STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY
THE OIL CONSERVATION DIVISION FOR THE
PURPOSE OF CONSIDERING:

APPLICATIONS OF CROSS TIMBERS OIL
COMPANY FOR COMPULSORY POOLING AND
AN UNORTHODOX OIL WELL LOCATION,

12,524

(Consolidated)

and(12,525

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGIMA

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

SAN JUAN COUNTY, NEW MEXICO

November 16th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, November 16th, 2000, at the New Mexico Energy, Minerals and Natural Resources

Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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APPEARANCES

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FOR THE APPLICANT:

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* * *

WHEREUPON, the following proceedings were had at 10:29 a.m.:

EXAMINER STOGNER: At the request of the Cross

Timbers Oil Company I will now call and consolidate Cases

12,511, 12,523, 12,524 and 12,525, all of which are at the request of Cross Timbers Oil Company for Compulsory Pooling in San Juan County, New Mexico. Case Number 12,511 has an unorthodox oil well location, as does Case Number 12,523 and 12,524 -- Oh, they all have unorthodox oil well locations.

So at this time I will call for appearances in these cases.

MR. BRUCE: Mr. Examiner, James Bruce of Santa

Fe, representing the Applicant. I have three witnesses to

be sworn.

EXAMINER STOGNER: Any other appearances?
Will the witnesses please stand to be sworn?
(Thereupon, the witnesses were sworn.)

MR. BRUCE: Mr. Examiner, these four cases have been consolidated at our request. They involve wells fairly close to each other. The geology and engineering is basically the same, and the parties being pooled in each well unit are the same.

What I've handed you is a package of exhibits for the first case, 12,511, regarding the east half of Section

28 North, 10 West. What I propose to do is to go through 1 that set, and then I will give you the other sets of 2 exhibits. The testimony is basically the same on each of 3 those, and that will shorten the hearing somewhat. 4 EXAMINER STOGNER: That will be good. 5 6 GEORGE A. COX, 7 the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows: 8 DIRECT EXAMINATION 9 BY MR. BRUCE: 10 Would you please state your name and city of 11 Q. residence for the record? 12 My name is George A. Cox, and I live in Forth 13 Worth, Texas. 14 Who do you work for and in what capacity? 15 0. 16 I work for Cross Timbers Oil Company as a 17 landman. 18 Have you previously testified before the Q. 19 Division? 20 Yes, I have. A. And were your credentials as an expert landman 21 0. accepted as a matter of record? 22 23 A. Yes, they were. And are you familiar with the land matters 24 25 involved in these four cases?

1 Yes, I am. Α. MR. BRUCE: Mr. Examiner, I tender Mr. Cox as an 2 expert landman. 3 EXAMINER STOGNER: Mr. Cox is so qualified. 5 (By Mr. Bruce) Mr. Cox, could you identify Q. Exhibit 1 and first describe what Cross-Timbers seeks in 6 7 this first case? This is a plat of the area, land plat, and it 8 9 reflects the unit, and we seek to pool the well from the base of the Pictured Cliffs to the base of the Dakota 10 formation. 11 Now, you're seeking to force pool the east half 12 and also the southeast quarter for 160-acre well units, and 13 14 also the northwest quarter of the southeast quarter for 40-15 acre well units; is that correct? 16 Α. That's correct. 17 Q. Okay. What is the location of this well? 18 The footing location on this well is 1610 feet Α. 19 from the south line and 1570 feet from the east line. And that is orthodox for gas wells, is it not? 20 Q. That's correct. 21 Α. But for an oil-well location it would be what? 22 Q. Too close to the quarter-quarter-section line? 23 24 Yes, sir. Α. 25 And so does Cross Timbers request approval of the Q.

unorthodox oil well location?

