

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION DIVISION  
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7 IN THE MATTER OF THE HEARING )  
8 CALLED BY THE OIL CONSERVATION )  
9 DIVISION FOR THE PURPOSE OF )  
10 CONSIDERING: )

CASE NO. 11177 and  
CASE NO. 11182

11 APPLICATION OF ENRON OIL & GAS COMPANY

12 REPORTER'S TRANSCRIPT OF PROCEEDINGS

13 EXAMINER HEARING

14 ORIGINAL

15 BEFORE: David Catanach, Hearing Examiner

16 January 5, 1995

JAN 30

17 Santa Fe, New Mexico

18  
19 This matter came on for hearing before the Oil  
20 Conservation Division on January 5, 1995, at 2040 South  
21 Pacheco, Santa Fe, New Mexico, before Diana S. Abeyta, RPR,  
22 Certified Court Reporter No. 168, for the State of New  
23 Mexico.  
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1 I N D E X

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FOR THE DIVISION:

RAND CARROLL, ESQ.  
Legal Counsel  
Oil Conservation Division  
2040 S. Pacheco  
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.  
Post Office Box 2208  
Santa Fe, New Mexico 87504-2208  
BY: WILLIAM F. CARR, ESQ.

1 EXAMINER CATANACH: Okay, at this time we'll call  
2 Case 11177.

3 MR. CARROLL: Application of Enron Oil & Gas  
4 Company for an unorthodox oil well location in Lea County,  
5 New Mexico.

6 EXAMINER CATANACH: Are there appearances in this  
7 case?

8 MR. CARR: May it please the Examiner, my name is  
9 William F. Carr with the Santa Fe law firm of Campbell,  
10 Carr, Berge & Sheridan. I represent Enron Oil & Gas Company  
11 in this case, and I have two witness.

12 EXAMINER CATANACH: Any additional appearances?

13 MR. CARR: Mr. Catanach, at this time I would  
14 request that this case be consolidated with case 11182,  
15 which is also the application of Enron Oil & Gas Company for  
16 an unorthodox oil well location. The wells offset each  
17 other, and they both are at unorthodox locations at the  
18 request of the Bureau of Land Management. The testimony  
19 will be virtually identical.

20 EXAMINER CATANACH: Okay, at this time we will  
21 call Case No. 11182.

22 MR. CARROLL: The application of Enron Oil & Gas  
23 Company for an unorthodox oil well location, Lea County, New  
24 Mexico.

25 EXAMINER CATANACH: Any additional appearances in

1 this case? Will the witnesses please stand to be sworn in.

2 (Witnesses sworn.)

3 PATRICK J. TOWER,

4 the witness herein, after having been first duly sworn

5 upon his oath, was examined and testified as follows:

6 EXAMINATION

7 BY MR. CARR:

8 Q. Will you state your name for the record, please.

9 A. Patrick J. Tower.

10 Q. Where you do you reside?

11 A. Midland, Texas.

12 Q. By whom are you employed?

13 A. Enron Oil & Gas Company.

14 Q. What is your current position with Enron?

15 A. Project landman.

16 Q. Mr. Tower, have you previously testified before  
17 this division?

18 A. Yes.

19 Q. At the time of that testimony were your  
20 credentials as petroleum landman accepted and made a matter  
21 of record?

22 A. Yes.

23 Q. Are you familiar with the application filed in  
24 this case?

25 A. Yes.

1 Q. Are you familiar with the status of the lands  
2 involved in this matter?

3 A. Yes, I am.

4 MR. CARR: Mr. Catanach, we tender Mr. Tower as a  
5 expert witness in petroleum land matters.

6 EXAMINER CATANACH: Mr. Tower is so qualified.

7 Q. (BY MR. CARR) Would you briefly state what Enron  
8 seeks with this application.

9 A. Yes. Under Case 11177, Enron seeks approval for  
10 an unorthodox oil well location in the undesignated Red  
11 Hills-Bone Spring Pool for its Hallwood "1" Federal Well No.  
12 3, and in case 11182, further seeks approval for an  
13 unorthodox oil well location to drill its Hallwood 1 Federal  
14 No. 4 well in the same pool.

