulsa that our Accounting Department bought for  
16 us quite a few years ago.

17 Q Okay.

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

20 Are there any other questions  
21 of Mr. Gaddis?

22 MR. HALL: No, sir.

23 MR. STOGNER: If not, he may be  
24 excused.

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

RODNEY THOMPSON,

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

DIRECT EXAMINATION

BY MR. HALL:

Q For the record state your name, please.

A My name is Rodney Thompson.

Q Mr. Thompson, where do you live and by whom are you employed?

A I live at 4906 Foxborough Court, Midland, Texas, and I'm employed with Terra Resources, Incorporated.

Q What do you do for Terra?

A I'm a geologist for them.

Q All right, have you previously testified before the Division?

A Yes, I have.

Q Mr. Thompson, are you familiar with the subject well and the lands and the subject application (unclear)?

A Yes, I am.

MR. HALL: Are the witness' qualifications acceptable?

MR. STOGNER: They are.

1           Q           Mr. Thompson, I believe you prepared some  
2 exhibits in connection with this case.

3                       Why don't we go to what's been marked as  
4 Exhibit Nine. Is that your stratigraphic cross section?

5           A           Yes.

6           Q           Why don't you explain that to the Exam-  
7 iner?

8           A           Okay. Mr. Examiner, I'd like to intro-  
9 duce Exhibit Nine, which is a stratigraphic cross section.  
10 It's a west-to-east cross section across the southern end of  
11 the Diamond Mound Field and all of these wells that are in-  
12 volved with completions on the cross section are completed  
13 from the Morrow Sand interval.

14                      We show on here the Atoka formation and  
15 the Morrow Clastics, which is the datum line for the cross  
16 section, the Barnett interval and the Upper Mississippian  
17 Chester Lime.

18                      And I have a sequence of maps from two of  
19 these intervals to illustrate the grounds for this prospect.

20                      The -- if you notice at the top of the  
21 cross section, the wells are numbered one through six and  
22 they are referred to on the plat on the right side of the  
23 cross section as to which wells they are.

24                      You'll see quite a range in cumulative  
25 production, which is listed also under each number of each

1 well, and there is a range from zero in this field up to and  
2 above 4.5-billion cubic feet of gas. Some of these will  
3 have ultimate reserves, high ends of 6-billion cubic feet of  
4 gas.

5 The two wells in particular I'd like to  
6 draw your attention to are the number three and four wells  
7 on the cross section.

8 We feel like we're going to be encounter-  
9 ing sands similar to those found within these two wells,  
10 which set up a north/south sand fairway and our proposed lo-  
11 cation, we hope to be located within this fairway.

12 I'll be elaborating on that with some ad-  
13 ditional Isopach maps following the cross section.

14 With that in mind, then, I'd like to re-  
15 fer to Exhibit Ten, which is a cumulative production map,  
16 and again the colored acreage showing Terra Resources ac-  
17 reage, our proposed location again in Section 7, and the  
18 wide range of production that's found in the Morrow Sand,  
19 which is colored in the brown.

20 And we feel like the biggest main concern  
21 as far as the risk goes in drilling a Morrow test in the --  
22 within this -- an extension to this field, is number one,  
23 whether we'll have sands at all, and number two, if we do  
24 encounter some Morrow sands, what kind of reservoir quality  
25 they'll be. There's a range in porosity within these sands

1 and even though you may encounter a fairly thick section,  
2 sometimes your porosity is also a risk.

3 Normally, if you get a good thick Morrow  
4 Sand section, there will be enough porosity for a commercial  
5 test.

6 Exhibit Number Eleven is an Isopach of  
7 the clean Morrow Sand and by clean I mean API units on your  
8 gamma ray of 50 units or less, and you can see from this  
9 Isopach map that there are several north/south trending sand  
10 fairways within which good quality reservoir, Morrow Sands  
11 are located.

12 There's four fairways shown on the map.  
13 We're mainly concerned with the one trending through the  
14 east half of Section 6 and the west half of Section 5 of  
15 Township 16 South, Range 28 East, and we're hoping to -- to  
16 -- for an extension of that sand fairway to the south, and  
17 that's the crux of our prospect.