A. Yes, we do.

- Q. Who do you -- Maybe go to your Exhibits 2 and 3 and identify whom you seek to force pool in these cases.
- A. Well, there are three parties that we seek. The Mathias Family Trust, a Rita Treasa Floyd and a Virginia Mullins.
- Q. Okay, and those are identified on the attachments to Exhibit 3, are they not?
 - A. That's correct.
- Q. There are three other working interest owners listed on that attachment. What is the status of those parties?
 - A. We have been able to come to terms with them.
- Q. Okay. Would you describe briefly for the Examiner your contacts with these working interest owners with whom you have not reached agreement?
- A. Okay, we sent out a proposal letter along with an AFE and a JOA package on August the 4th, and then we followed that up on the 24th of August with a follow-up letter to the parties that had not responded, requesting their response and notifying that we were going to file a compulsory pooling if we couldn't get something agreed to in the meantime.
 - Q. Okay. Now, the letter dated August 4th, this is

only the one to the Mathias Family Trust. Did similar 1 letters --2 We sent -- Yes, a separate letter to each party. 3 Α. I just enclosed the one; it's the same form letter. 4 5 Q. Okay. But it was sent to each one of the individuals. 6 Α. 7 Okay. Have you had any telephone discussions Q. 8 with any of the people, the three people you have not made 9 deals with? I'm currently talking to Ms. Mullins, and we're 10 Α. in the middle of coming to an agreement, but I don't have 11 12 anything in writing yet, so we want to leave her on there. 13 Q. Okay. If you do come to terms with her, will Cross Timbers notify the Division? 14 15 Α. Yes, we will. 16 Okay. In your opinion, has Cross Timbers made a 0. 17 good-faith effort to obtain the voluntary joinder of the interest owners in this well? 18 19 A. Yes, sir. 20 Do you request that Cross Timbers be designated Q. 21 operator of the well? Yes, sir. 22 A. Or do you -- Excuse me, do you request that Cross 23 Q. Timbers Operating company be named operator? 24 25 Α. That's correct, Cross Timbers Operating.

1 Q. That's a related company? Right. 2 Α. 3 Do you have a recommendation for the amounts Q. which Cross Timbers should be paid for supervision and 4 administrative expenses? 5 6 Yes, sir, we would recommend for a monthly Α. 7 drilling rate of \$5750 and a monthly producing rate of 8 \$575. 9 Are these amounts equivalent to those normally Q. 10 charged by Cross Timbers and other operators in this area 11 of New Mexico for wells of this depth? 12 Α. Yes, sir. 13 And do you request that these rates be adjusted Q. 14 according to the COPAS accounting procedure? 15 A. Yes, sir. What is Exhibit 4, Mr. Cox? 16 Q. 17 Α. That is our AFE that was sent out. 18 And what is the proposed well cost? Q. 19 The total dryhole cost is \$200,300, with a total Α. 20 completed cost of \$414,900. 21 And this is a Dakota test well? Q. 22 Yes, sir. Α. 23 Is this cost in line with the cost of other Q. 24 Dakota wells drilled in this area of New Mexico? 25 Α. Yes, sir.

Were the nonconsenting working interest owners 1 Q. notified of this hearing? 2 3 A. Yes, they were. And is Exhibit 3 [sic] my affidavit of notice? 4 0. Yes, it is. 5 A. Now, the unorthodox oil well location, did notice 6 Q. 7 need to be given of that? Α. No, sir. 8 And what is the reason? 9 Q. 10 Well, the wells are moving to the interior of Α. each lease, and so no one is adversely affected as to that. 11 12 Q. Okay, so in the southeast quarter, at least, it's 13 just one federal lease, I believe? 14 Α. Yes, sir. 15 With common interest ownership? Q. That's correct. 16 Α. 17 Okay. And were Exhibits 1 through 5 prepared by Q. you or under your supervision or compiled from company 18 19 business records? Yes, they were. 20 A. And is the granting of Cross Timbers' Application 21 Q. in this case in the interest of conservation and the 22 23 prevention of waste? 24 Yes, it is. Α. Now, Mr. Cox, I've handed you similar sets of 25 Q.

exhibits, land exhibits, for the remaining three cases, 1 which are the Federal E Well Number 1 E, Case Number 2 12,523, which is in Section 17 of 28 North, 10 West; Case 3 12,524, which concerns the well in the east half of Section 4 4, 27 North, 10 West; and the final case, 12,525, which is 5 the east half of Section 16 in 27 North, 10 West. Again, 6 7 these wells are all being drilled to the Dakota, are they 8 not?

