

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 20 June 1984

7 EXAMINER HEARING

8 IN THE MATTER OF

9 Application of TXO Production Corp.  
10 for compulsory pooling, direction-  
11 al drilling and an unorthodox  
12 location, Eddy County, New Mexico.

CASE  
8237

13 BEFORE: Michael E. Stogner, Examiner

14 TRANSCRIPT OF HEARING

15 A P P E A R A N C E S

16 For the Oil Conservation  
17 Division:

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23 For the Applicant:

24 Chad Dickerson  
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A P P E A R A N C E S

For Cities Service:                   W. Thomas Kellahin  
  
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DAVID M. HUNDLEY

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MR. STOGNER: The hearing will come to order. And we will now call Case Number 8237.

MR. PEARCE: That case is on the application of TXO Production Corporation for compulsory pooling, directional drilling, and an unorthodox location, Eddy County, New Mexico.

MR. DICKERSON: Mr. Examiner, I'm Chad Dickerson of Artesia, New Mexico, appearing on behalf of the applicant and we have three witnesses.

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Cities Service Oil and Gas Company.

MR. PEARCE: Are there other appearances in this matter?

Could I ask all prospective witnesses to rise at this time, please?

(Witnesses sworn.)

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

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Mr. Hundley, will you state your name,

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your occupation and where you reside, please?

A My name is David Hundley. I'm a landman, TXO Production Corp.

I reside in Midland, Texas.

Q Mr. Hundley, would you briefly summarize your work and educational background for the Examiner?

A Yes. In May, 1979, I received a Bachelor of Business Administration degree from the University of Texas.

In August, 1981, I received a Master of Business Administration from Southern Methodist University.

I've been employed as a landman with TXO since October, 1981.

Q Are you familiar with the application TXO has filed in this case, Mr. Hundley?

A Yes.

MR. DICKERSON: Is the witness qualified, Mr. Examiner?

MR. STOGNER: He is so qualified.

Q Mr. Hundley, would you briefly summarize the purpose of TXO's application in this case?

A TXO seeks an order for compulsory pooling, directional drilling, and an unorthodox location, Eddy County, New Mexico.

In this cause we seek an order pooling all mineral interests from the top of the Wolfcamp to the

1  
2 base of the Morrow formation underlying the north half, Sec-  
3 tion 30, Township 21 South, Range 27 East, and we proposed  
4 to directionally drill a well at an unorthodox surface loca-  
5 tion located 660 feet from the south line and 560 feet from  
6 the east line of Section 19, Township 21 South, Range 27  
7 East, also with an unorthodox bottom hole location of ap-  
8 proximately 660 feet from the north line and 660 feet from  
9 the east line of Section 30, Township 21 South, Range 27  
East, with the vertical depth of approximately 11,700 feet.

10 We also seek an unorthodox oil well loca-  
11 tion in the Wolfcamp formation 130 feet from the north line  
12 and 623 feet from the east line of said Section 30.

13 Q Mr. Hundley, will you refer to what we  
14 have marked as Exhibit Number One and describe what that is?

15 A Yes. This is a land plat with the  
16 proposed location marked, proposed bottom hole location  
17 marked with a red arrow and the immediate vicinity of the  
proposed location.

18 Q This is outside the city limits of  
19 Carlsbad, New Mexico, is it?

20 A Yes.

21 Q Now refer the Examiner to Exhibit Number  
22 Two and state the reasons for the necessity of directional  
drilling in this case.

23 A Exhibit Number Two is a more detailed  
24 land plat of the north half of Section 30, Township 21  
25 South, Range 27 East.

1  
2           The plat shows the surface divisions made  
3 and the subdivisions which have been created and which are  
4 -- now have houses on them, making it necessary to move off  
5 of the proration unit to directionally drill the well.

6           Q           Mr. Hundley, what is the proposed surface  
7 location or what interest in the proposed surface location  
8 does TXO presently have?

9           A           In the proposed surface location we cur-  
10 rently have a well which we just recently completed drill-  
11 ling.

12          Q           So you're locating the rig for the well  
13 to be directionally drilled on the existing location where  
14 you previously drilled a well?

15          A           Yes. We extended the drilling pay from  
16 the previously drilled well about 100 feet and set the rig  
17 there again.

18          Q           So primarily the necessity for direc-  
19 tional drilling is based on the topographical problems that  
20 you have by reason of the residential housing on the surface  
21 of the bottom hole location.

22          A           Yes, it is.

23          Q           Refer, Mr. Hundley, please, to Exhibit  
24 Number Three and tell us what is shown in that packet.

25          A           Okay. Exhibit Number Three, the first  
page has a list of the mineral owners in the proration unit  
with which we could not come to an agreement to lease.

The second page is copies of the certi-

1  
2 fied return receipts and the third page and continuing is  
3 copies of the letters mailed to these mineral owners in  
4 which they were given the opportunity to lease or partici-  
5 pate with their interest.

6 Q Now has TXO succeeded in coming to an  
7 agreement with all mineral owners under the north half of  
8 Section 30 with the exception of these parties shown on Ex-  
hibit Number Three?

9 A Yes.

10 Q And these parties have in addition to TXO  
11 seeking purchase of an oil and gas lease from these parties,  
12 you have also shown by your correspondence invited these  
13 parties to participate in the drilling of this well if they  
14 so desire?