15 Q. Have you prepared exhibits for presentation here  
16 today?

17 A. Yes, I have.

18 Q. Would you refer to what has been marked as Enron  
19 Exhibit No. 1. Identify this exhibit and review it for  
20 Mr. Catanach.

21 A. Yes, Exhibit No. 1 is a land plat depicting the  
22 area for the two wells involved in this pool. On this land  
23 plat you will notice that the well locations are spotted in  
24 Section 1, Township 25 South, 33 East, in Lea County,  
25 New Mexico. This pool is currently spaced on 80-acre

1 spacing. On this plat there are a series of dots. The red  
2 dots are the actual locations that they are being applied  
3 for. The green dots are the original locations which Enron  
4 sought.

5           The spacing for these two wells, there's a red  
6 outline around each one, or stand-up 80-acre proration  
7 units. With the No. 3 location, the allocated proration  
8 unit to be the W 1/2 of the SE 1/4 of Section 1, and with  
9 the No. 4 well, the allocated proration unit to be the E 1/2  
10 of the SW 1/4. These locations -- I'll get into in a minute  
11 the reasons for moving them.

12           The one other thing that the land plat will  
13 identify are all the offset operators. In the case of these  
14 two particular wells, Enron is the operator on every side of  
15 these wells. Therefore, no notice was sent out to offset  
16 operators, as we are offset operator.

17           Q.     Would you provide Mr. Catanach with the  
18 unorthodox well locations that you are seeking.

19           A.     Yes. The No. 3 location is located 1,430 feet  
20 from the south line, and 1,830 feet from the east line of  
21 Section 1. The No. 4 location is located 1,060 feet from  
22 the south line and 1,650 feet from the west line. The  
23 original pool rules require for the stand-up 80's to have  
24 the 150 foot setback rule -- or 150 foot setback from the  
25 center of each quarter-quarter section. So that you can see

1     that both of these locations have stepped away from that in  
2     their respective quarter-quarter sections, and thus the  
3     hearing.

4             Additionally, the reason for moving them in the  
5     case of the No. 3 location, these are on federal lands, and  
6     in the process of the permitting, an archaeological hot spot  
7     was encountered at the original location, which is depicted  
8     in green.

9             Q.     For which well?

10            A.     This is for the No. 3, which was an orthodox  
11     location. The BLM has, in essence, required us to move  
12     this, to obtain a permit through them. The other location  
13     that would be orthodox within this 80 would be the remaining  
14     quarter-quarter section, being the SW 1/4 of the SE 1/4.  
15     However, our next witness, Mr. Cate, will testify there are  
16     drainage concerns to other wells that preclude us from  
17     moving to that location.

18            Q.     Okay, what about the No. 4 well?

19            A.     The No. 4 well was moved at the request, again,  
20     of the BLM in the permitting process, due to surface  
21     drainage reasons. The original location at an orthodox  
22     location was in a drainage area; therefore, we had to move  
23     out of that. There is, again, an alternative orthodox  
24     location in the other quarter-quarter section to the north;  
25     however, again, Mr. Cate will present some testimony where



1   there are geological concerns where such location is not  
2   acceptable.  Thus we have moved it to the north and to the  
3   west to get out of this drainage pattern.

4           Q.     Mr. Tower, let's go to what has been marked Enron  
5   Exhibit No. 2.  Could you identify this?

6           A.     Exhibit No. 2 is a topographical map -- I believe  
7   the contours are on 10 foot -- depicting again the two  
8   locations that were identified with the same colored dots,  
9   red and green, on the land plat.  And specifically, the  
10   reason for this plat is to deal with the No. 4 location and  
11   show you the drainage area.  The green dot was the original  
12   orthodox location, and as you can see it's well within that  
13   drainage pattern, and the BLM has mandated that we move to  
14   the north and west, as you can see, to get out of this  
15   drainage area.

16          Q.     Mr. Tower, were Exhibits 1 and 2 either prepared  
17   by you or compiled under your direction?

18          A.     Yes, they were.

19                 MR. CARR:  Mr. Catanach, at this time we move the  
20   admission of Enron Exhibits 1 and 2.

21                 EXAMINER CATANACH:  Exhibits 1 and 2 will be  
22   admitted as evidence.

23                 MR. CARR:  And that concludes my direct  
24   examination of Mr. Tower.

25                         EXAMINATION

1 BY EXAMINER CATANACH:

2 Q. Mr. Tower, on that No. 4 location, what kind of  
3 drainage area is that? Is that river?

4 A. It's just, I believe -- I'm not sure if there is  
5 actually any water. It's just a drainage for water or the  
6 valley out there where water can drain, kind of a ditch  
7 area. However, I believe that's the extent of it. It's for  
8 runoff water.