A. That's correct.

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- Q. And the three interest owners you listed for the first case are the same three that you are seeking to force pool in these other three cases, are they not?
 - A. That is correct.
- Q. Originally, some of these wells had additional interest owners, but you have come to terms with anyone else listed in these exhibits?
- A. Yes, yes. These are the only three people that have not acknowledged that they either want to join or sell.
- Q. Okay. Roughly, what is their combined interest in the --
- A. Totally, all three of them together represents

 1.7631-percent working interest --
 - Q. In the unit.
 - A. -- in each unit.

1	Q. Okay. So their interests are uniform throughout
2	these four
3	A. They're the same interest in each well, yes.
4	Q. Okay. And notice was Similarly in each case,
5	you sent out letters, a couple of letters in August, and
6	you've had phone discussions with Mrs. Mullins?
7	A. Yes, with Ms. Mullins.
8	Q. Okay.
9	A. And Ms. Mullins is the biggest owner. She has a
10	one-percent interest.
11	Q. And the well costs that are reflected in the AFEs
12	for each well are similar to those which you've just
13	described for the Section 28 well?
14	A. They are all identical except I think there was
15	one well that was a couple of hundred dollars' difference.
16	The case 12,523, the AFE cost on that is \$413,700, versus
17	the \$413,900 in the other wells.
18	Q. Okay. And again, in your opinion, all of these
19	well costs are fair and reasonable?
20	A. Yes, sir.
21	Q. And the overhead rates would be the same for each
22	case?
23	A. The overheads are the same, yes, sir.
24	Q. Okay. And the exhibits in this case, 1 through 4
25	in each of these three cases, 12,523 through 12,525, were

1 prepared by you or under your supervision? Α. That is correct. 2 MR. BRUCE: Mr. Examiner, at this time I would 3 move the admission of -- in Case 12,511, it is Exhibits 1 4 through 5, which are the land exhibits, and in the other 5 three cases they are Exhibits 1 through 4. The only 6 7 difference is that there is just one notice affidavit, and that is included in the exhibits for Case 12,511. 8 EXAMINER STOGNER: Exhibits 1 through 5 or 9 Exhibits 1 through 4, whether is appropriate in these four 10 cases, will be accepted at this time. 11 12 EXAMINATION BY EXAMINER STOGNER: 13 Who is Cross Timbers Operating Company in 14 Q. 15 relationship to the Applicant? 16 They are our operating arm of our company. 17 Q. Now, all four leases that we're talking about today, are they federal leases? 18 Yes, sir. 19 Α. 20 Okay. So the interests to be force pooled, are Q. they undivided or divided working interests within those 21 320-acre blocks? 22 They are undivided as to these units, yes, sir. 23 Α. So they would have the same percentage of 24 Q. 25 interest --

1	A. Yes, sir.	
2	Q regardless of the size of the unit?	
3	A. Yes, sir.	
4	EXAMINER STOGNER: No other questions of this	
5	witness.	
6	RANDALL HOSEY,	
7	the witness herein, after having been first duly sworn upon	
8	his oath, was examined and testified as follows:	
9	DIRECT EXAMINATION	
10	BY MR. BRUCE:	
11	Q. Would you please state your name for the record?	
12	A. Randall Hosey, H-o-s-e-y.	
13	Q. Who do you work for and in what capacity?	
14	A. I work for Cross Timbers Oil Company as a	
15	geologist.	
16	Q. Have you previously testified before the	
17	Division?	
18	A. Yes, I have.	
19	Q. And were your credentials as a geologist accepted	
20	as a matter of record?	
21	A. Yes, they were.	
22	Q. And are you familiar with the geology involved in	
23	these four Applications?	
24	A. Yes, I am.	
25	MR. BRUCE: Mr. Examiner, I tender Mr. Hosey as	

an expert petroleum geologist.