15 A Yes.

16 Q And Exhibit Number Three sets forth the  
17 net number of unleased mineral acres owned by each of these  
18 parties and the description of the lands in which each party  
owns an interest, does it not?

19 A That's right.

20 Q Mr. Hundley, turn to Exhibit Number Four  
21 and Exhibit A to that exhibit and summarize for the Examiner  
22 TXO's interest in the proposed proration unit.

23 A Exhibit A to the operating agreement,  
24 which is Exhibit Four, shows TXO Production Corp. has 75  
percent working interest in this well.

25 Q And APCOT-FINANDEL Joint Venture the re-

1  
2       maintaining 25 percent.

3               A               Uh-huh.

4               Q               So with the exception of the unleased  
5 mineral owners shown on Exhibit Number Three, TXO controls  
6 the entire proration unit.

7               A               Yes.

8               Q               What provision is made in this operating  
9 agreement, Mr. Hundley, for nonconsent operation and the  
10 penalties to be imposed on a party who elects not to parti-  
11 cipate in subsequent drilling operations under the agree-  
ment?

12              A               In Article VI, page five of the operating  
13 agreement, TXO asks that the penalty be 200 percent, or the  
14 maximum, in addition to recovering our drilling costs. The  
15 operating agreement on page five, line 69, has a penalty of  
300 -- or has a provision of 300 percent.

16              Q               But TXO in this compulsory pooling case  
17 requests the Division impose the maximum statutory penalty  
18 of 200 percent, does it not?

19              A               Yes.

20              Q               What, or where in this operating agree-  
21 ment, Mr. Hundley, is provision made for supervision costs  
for TXO's acting as operator for this well?

22              A               The Exhibit C to the operating agreement,  
23 the accounting procedures for joint operations, page 3 of  
24 the Exhibit C, ARTICLE III (1) (a), the drilling well rate  
25 which the operator will charge the account is \$5233 per

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month and the producing well rate is \$524 per month.

Q And does TXO request that the Division impose those same costs for supervision in any order subjecting these unleased mineral owners to compulsory pooling in this case?

A Yes.

Q Mr. Hundley, refer to Exhibit Number Five and tell us what that document is.

A Exhibit Number Five is Authority for Expenditure for the drilling of this well, which we call the McCord A No. 1, showing dry hole costs of \$777,900 and total completed costs of \$1,113,500.

Q TXO's experience in drilling wells in this area, is this a reasonable estimate of the costs to be incurred in drilling this proposed well?

A Yes, it is.

Q This was prepared, was it not, by the TXO Engineering Department?

A Yes.

Q Tell us what Exhibit Number Six is, please, Mr. Hundley.

A Exhibit Number Six is an affidavit of mailing stating that the mineral owners we have not come to an agreement with have been notified of this hearing and of our intention to apply for an order for directional drilling, unorthodox location, and compulsory pooling.

Q Were Exhibits One through Six compiled

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under your direction and supervision?

A Yes.

MR. DICKERSON: Mr. Examiner,  
at this time TXO moves the admission of its Exhibits One  
through Six.

MR. STOGNER: With no objec-  
tion, Exhibits One through Six will be admitted into evi-  
dence.

MR. DICKERSON: I have no fur-  
ther questions of this witness, Mr. Examiner.

MR. STOGNER: Mr. Kellahin,  
your witness.

MR. KELLAHIN: Thank you, Mr.  
Examiner.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Hundley, let me see if I understand  
the ownership in the north half of the section.

This is all fee property in the north  
half of Section 30?

A Yes, sir.

Q All right, and TXO has a 75 percent work-  
ing interest undivided for the entire north half of 30?

A Well, the leases are divided and then the  
mineral ownership is divided.

Our working interest is 75 percent

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throughout the entire north half, right.

Q All right. The -- is TXO the lessee of record with regards to the mineral ownership or did you acquire that from someone else? Some other operator?

A We took most of those. There is one farmout.

Q The north half of this section is property that was previously under lease to Cities Service's well in the north half of 30? Are you familiar with that?

A I knew that Cities Service at one time had some leases in here but I don't -- I've never seen them or examined them.

A It was done by members of our Land Department.

Q Are you satisfied, Mr. Hundley, that currently Cities Service Oil and Gas Company does not have any working interest in the north half of 30?

A Yes, none to my knowledge.

Q Okay. You've personally reviewed these, the title documents and you're satisfied that the ownership is as you've identified it for us today?

A Yes.

Q The people being pooled here are the ones identified on your Exhibit Number Six and these are the only ones, then, that you've not been able to find?

A Exhibit Three.

Q Exhibit Number Three, your Exhibit Number

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Three?

A Yes. I think we've come to an agreement with a couple of people that were on the affidavit of mailing in the interim.

Q All right, sir.

Are you familiar with the Francis Tracy property in, let's see if I can identify it for us, Mr. Hundley, I think it's on your map here. Yes, sir.

A Okay, I see it.

Q I've identified what is shown on your Exhibit Number Two as the F. G. Tracy property, which I think appears to be in the northwest quarter, well, it would be the south half of the northeast quarter of the northwest quarter.

A Yes, I see what mean.

Q All right, sir, are you familiar with that property, Mr. Hundley?

A What about the property, on the surface?

Q Well, have you obtained a lease from Mrs. Tracy for the Wolfcamp and the Morrow, do you know?