18 Now, a third Isopach map, which is shown  
19 on Exhibit Twelve, further pinpoints these sand fairways.  
20 This Isopach map is a porosity Isopach map, contour interval  
21 10 feet and showing porosity within these sands that contain  
22 greater than or equal to 8 percent porosity, and it's been  
23 my experience with the Morrow through Eddy County that a  
24 good cut-off line is the 8 percent porosity or above. Any-  
25 thing under that you normally will have trouble making a

1 commercial test.

2           And again you can see our proposed loca-  
3 tion, we fee, due to proximity is the best location in Sec-  
4 tion 7, which results in an unorthodox location to catch the  
5 north/south trending sand fairway coming through the well in  
6 Section 6, which is the Gulf Callaway Federal 2, contained  
7 50 feet of good reservoir sand, and the Mesa Derrick Federal  
8 No. 1 in Section 5, that well has cumed over 2-billion cubic  
9 feet of gas. The other one in Section 5, Derrick Federal  
10 No. 2, has cumed over 4-billion cubic feet of gas.

11           So the combination of these two channels  
12 coming through, possibly extending into our location, has  
13 set up the prospect.

14           At this time I'd like to address your  
15 question to Samedan's well in the southwest -- southeast  
16 quarter of 7. That well did not -- did penetrate the Morrow  
17 interval. It did encounter sands of commercial quality.  
18 They were thin and tight sands. They didn't have any --  
19 enough reservoir to be a commercial test, so they were not  
20 perforated. Casing was not set on them.

21           And the Depco Well over in Section 8 is  
22 also a dry hole in the northwest quarter of the northeast  
23 quarter; did have some show in the Morrow Sands. They  
24 showed gas to surface, but again Depco elected not to run  
25 casing, perforate these sands, feeling they were not of com-

1 mercial caliber.

2           The final exhibit is Exhibit Thirteen and  
3 this is a structural map contoured on the top of the Upper  
4 Mississippian Chester Lime and its main purpose is to illus-  
5 trate that there's strictly southeast regional dip in the  
6 area and also to point out that structure does not play much  
7 of a problem at all in completion of these wells. There is  
8 no water problem involved and some of your lower wells in  
9 the field are -- contain some of your best production. So  
10 structure is not really of significance.

11           In summary, then, our proposed location,  
12 which is an unorthodox location, I feel is the least -- less  
13 risk -- or contains the least risk involved in drilling  
14 within this section, mainly due to proximity as well as the  
15 sand fairways that are existing to the north.

16           Q           In addition, Mr. Thompson, does there  
17 still remain a risk at your unorthodox location that the  
18 well will not be commercially successful?

19           A           Yes, there is a significant risk in that  
20 reservoir quality sands may or may not exist and if they do,  
21 their quality again could be of the commercial type or not.  
22 That's the main risk.

23           Q           Were Exhibits Nine, Ten, Eleven, Twelve,  
24 and Thirteen prepared by you or at your direction?

25           A           Yes, they were prepared by me.

1 MR. HALL: We've move the  
2 admission of those exhibits, and I have no further questions  
3 of this witness.

4 MR. STOGNER: If there are no  
5 objections Exhibit Nine, Ten, Eleven, Twelve, and Thirteen  
6 will be admitted into evidence.

7

8 CROSS EXAMINATION

9 BY MR. STOGNER:

10 Q Mr. Thompson.

11 A Yes.

12 Q Is there any Atoka prospects in this par-  
13 ticular area?

14 A Mr. Examiner, I believe that the Atoka is  
15 a very risky formation to drill as a main objective in the  
16 area. We do have a completion in the Atoka section in our  
17 well in Section 9. We did not encounter commercial Morrow  
18 Sands in that well. The Atoka, we felt, had or has a good  
19 chance of being commercial due to its log characteristics  
20 and drilling parameters as we drilled it, but it has cur-  
21 rently lost a significant amount of pressure and the chances  
22 of it being commercial are rather bleak right now.