EXAMINER STOGNER: Mr. Hosey is so qualified.

- Q. (By Mr. Bruce) Mr. Hosey, could you refer to the packet 12,511, which involves Section 28, and move to your Exhibit 6? Could you identify that, and maybe just go through 6, 7 and 8 together, describe the primary zones which this well will test and the Dakota geology in this area.
- A. All right. Exhibit 6 is a net sandstone isopach of the first Dakota sandstone with a five-foot contour interval, showing Section 28 and the eight surrounding sections, with the proposed location shown.

Exhibit Number 7 is a similar map of the second

Dakota sandstone. It's a net sandstone isopach, again with

contour interval of five feet, showing the proposed

location of our well and the eight surrounding sections.

And Exhibit Number 8 is the third Dakota sandstone, net sandstone isopach, again showing the location. This map has a contour interval of ten feet.

This is the main Dakota-producing interval in this area. This is the primary target zone for all of these cases.

- Q. Is it fair to say that there is some variability in the sandstone thickness in this area?
 - A. Yes, there is. If we look at Exhibit 6, the

sandstones range from being absent or having no net sandstone to having a thickness of up to 11 feet.

- Q. Now, a lot of these wells were drilled -- what?

 In the 1950s or 1960s?
- A. Right, 1950s, early 1960s. They have -- I most cases they've just got old electric logs, which make picking net pay difficult. Therefore, we've just used a net sandstone, just calculated the amount of sandstone that's present in each interval and mapped that.
 - Q. Okay. What is Exhibit 9?
- A. Exhibit 9 is a type log. This type log is to a well that is on Exhibits 6 and 7 and 8, it's in Section 32. This is a well that Cross Timbers Oil Company drilled last year. This just depicts the intervals that I am mapping, first Dakota sandstone, second Dakota sandstone and third Dakota sandstone.

This also shows that there are sandstones below that. They are variable. In several cases they're waterbearing and not productive.

- Q. You know, your interpretation is based on some of these old electric logs. Are these logs suspect?
- A. Yes, they are, when comparing to them to new logs. I mean, they're all you've got, so you've got to use them. But picking an actual, exact number is difficult.
 - Q. So there is some risk that your interpretation is

incorrect? 1 2 Yes, there is. A. 3 Q. And does that increase the risk involved in 4 drilling this well? 5 A. Yes, it does. And in your opinion, if an interest owner goes 6 Q. 7 nonconsent should the maximum cost-plus-200-percent penalty 8 be assessed against that interest owner? Yes, I believe so. 9 A. Were Exhibits 6 through 9 prepared by you or 10 Q. under your supervision? 11 12 A. Yes, they were. And in your opinion is the granting of Cross 13 Q. 14 Timbers' four Applications in the interests of conservation 15 and the prevention of waste? Yes, it is. 16 A. Now, Mr. Hosey, those exhibits were from Case 17 Q. 18 There are three other packages of exhibits 12,511. 19 involving the other three cases, and your exhibits are 20 marked Exhibits 5 through 8 in those packages. 21 depict the same thing, the same three Dakota sands?

> A. Yes, they do.

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- Okay, and the same well log is used in each Q. package of exhibits; is that correct?
 - Α. Right, for the type log, yes.

Q. Okay. And basically the same holds true for
these other wells that are all within a few miles of each
other, I believe?
A. That's correct.
Q. One final thing, are there any secondary
objectives in these wells?
A. No, not at this time. We'll evaluate the logs
after we drill them and then make that determination, but
at this time the primary target is the Dakota.
Q. Okay. And were Exhibits 5 through 8 in each of
the other packages of exhibits prepared by you or under
your supervision?
A. Yes, they were.
Q. And in each of those wells also, do you recommend
a maximum cost-plus-200-percent penalty?
A. Yes, I do.
MR. BRUCE: Mr. Examiner, at this time I'd move
the admission of, in Case 12,511 Exhibits 6 through 9, and
in the other three cases Exhibits 5 through 8.
EXAMINER STOGNER: Exhibits 6 through 9 in Case
Number 12,511 and Exhibits 5 through 8 in the other three
cases will be admitted into evidence at this time.
EXAMINATION
BY EXAMINER STOGNER:

Q.