A I don't know.

MR. KELLAHIN: All right, thank you, Mr. Examiner.

CROSS EXAMINATION

BY MR. STOGNER:

Q To clarify, what was this Tracy property?

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Could you redescribe that for me?

MR. KELLAHIN: Yes, sir. On TXO Exhibit Number Two there is a tract identified and I have circled it. There's a tract identified, and I believe it is the south half of the northeast quarter of the northwest quarter, and I had asked Mr. Hundley if he had specific information as to whether TXO that Wolfcamp and Morrow interest from Mrs. Tracy, and he said he did not know.

That was my only question.

MR. DICKERSON: Mr. Examiner, can we go off the record just a minute?

MR. STOGNER: Why?

MR. DICKERSON: I just want to ask Mr. Kellahin does Cities Service think that it has working interest or leased mineral interest under this well?

MR. KELLAHIN: They thought they did. I don't have the documents to tell you today, but that was my concern.

They may be wrong, Chad. And if they have an interest it will probably come through that Tracy lease and maybe David could check that for us.

MR. DICKERSON: Sure.

MR. KELLAHIN: Okay.

MR. STOGNER: Okay, I got that information that I wanted there.

Q Mr. Handley?

A Hundley.

1  
2 Q Hundley, I'm sorry, can't read my own  
3 handwriting.

4 Are the interest owners in the northeast  
5 quarter northeast quarter, which is the 40-acres for an oil  
6 tract, is that the same interest as in the whole north half  
7 of Section 30?

8 A No, the mineral ownership is split up by  
9 tract throughout the north half.

10 MR. STOGNER: I have no further  
11 questions of Mr. Hundley at this time but I probably will a  
12 little bit later, so we might recall him at that time.

13 Is there any other questions of  
14 Mr. Hundley at this time? He may step down.

15 MR. DICKERSON: TXO will call  
16 Mr. Bruce Insalaco.

17 BRUCE G. INSALACO,  
18 being called as a witness and being duly sworn upon his  
19 oath, testified as follows, to-wit:

20 DIRECT EXAMINATION

21 BY MR. DICKERSON:

22 Q Will you state your name, your occupa-  
23 tion, and where you -- by whom you're employed, Mr. Insala-  
24 co?

25 A My name is Bruce Insalaco. I'm a geolo-  
gist for Texas Oil and Gas in Midland.

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Q You've not previously testified before this Division, have you?

A No, sir.

Q Will you briefly summarize for the Examiner your educational and employment background?

A I graduated from Michigan State University in 1976 with a Bachelor of Science degree in geology.

I taught high school from fall of 1976 to February of 1981. At that time I was hired on by Gulf Oil as a development geologist in Odessa, Texas. I worked for them for three years and I started at TXO March, 1984.

Q Do your duties with TXO involve the Morrow productive area of southeastern New Mexico?

A Yes, sir, I'm the geologist who takes care of Eddy County and Chaves County for TXO.

Q And are you familiar with the geology of the area of the -- TXO's proposed well in this case?

A Yes, I am.

MR. DICKERSON: Is the witness considered qualified, Mr. Examiner?

MR. STOGNER: He is so qualified.

Q Mr. Insalaco, will you refer us to what we have marked as Exhibit Number Seven and tell us what you've shown on that map?

A Exhibit Number Seven is a plat showing the surrounding area. The wells, their productive zones are

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2 color coded blue for Delaware producers; pink for Wolfcamp  
3 producers; gray for Atoka producer; and green for Morrow  
4 producers.

5 Adjacent to each well location there is a  
6 statement of which zone that they're producing out of; the  
7 cumulative production of that well in that zone; the daily  
8 production as of February, 1984 for those wells; the produc-  
9 tive time or life of the well; and in parentheses the orig-  
inal wellhead shut-in pressures.

10 Q What information from this map do you use  
11 to support your opinion of the necessity for the requested  
12 unorthodox location in this case, Mr. Insalaco?

13 A One thing that we can tell from this  
14 pressure data, at least, is that our recently drilled Chal-  
15 lenger Well in the southeast quarter of Section 19, the ori-  
16 ginal pressures there were 2200 pounds, while the shut-in  
17 pressures of the wells producing from the mid-seventies came  
in with pressures 37 - 3800 pounds.

18 Q And what, if any, conclusion would you  
19 draw from that pressure data?

20 A That the acreage in the southeast quarter  
21 of Section 19 and possibly or probably the acreage in the  
22 northeast quarter of Section 30 have been drained to some  
extent from the surrounding wells in the Morrow zone.

23 Q Directing your attention to the Cities  
24 Service well located in the northwest quarter of 29, offset-  
25 ting TXO's proposed location, Mr. Insalaco, do you know the

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footage location of that Cities well?

A Yes. It is 990 from the north and 660 from the west, an unorthodox location in itself.

Q Okay, will you turn now to what you have marked as Exhibit Number Eight and tell the Examiner what you have shown on that exhibit?

A This is a structure map of the top of the Wolfcamp. It denotes the only well that produced from the Wolfcamp in the area, the one in the south -- excuse me, northeast quarter of Section 29. It shows where our probable location or structural location will be for our new well, the McCord A No. 1, and it -- dashed out here is a cross -- represents a cross section which is the next exhibit.

Q Okay, turn to Exhibit Number Nine and tell us what that is.