23 Q So the -- you only propose to test the  
24 Morrow formation in this well.

25 A Well, I feel like the Atoka is a secon-

1 dary objective. It can contribute a half a B type of reser-  
2 ves to your -- to your ultimate recovery and I've, you know,  
3 it's an Atoka-Morrow objective. The Morrow is the deepest  
4 horizon, deepest producing horizon, so that's what we call  
5 the major objective, and we also call it the major objective  
6 because it contains the most commercial and established pro-  
7 duction in the area, but an Atoka completion is also re-  
8 quested, if that be the case.

9 MR. STOGNER: Mr. Hall.

10 MR. HALL: Yes.

11 MR. STOGNER: In your applica-  
12 tion you only requested the Morrow and in the letters to  
13 Chevron only the Morrow was addressed. Now it was adver-  
14 tised in the Undesignated Diamond Mound Atoka-Morrow Pool,  
15 because the Atoka-Morrow in this particular pool is a double  
16 formation pool.

17 Do you see that this could  
18 create any problems?

19 MR. HALL: No, sir.

20 MR. STOGNER: Why not?

21 MR. HALL: I believe the nomen-  
22 clature for the Morrow was sufficient to cover both those  
23 double designations. If you wish to add something?

24 A I'd like to elaborate on that. The Buf-  
25 falo Valley Field, which is this same Pennsylvanian sand

1 trend that exists just north of Diamond Mound and extends on  
2 down through Diamond Mound to our location, actually has  
3 Atoka-Morrow lumped together and the reason being, as you go  
4 north you lose your Morrow lime and some people just desig-  
5 nate this whole clastic interval as being one Atoka-Morrow  
6 interval and it's actually listed in the New Mexico produc-  
7 tion books as Atoka-Morrow.

8                   So I don't think there'll be a problem  
9 with that. Designating or dividing these two out, they're  
10 very similar type formations. Their both sandstones, gas-  
11 bearing, with associated condensate, and there really hasn't  
12 been a problem with -- with that in the past.

13                   Q           Is there a natural break between the  
14 Atoka and the Morrow formations in this zone?

15                   A           I think right in this area it's -- it is  
16 a debatable issue because you're dealing with a limestone,  
17 you'll notice on the cross section at the base of the Atoka,  
18 and the top of the Morrow. This limestone has been -- the  
19 break in actual age has had some conflicting opinions as to  
20 whether it's Atoka or Morrow.

21                   I feel personally that -- that there is a  
22 break in this area, but we're mainly considering a Morrow  
23 completion, being it is the big commercial pay in the area.

24                   MR. STOGNER: I have no further  
25 questions of Mr. Thompson. He may be excused if there are

1 no further questions for him.

2 MR. HALL: We need to put Mr.  
3 Pfister back on just briefly.

4

5

6

7 KEVIN PFISTER,  
8 being recalled and remaining under oath, testified as fol-  
9 lows, to-wit:

9

10

REDIRECT EXAMINATION

11

BY MR. HALL:

12

13 Q Mr. Pfister, we need to clear an addi-  
14 tional point on your acreage situation with respect to the  
15 lands dedicated to the well.

15

16

Does Terra have any acreage subject to  
immediate expiration?

17

18 A The primary terms of the -- as regards  
19 the primary terms of the leases involved, Chevron's lease is  
20 HBP. The Marshall and Winston tract is good through '92;  
21 however, we have a farmout of the Marshall and Winston tract  
22 and we have thirty days from the hearing in which to com-  
mence the well.

23

24 Q And do you plan to commence the well as  
soon as possible?

25

A Yes, we do.

1                   Q            Are you requesting an expedited order be  
2 entered?

3                   A            Yes, we are.

4                                   MR. HALL:    That concludes re-  
5 direct.

6                                   MR. STOGNER: I nothing further  
7 of this witness.

8                                   Do you have anything further,  
9 Mr. Hall?

10                                  MR. HALL:    No, sir.

11                                  MR. STOGNER: If nobody else  
12 has anything further in Case Number 9192, this case will be  
13 taken under advisement.

14  
15   (Hearing concluded.)

16

17

18

19

20

21

22

23

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case no. 9192 heard by me on 11 August 1987.  
Michael C. Rogers, Examiner  
Oil Conservation Division