When I look at your maps, you show either four or

two or sometimes three wells in this area, in the section. 1 Are there just Dakota wells in this area, or --2 3

Yes, yes, that's --A.

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- -- are there some other wells that's not being Q. depicted?
- Yeah, that did not -- I meant to put that on A. these exhibits. There are additional shallow wells that did not penetrate the Dakota sands. The wells shown on these exhibits only drilled and penetrated the Dakota sandstone, but there are shallow Pictured Cliffs, Fruitland Coal wells, that are producing in this area.
 - Q. How about Blanco-Mesaverde?
- No, in this area the Mesaverde is not productive. Α. And there ma be some -- the Gallup may be productive and there may be some wells that are drilled to the Gallup that are not shown.
- So your primary zone of interest is the Dakota; Q. is that correct?
 - Α. Yes.
- And these -- all four of these wells are going to Q. be infill wells to existing units in the Dakota?
- These wells will be the fourth A. Yes, they are. well -- or the second well within 320-acre units.
- Okay, you're requesting a maximum 200-percent Q. risk penalty factor, but this is an infill well, and in

many cases in looking around here, there's -- well, I don't see that many just plugged and abandoned wells. Are there any that you know of? No. Α. Q. Or dry ones? No, you will encounter -- there's a large -- high Α. likelihood that you will encounter the Dakota sandstone, and it will produce at some rate. The risk is -- and the engineer will discuss it more -- is pressure depletion and things to that nature. But it's my opinion you will encounter the sands, and they will have some gas, and then whether it's economic or not is a question. We believe it will -- Obviously, we're drilling these wells; we believe they will be economic. EXAMINER STOGNER: Okay, I don't have any other questions of this witness. You may be excused. Mr. Bruce. MR. BRUCE: Call Mr. Voigt to the stand. BARRY VOIGT, the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows: DIRECT EXAMINATION BY MR. BRUCE: Would you please state your name and city of residence?

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Barry Voigt, Euless, Texas. A. 1 What is your job? 2 Q. I'm an engineer with Cross Timbers Oil Company. 3 Α. Have you previously testified before the Division 4 Q. 5 as an engineer? Yes, I have. 6 Α. 7 And were your credentials accepted as a matter of Q. 8 record? 9 Yes, they were. Α. And are you familiar with the engineering 10 Q. involved in these four Applications? 11 12 Α. Yes, I am. MR. BRUCE: Mr. Examiner, I'd tender Mr. Voigt as 13 an expert petroleum engineer. 14 15 EXAMINER STOGNER: Mr. Voigt is so qualified. 16 Q. (By Mr. Bruce) Mr. Voigt, again let's 17 concentrate on Section 28 first, 28 North, 10 West. Could 18 you identify Exhibit 10 in Case 12,511 for the Examiner? Exhibit 10 is a cumulative production map of 19 Α. Dakota production only. On the well spots you have the 20 operator listed, the well name, oil cums and current oil 21 22 rate on the left-hand side and current gas and current gas 23 rate on the right-hand side. And again, this only shows Dakota wells on this 24 Q. 25 map?

A. Yes, it does.

- Q. Okay. Would you move to your Exhibit 11 and discuss what type of reserves Cross Timbers hopes to recover in this particular well?
- A. The reserves -- Exhibit 11 is a calculation of the reserves based on the upper three Dakota sands, and it's based on the net sand thickness maps that the geologist previously reviewed.

To get an average porosity for the wells, I looked at the nearest offsetting wells that did have porosity logs, and I calculated an average for each sand, and did the same with the water saturation.