A Exhibit Number Nine is an Isopach of the Wolfcamp porosity at the top of the Wolfcamp horizon. Again it shows a well that is -- that has produced from the Wolfcamp in the northeast quarter of Section 29, and the porosity values are denoted adjacent to each well location.

Q So I take it from these exhibits that in your opinion the Wolfcamp is a prospective productive oil zone in the northeast northeast of Section 30.

A Yes, sir, we should be up structure from the well in Section 29 and have considerably more porosity in that interval than the well in 29.

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2 Q Turn now to Exhibit Number Ten and tell  
3 us what you've shown on that document.

4 A This is a cross section of those wells  
5 denoted in the previous exhibit and on this cross section  
6 I've denoted the porosity interval coded in blue and the  
7 porosity cutoffs, or porosity that I have used to come up  
8 with the values for the Isopach, Exhibit Number Nine.

8 Q Okay, turn to Exhibit Number Eleven, Mr.  
9 Insalaco, and tell us what that instrument is.

10 A Exhibit Number Eleven is a structure map  
11 on top of the Morrow, Middle Morrow sand interval. It shows  
12 our probable stratigraphic depth that we should encounter on  
13 our McCord A No. 1 Well, and it shows the offset Morrow  
14 producers color coded in green.

14 Q Again with the trace of a cross section  
15 to be illustrated in a later exhibit shown on that map.

16 A Yes, sir.

17 Q Okay, what is Exhibit Number Twelve?

18 A Exhibit Number Twelve is an Isopach of  
19 net Middle Morrow sands. Again it has the offset Morrow  
20 producers color coded in green. The dashed tract, or dashed  
21 line will be the cross section in Exhibit Number Thirteen,  
22 and it shows that we should or we plan on encountering 50 to  
23 60 feet of net Middle Morrow sands in this McCord A No. 1  
24 location.

24 Q Okay, refer to Exhibit Number Thirteen  
25 and tell us what that is.

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2           A           Exhibit Number Thirteen is a correlation  
3 of the sands present in the Middle Morrow section in this  
4 area with the wellbores perforations, initial potentials of  
5 the wells, drill stem tests and then that information.

6           Q           So I take it from these exhibits, Mr. In-  
7 salaco, that in your opinion the Wolfcamp and the Middle  
8 Morrow sand are the anticipated most likely productive  
9 intervals to be encountered in this proposed TXO well?

10          A           Yes, sir.

11          Q           In your opinion is the unorthodox loca-  
12 tion that you have requested the optimum location to encoun-  
13 ter the best possibility of production in both those zones?

14          A           Yes, sir.

15          Q           In your opinion would the granting of  
16 this application be in the interest of conservation, the  
17 prevention of waste, and the protection of correlative  
18 rights?

19          A           Yes, sir.

20          Q           Were Exhibits Seven through Thirteen pre-  
21 pared by you or under your direction --

22          A           Yes.

23          Q           -- and supervision?

24                           MR. DICKERSON: Mr. Examiner,  
25 at this time TXO moves admission of its Exhibits Seven  
through Thirteen.

                          MR. STOGNER: With no objection  
Exhibits Seven through Thirteen will be admitted into evi-

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2 dence.

3 MR. DICKERSON: And I have no  
4 further questions of this witness.

5 MR. STOGNER: Mr. Kellahin,  
6 your witness.

7 MR. KELLAHIN: Thank you, Mr.  
8 Examiner.

9 CROSS EXAMINATION

10 BY MR. KELLAHIN:

11 Q Mr. Insalaco, let's look at, oh, let's  
12 take Exhibit Number Eleven, if you please. That's the Mid-  
13 dle Morrow structure map.

14 A Yes, sir.

15 Q I believe in response to Mr. Dickerson's  
16 question in reference to the Cities Service location in Sec-  
17 tion 29 that you describe that as an unorthodox location.

18 Would you give me the footages again for  
19 that well?

20 A Well, they're 990 from the north line,  
21 660 from the west line.

22 Q All right, sir, and do you know what por-  
23 tion of Section 29 is dedicated to that well?

24 A No, sir.

25 Q All right, sir. If it is a west half de-  
26 dication, then the east/west 660 distance would be a stand-  
27 ard location from your proration in Section 30, would it

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not?

A Yes, sir.

Q All right. Looking at this exhibit, if I understood you correctly, the bottom hole location is not to be closer than 660 from the north and east lines of Section 30?

A Yes, sir.

Q There is a square target at the bottom hole. Do you propose a target area for the bottom hole location?

A I'd like to refer that to expertise of our drilling engineer that has accompanied us today.

Q All right. As you understand it, though, Mr. Insalaco, the proposed bottom hole location is not to be closer than 660 from this east line.

A I'd like to refer that to our drilling engineer.

Q Now you talk in terms of this being the optimum location in Section 30. Let's direct your attention first of all to the Wolfcamp, and that would be Exhibits Eight, which is the structure map, and Exhibit Nine is the Isopach.

In the north half of 30 did the Cities Service Tracy Com 1-E Well in the west, the northwest quarter, did that well test the Wolfcamp?

A Not to my knowledge.

Q That was a Morrow well, was --

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A Yes.

Q -- it not? And was that a dry hole or did it produce?

A It produced from, as the first plat, Exhibit Seven, shows, it produced from the Morrow from 1977 to 1979 and then the Atoka from 1979 through 1982. At that time I was plugged and abandoned.