As far as fluid properties, at top there, the gas gravity is .646, critical temperature 365 degrees Rankin, critical pressure 678, the reservoir temperature is 150 degrees, original reservoir pressure is 2400, abandonment pressure 400 pounds, and your $B_{\rm gi}$ and $B_{\rm ga}$ is .00611 and .04139.

In calculating the gas, for instance, on the first sand the gas in place is calculated to be 580 million cubic feet, recovery factor of approximately 85 percent, that would be 495. And the same calculations were done on the second and third sands, using the same type process.

Q. You believe the well will be economic, or you hope it will be?

A. I hope it will be.

- Q. Okay. And what is Exhibit 12?
- A. Exhibit 12 is a summary of just the Section 28 of 28 North, 10 West. It shows the current producing wells in the first table, their cumulative production as of 12-99, a decline EUR for each well and a total production for the section. Expected ultimate recovery is 9.5 BCF.

The second table in Exhibit 12 is the recoverable gas in place, that was previously calculated on Exhibit 11, for the first three sands in the section, and that would be 20 BCF for the section.

The third table is an estimation of remaining recoverable gas. Taking the recoverable gas from the table above, adjusting it for the -- looking at the offsets -- it's an average porosity; basically, I was looking at density porosities greater than six percent, which would -- in this case would give you a factor of .69 to the net sand, because the net sand was just based on either gamma ray or SP. And to get an adjusted recoverable gas in place is about 14 BCF for the section.

Subtracting the decline EUR off that at 9.5 BCF gives you about 4.5 BCF remaining in this section.

- Q. Now, that is the best well of the four that we're looking at, is it not?
 - A. Yes.

- I mean, if you looked at your final exhibits, 1 Q. which is Exhibit 10 -- Let me preface that by saying, the 2 exhibits in the other cases are Exhibits 9, 10 and 11, 3 follow the same process for each of the remaining three 4 wells, do they not? 5 Yes, and two of the wells' estimated remaining 6 Α. 7 recoverable gas was about half a BCF, and one was about 1.4, and then this one was the highest number. 8 And that's due to the thinner Dakota sand? 9 Q. 10 Yes, in the other areas. Α. Okay. So there is a variability in recovery. 11 Q. What are the risk factors involved in drilling these wells? 12 Some of it has to do a little bit with the 13 Α. pressure depletion. For instance, if you look on Exhibit 14 10, down in Section 32, the Federal A 1 E up in the 15
 - northwest quarter was a well that we drilled last year, and that well is going to be marginally economic at the rates that it's producing and that it came in at. So there is some risk in drilling these wells as far as recovery.
 - And so although you hope they'll be economic, Q. there is a chance they may be noncommercial?
 - Yes, or very marginal. Α,
 - And as a result, do you recommend the maximum Q. penalty?
 - Yes, I do. A.

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1	Q. Okay. And were Exhibits 10 through 12 in the
2	first case, 12,511, and Exhibits 9 through 11 in the
3	remaining three cases prepared by you or under your
4	supervision?
5	A. Yes, they were.
6	Q. And in your opinion, is the granting of Cross
7	Timbers' four Applications in the interests of conservation
8	and the prevention of waste?
9	A. Yes, it is.
10	MR. BRUCE: Mr. Examiner, I'd move the admission
11	of Cross Timbers 10 through 12 in Case 12,511 and Exhibits
12	9 through 11 in the remaining three cases.
13	EXAMINER STOGNER: Exhibits 10 through 12 in Case
14	Number 12,511 and Exhibits 9 through 11 in the other three
15	cases will be admitted into evidence at this time.
16	EXAMINER STOGNER: I don't have any additional
17	questions. You may be excused.
18	MR. BRUCE: That's all I have in this matter, Mr.
19	Examiner.
20	EXAMINER STOGNER: Does anybody else have
21	anything further in any of these four cases? If not, then
22	this matter will be taken under advisement.
23	(Thereupon, these proceedings were concluded at
24	11:00 a.m.) I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 1264, 12523, 1252

(505) Servation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL November 19th, 2000.

STEVEN T. BRENNER

CCR No. 7

My commission expires: October 14, 2002