Q If we looked at the Isopach, Exhibit Number Nine, it would -- it would improve your position on the Isopach map if you moved to the south and to the west with the bottom hole location in the Wolfcamp, would it not?

A Well, originally we are aiming at the 660/660 location. That's we felt when we approached or came up with this prospect. That's what our main target for the well was going to be.

Q I didn't make myself clear. In the Wolfcamp your bottom hole target won't be 660.

A Our intentions when we first proposed the well was it for it to be 660 and 660 in the Wolfcamp but because of the problems that we'll have to experience with deviation, we're not able to achieve that distance from the north line at that depth.

Q Okay. It would improve your location could you do it, to move the Wolfcamp to the southwest. You'd be in the heart of that 40-acre net thickness in the Wolfcamp.

A Yes, sir, in the 660/660 location.

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Q Let's see what happens in the Morrow, Mr. Insalaco, if you'll look at Exhibits Twelve and Eleven.

Both on the Isopach and on the structure map it will put you in the same relative thickness in the Isopach between the 50 and 60 foot contour lines to move your well to the south and to the west, would it not?

A Yes, in the Morrow, but it would not optimize the Wolfcamp and Morrow location. I mean that's -- we are trying to optimize both locations, or both horizons as pays and the 660/660 location seems to be the best location for that purpose.

Q You said that there was some possibility that the north half of Section 30 had been subject to drainage by the offset wells? Am I recalling your testimony correctly?

A We feel that the pressure information from our Challenger Rayroux Well in the southeast quarter of Section 19 demonstrates that there has been some drainage from pressure information that we've received in that well.

Q Have you made an effort to map out what would be the drainage radiuses for that well in Section 19?

A No, sir.

Q Would you avoid the possible influence of drainage by moving your well farther to the south and west?

A Well, if drainage is occurring, it seems that those mineral interest owners are losing some of their gas production to other operators in the area.

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Q What Morrow pool are we in, Mr. Insalaco?

A Burton Flats.

Q Is that a prorated gas pool?

A Yes, sir.

MR. KELLAHIN: Thank you. I  
have no further questions.

MR. DICKERSON: I have no fur-  
ther questions.

#### CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Insalaco, is the Wolfcamp production  
from this area within a designated pool?

A At one time the one well that did produce  
in Section 29 was designated as La Huerta Wolfcamp.

Q Is that pool still in existence?

A I looked through the field rule books  
yesterday and I did not see any presence of rules for that  
-- for that field, excuse me.

Q Are you anticipating hitting an oil zone  
in the Wolfcamp and not a gas zone?

A At this time I -- I'm not sure. We did  
encounter some gas increase in our Pioneer Fed No. 1 in the  
northeast quarter of Section 19.

The Challenger, Rayroux Challenger No. 1  
in the southeast quarter of Section 19 did have an oil show  
and gas increase and we are down dip from both those wells

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and then the well in the south -- excuse me, northeast quarter of Section 29 did produce oil.

Q Are you anticipating testing the other formations between the Wolfcamp and the Morrow zones?

A Testing as we drill?

Q Testing after you drill, or any time, for that matter, for potential gas zones?

A Yes, but there's -- if there's intervals present that look like they will be productive, we will surely try.

Q Okay, now this hearing today we're asking for a nonstandard location for the Morrow and the Wolfcamp.

A Yes, sir.

MR. STOGNER: I'm going to throw this question out to anybody who can answer it here.

The TXO Production Challenger Rayroux in Section 19, is that a nonstandard location?

A Yes, sir.

Q Does anybody know what order authorized that nonstandard location?

MR. DICKERSON: I think I have it here, Mr. Examiner.

MR. STOGNER: While you're looking for that, Cities Service CDM Com No. 1-A in the northwest quarter of Section 29 looks like an unorthodox location also. Is that right?

MR. KELLAHIN: It's unorthodox

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from the north line.

MR. STOGNER: Okay, do you know what order authorized that?

A SPECTATOR: September, 1975.

MR. STOGNER: September, 1975.

A SPECTATOR: I don't have any order on it.

MR. DICKERSON: Mr. Examiner, that Rayroux order was Order No. R-7319, entered July, 1983.

MR. STOGNER: September when?

MR. DICKERSON: July, 1983.

MR. STOGNER: I'm sorry, July, 1983.

And the other one was in September of 1975.

MR. KELLAHIN: I'll look it up for you, Mr. Stogner.

MR. STOGNER: Okay, thank you, Mr. Kellahin.

I have no further questions of this witness at this time and here again I may recall him to the stand at a later time.

Are there any other questions of this witness?

MR. DICKERSON: No.

MR. STOGNER: If not, he may be excused at this time.

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MR. DICKERSON: TXO will call Mr. Deen Wood at this time.

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

DIRECT EXAMINATION

BY MR. DICKERSON:

Q Mr. Wood, would you state your name, your occupation, and by whom you're employed, please?

A My name is Deen Wood. I'm a petroleum engineer for TXO Production Corporation.

Q And you have previously testified before this Division as a petroleum engineer and had your credentials made a matter of record, have you not?

A Yes, sir.

MR. DICKERSON: Is the witness considered qualified, Mr. Examiner?

MR. STOGNER: He is so qualified.

Q Mr. Wood, will you refer to what we have marked as TXO Exhibit Number Fourteen and summarize for the Examiner and for the parties the proposed directional drilling program for this well?

A Exhibit Fourteen is a graphical presenta-

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tion of our drilling plan.

On the right we have a top view of the surface location and bottom hole location and on the left we have the vertical presentation.

As marked on the map in the upper right-hand quarter, our surface location will be 660 from south line and 560 from east line.

We intend to drill a vertical hole 4300 feet. We'll set surface casing at 600 feet. We'll set an intermediate string at approximately 2800 feet and then we'll drill on down as vertically as possible to 4300 feet.

At this point we will do a gyroscopic survey of the cased hole and a multi-shot of the rest of the vertical hole, 4300 feet.

This is where we'll try and kick the well off. We'll go in with a dynadrill and bent sub and begin to deviate the hole at two degrees per hundred feet until we reach our target angle of 11.48 degrees.

While we're doing this deviation we'll be doing a single shot survey every thirty feet to make sure we're building the angle that we need and want.

Once the angle has been built we'll go in with a packed hole assembly and drill to TD, taking a single shot survey every sixty to ninety feet as the hole dictates.

When TD has been reached we'll do a multi-shot survey back to the surface pipe as required by the Commission.

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2 Now, there are several things on the map  
3 here that I'd like to draw your attention to.

4 First of all, the circle at the bottom of  
5 the page is centered on 660 from north line and 660 from the  
6 east line, which is the unorthodox location that we have  
7 proposed. You'll notice that there's a red circle at, well,  
8 it's not quite a hundred feet off from that proposed loca-  
9 tion.

10 This is where the program we've developed  
11 is targetted; however, we expect the hole to drop and de-  
12 viate in the course of drilling from the initial kickoff  
13 point to target depth; therefore we felt it prudent to aim  
14 beyond the proposed target in order to minimize the number  
15 of correctional runs we would have to make to hold -- in or-  
16 der to achieve our projected target of 660/660.

17 In addition to the initial angle building  
18 run that we use to kickoff the hole, we will have to make,  
19 we anticipate, at least one other correctional run in order  
20 to keep this hole within acceptable guidelines.

21 Now, while we're drilling the well our  
22 maximum deviation -- maximum deviation from this projected  
23 path will be 75 feet. If it ever goes beyond that then  
24 we'll have to make a correctional run at that point and re-  
25 direct the hole.

As we get close to TD in the Morrow, we  
intend to make whatever correctional runs are required in  
order to bring our final TD point to within 25 feet of the

1  
2 660/660 location.

3 In other words, the red circle on the map  
4 is not where we're going to put the bottom of the hole

5 On the lefthand side of the page is a  
6 vertical cutaway of the well plan when we start the well and  
7 again it's not going to wind up exactly where it's drawn.  
8 It will be within 25 feet of the 660/660 proposed location.

9 You'll also notice that the top of the  
10 Wolfcamp that we have on this exhibit is further south of  
11 the leaseline than where Mr. Insalaco had targetted it.  
12 This is because we are aiming past his target of 660/660 and  
13 again this is just a function of what we feel to be prudent  
14 as far as trying to get to target with a minimum expenditure  
15 and a minimum number of correctional runs.

16 Q Mr. Wood, I can interrupt you for just a  
17 minute.

18 MR. DICKERSON: Mr. Examiner,  
19 you'll notice that the application filed by the applicant in  
20 this case anticipated encountering the top of the Wolfcamp  
21 at 130 feet from the north line and 623 feet from the east  
22 line of that section and the, based on the changes from the  
23 directional drilling plan here the Examiner will notice that  
24 the location has slightly changed but it has in both cases  
25 been enough to move that encounter with the Wolfcamp further  
from both adjoining lease lines.

MR. STOGNER: Mr. Dickerson,  
the 184 from the north line and the 627 from the east line

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is an accurate -- is -- is correct as opposed to 623/130?

A Well, the 623/130, I think, is what we would like to have, but due to the anticipated -- due to what we anticipate the well to do as we drill, we're -- we're aiming here and expecting to hit what Mr. Insalaco had previously noted, the -- this applied for location.

MR. STOGNER: So we're going to a 623/130.

A Yes, sir.

MR. STOGNER: Within 25 foot of that?

A Yes, sir. And the same target radius of the Morrow.

In both cases we're -- we're -- where we're aiming is further away from the lease lines than what we're -- where we're trying to get, and that's essentially -- that's just a function of drilling a hole and doesn't have anything to do with where he'd like us to put it. We're trying to get it there and we believe this to be the cheapest and quickest way to do it.

Q Mr. Wood, was Exhibit Number Thirteen compiled by you from the information furnished to you by the contractor that you have dealt with for deviating this hole?

A Exhibit Fourteen was, yes.

Q Exhibit Fourteen, excuse me.

A It was compiled by our drafting department and the deviation company that we're going to use at my

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request using my specifications.

MR. DICKERSON: TXO moves admission of its Exhibit Number Fourteen, Mr. Examiner.

MR. STOGNER: With no objection Exhibit Number Fourteen will be admitted into evidence.

Q Mr. Wood, did you have anything further you'd like to add with regard to this exhibit?

A No, sir.

MR. DICKERSON: I have no further questions, Mr. Examiner.

MR. STOGNER: Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you, Mr. Examiner.

#### CROSS EXAMINATION

BY MR. KELLAHIN:

Q Now, Mr. Wood, in reference to the bottom hole location in the Morrow, would TXO agree to a bottom hole location in the Morrow that is no closer to the east line of Section 30 than 660 feet?

A That is no closer to the east line? That would require in all likelihood a considerable expenditure in excess of what has been projected in order to hit our 660/660 target.

Q Well, you've told me that you're going to control the target area down to 25 feet.

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A Right, a 25-foot radius centered on that 660/660.

Q All right, so using that criteria, the closest you could get to the east line would be 635 feet.

A Right, if we're off some in that direction that would be as far as we would allow it to deviate in that direction.

Q Can you tell us what difference it will make to TXO if you control it in such a way to be 25 feet farther to the west?

A Mr. Insalaco would have to tell you how that would affect his geology. I don't know that.

MR. DICKERSON: No, I think he's talking about in cost.

A Oh, cost.

Q The question is whether or not it --

A The cost.

Q -- affects you as the engineer.

A Yes, it would. We're, as I said, if we're going to continue to try to hit his 660/660 target, that means you're putting me on -- into a situation where I've got to hit that 660 from the east line and north/south I've still got -- I'm shooting at a semicircle instead of a circle, and if I'm going to hit that east line then I have to make additional deviational runs, excuse me, correctional runs to control the deviation and it's going to cost -- it costs about \$10,000 a run when all is said and done.

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Q I'm not making myself clear, Mr. Wood.

If the -- if the bottom hole target is 660 from the north line and 685 feet from the east line --

A Uh-huh.

Q -- and now you have a 25-foot radius target at that bottom hole location, what difference does the 25 feet make if it's that target or if it's a 660 by 660 target? It's going to cost you the same amount of money, isn't it?

A Well, it would be slightly more, not a tremendous deal more. We would have a slightly longer hole to drill and it probably would not make a great deal of difference.

Q All right, sir. Have you examined Mr. Insalaco's geology in terms of the bottom hole location in your judgment as to whether it ought to be at some point or another?

A I have not examined his geology.

Q That was his judgment.

A Yes, sir.

Q Do you have an opinion, Mr. Wood, as what the effect of structure will have upon the deviation of this well?

A Based on our previous drilling experience and information we tried to get from the various directional companies, there shouldn't be any effect from any type of structural features. There don't seem to be any bed in-

1  
2 clines that dip steeply enough to cause a deviation that we  
3 can attribute to it.

4 Q Sometimes we're into deviated wells where  
5 structure is of importance, causes your bit to track one way  
6 or another. This is not that kind of problem?

7 A No, sir.

8 Q Mr. Wood, I have one more question, if I  
9 may.

10 MR. STOGNER: Go ahead, Mr.  
11 Kellahin.

12 Q Mr. Wood, TXO anticipates to test both  
13 the Wolfcamp and the Morrow in this well?

14 A That's my understanding, yes, sir.

15 Q Do you propose a dual completion or how  
16 would you propose to produce the well?

17 A Not to my knowledge. To my knowledge we  
18 are not planning a dual completion. I think that would be a  
19 function of how good the Wolfcamp and Morrow together would  
20 look.

21 Q You'll drill to total depth of the Morrow  
22 and is the plan to test both the Morrow and the Wolfcamp or  
23 to first test the Morrow?

24 A The plan is to first test the Morrow and  
25 --

26 Q And if you can make a well in the Morrow  
27 you'll complete in the Morrow and if not, you'll come back  
28 up and test the Wolfcamp.

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2           A           Right, and if the Wolfcamp looks out-  
3 standing, my understanding is that we want to dual it. I  
4 can't say with any certainty. That's going to be a manage-  
5 ment decision based on the log and drilling information.

6           Q           Have you allowed yourself the flexibility  
7 in the drilling program as outlined on Exhibit Five, the  
8 AFE, to have casing of sufficient size that you could dual?

9           A           Well, with our casing program we would  
10 have to produce one of the two zones up the annulus, between  
11 the tubing and the wellbore.

12                       No, we can't run two strings of tubing in  
13 this program.

14           Q           Yeah, so you would produce one up the an-  
15 nulus and one up the tubing.

16           A           Right.

17                       MR. KELLAHIN: No further ques-  
18 tions of Mr. Wood.

19                       MR. DICKERSON: Mr. Examiner,  
20 TXO has discussed this in the proposal made by Mr. Kellahin  
21 giving the 25 feet margin of error which TXO feels that it  
22 can commit to and bottom this hole within a radius of 25  
23 feet from the bottom hole target and TXO has no objection to  
24 changing its anticipated target for a bottom hole Morrow lo-  
25 cation to a location 660 feet from the north line and 635  
feet from the east line so that given the maximum error per-  
mitted under its deviation program, that that would be a  
maximum or no closer than 660 feet to the -- from the east

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line of that section.

TXO would be willing to commit to do that and TXO also, if Cities Service in fact has an interest in the well, certainly does not dispute that. They did not know that. That title is somewhat complicated in here and so if Cities Service has an interest in it, why certainly they have a right to participate and it's not sought to force pool Cities in this case, because if Cities has an interest, TXO did not know about it until -- until this time.

And also I might point out that if TXO changes by this 25-foot distance its anticipated bottom hole location, that will also change to a slight extent the anticipated point at which it will encounter the top of the Wolfcamp.

MR. KELLAHIN: Well, we appreciate Mr. Dickerson's comments and TXO's willingness to accommodate us on that east line location.

I concur with Mr. Dickerson that an order written as he suggests would not require the case to be readvertised. You're moving in the Wolfcamp to a more standard location. I see no technical difficulty in proceeding with approval of the order.

The business about the ownership is admittedly very complicated. I learned about this problem yesterday morning and as soon as our title people can check, we'll be happy to work with TXO to see if in fact

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2 we have an interest, and I do not know that and I can't re-  
3 present that we do.

4 With those comments, we have  
5 nothing to present in the way of testimony.

6 MR. DICKERSON: Mr. Examiner, I  
7 think I misstated. I think Mr. Kellahin did too.

8 If we do what he suggested and  
9 move the location slightly, we need to move the bottom hole  
10 location to a point 660 from the north and 690 feet -- 695  
11 feet from the east line in order to accommodate Cities con-  
12 cern in this case.

13 MR. KELLAHIN: 685.

14 MR. DICKERSON: 685.

15 MR. STOGNER: As I -- now this  
16 will change the location of the Wolfcamp. Could you supply  
17 me that information subsequent to this hearing.

18 MR. DICKERSON: We'll calculate  
19 it and we will submit it to the Examiner.

20 MR. STOGNER: I have a question  
21 for Mr. Hundley. I'd like to recall him up to the stand.  
22 Before I do that, are there any other questions of Mr. Wood?

23 MR. DICKERSON: No.

24 MR. STOGNER: If not, he may be  
25 excused at this time.

Mr. Hundley, has TXO force  
pooled before in the surrounding area in Eddy County for the  
Morrow Pool?

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MR. HUNDLEY: I don't know.

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MR. STOGNER: Okay, well, what I'm getting at, that \$5,233 a month while drilling and \$524 a month while producing, is that a going rate in this area? Is that common charges?

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MR. HUNDLEY: For a well this depth.

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MR. STOGNER: For a well this depth.

9

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MR. HUNDLEY: It is. We prepared those rates according to the well depth.

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12

MR. STOGNER: And I assume plus the --

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MR. HUNDLEY: The difficulty.

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MR. STOGNER: -- expenses of directional drilling.

16

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MR. HUNDLEY: Well, that rate is the same as for a straight hole.

18

So it's, if anything, lower.

19

20

MR. PEARCE: Mr. Dickerson, I don't know which one of your witnesses to address this question to.

21

22

In considering an order of this matter -- on this matter, is there any likelihood of encountering gas in the Wolfcamp so that it's unsafe to just pool 40 acres for the Wolfcamp?

23

24

25

It sounds to me as if your

1  
2 client expects to encounter oil in the Wolfcamp, in which  
3 case we could pool 40 acres.

4 MR. DICKERSON: They do, Mr.  
5 Perce, anticipate oil. Of course if their anticipation  
6 proves to be wrong, if we're in fact classified as a gas  
7 well --

8 MR. PEARCE: Yeah.

9 MR. DICKERSON: Then that would  
10 necessitate the same pooling orders for the Wolfcamp. It  
11 would -- yeah, that's right, the Wolfcamp would also be --

12 MR. PEARCE: As I understand it  
13 the old pool which once existed is gone so now we're dealing  
14 with a Wolfcamp pool after '75 so it would also be 320.

15 MR. DICKERSON: Right.

16 MR. PEARCE: I was just trying  
17 to figure out how to suggest the Examiner consider writing  
18 that order, whether we can just pool 40 in the Wolfcamp.

19 MR. DICKERSON: Well, the ap-  
20 plication requested for a gas proration unit 320 acres, pool  
21 everything from the Wolfcamp down to the base of the Morrow  
22 so that we've got it all regardless if that happens, al-  
23 though they anticipate oil in the Wolfcamp.

24 And so if the anticipation  
25 proves correct and it is in fact oil, the pooling order has  
no application because all those parties are in other sec-  
tions or in other portions of the north half.

MR. PEARCE: You can get a 40;

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you don't need any pooling?

MR. DICKERSON: That's correct.

MR. STOGNER: At the same time,  
though, we also --

MR. DICKERSON: That's correct,  
Mr. Pearce.

MR. PEARCE: Okay, fine.

MR. DICKERSON: The parties to  
be pooled are not located in the northeast northeast.

MR. PEARCE: So we can pool a  
320 gas unit for Wolfcamp and Morrow.

MR. DICKERSON: That's right.

MR. PEARCE: And just disregard  
the 4-acre oil because you don't need to pool them on that.

MR. DICKERSON: That's correct  
but we do need an unorthodox location.

MR. PEARCE: All right, yes,  
sir, thank you.

MR. STOGNER: An unorthodox  
Wolfcamp location regardless if it's --

MR. DICKERSON: Right.

MR. STOGNER: -- an oil or a  
gas well?

I have no further questions for  
any witness.

Is there any other questions?

MR. DICKERSON: No.

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MR. STOGNER: Is there anything else further for Case Number 8237?

Being no further information for 8237, I will hold the record open on this case pending the subsequent information for the Wolfcamp target.

(Hearing concluded.)

## C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete and true transcript of the proceedings in the Examination of a tag of 8237, heard by me on June 20, 1984.

Michael E. Stogard Examiner  
Oil Conservation Division