9 Q. Do you have that archaeological site map anywhere  
10 for the No. 3?

11 A. I do not have it presently with me. We can  
12 provide that at a later date. I will say there were several  
13 visits between our regulatory people and the surveyors and  
14 the archeologists going out there trying to pick -- we had  
15 picked an alternate site before this one, and that was not  
16 acceptable, so we have tried to find some alternates in that  
17 40 acres, and this is the one ultimately that they  
18 recommended that they would approve. As far as boundaries,  
19 I will have to -- you know, we can provide that, if you  
20 need, at a later point.

21 Q. That green dot on Exhibit 2 represents the  
22 orthodox location on the No. 4?

23 A. No. The green dot represents the orthodox in the  
24 center of that quarter-quarter. The red should be the one  
25 farthest northwest, and that's the unorthodox that's being

1 applied for today on the No. 4, being the western location.

2 Q. Okay.

3 A. Are you talking about the No. 3?

4 Q. No. 3, right.

5 A. I'm sorry. Again, the green -- we have moved  
6 south. The green was the original orthodox. And, again,  
7 the red moving south in that case represents the unorthodox  
8 that we're applying for.

9 Q. The No. 3 location, you are not really  
10 encroaching on anyone, but the south 40 -- the 40 acres,  
11 that's included in the proration unit, that's the only  
12 acreage you are encroaching on?

13 A. That is correct. And, again, because of the  
14 field rules setting up requirements to be in the center of  
15 those quarter-quarters, and then within 150 foot of that,  
16 it's pushed us, you know, we're out of that little window,  
17 but you're correct.

18 Q. The other location, you're encroaching on the  
19 W 1/2 of that SW 1/4?

20 A. Yes.

21 Q. And that is owned by Enron?

22 A. That is correct.

23 Q. Is that a common lease in that?

24 A. Yes, it is.

25 EXAMINER CATANACH: That's all I have of the

1 witness, Mr. Carr.

2 MR. CARR: At this time we call Mr. Cate.

3 RANDALL CATE,

4 the witness herein, after having been first duly sworn  
5 upon his oath, was examined and testified as follows:

6 EXAMINATION

7 BY MR. CARR:

8 Q. Would you state your name for the record?

9 A. It's Randall Cate, C-A-T-E.

10 Q. Where you do you reside?

11 A. Reside in Midland, Texas.

12 Q. By whom are you employed?

13 A. Enron Oil & Gas Company.

14 Q. What is your current position with Enron?

15 A. I'm project reservoir engineer.

16 Q. Have you previously testified before this  
17 division?

18 A. Yes, I have.

19 Q. At the time of that testimony were your  
20 credentials as a petroleum engineer accepted and made a  
21 matter of record?

22 A. Yes, they were.

23 Q. Are you familiar with the applications filed on  
24 behalf of Enron in each of these cases?

25 A. Yes, I am.

1 MR. CARR: Are the witness's qualifications  
2 acceptable?

3 EXAMINER CATANACH: They are.

4 Q. (BY MR. CARR) Mr. Cate, you've been before this  
5 division in other cases involving unorthodox locations in  
6 this particular pool, have you not?

7 A. Yes, I have.

8 Q. How many wells has Enron drilled in this area?

9 A. We have drilled 21 wells so far in this Red Hills  
10 (Bone Spring) Field. Currently one is drilling and we have  
11 got two that are waiting on completion.

12 Q. You were actually the engineering witness who  
13 testified in the hearing when the special pool rules were  
14 adopted for the pool, including 80-acre spacing?

15 A. Yes, I was.

16 Q. And in your experience, for these 21 wells, does  
17 80-acre spacing continue to, in your opinion, be an  
18 appropriate spacing pattern for the Red Hills (Bone Spring)  
19 Pool?

20 A. Yes, it is.

21 Q. Let's go to Exhibit No. 3. Could you identify  
22 that for the Examiner, and then review what this exhibit  
23 shows.

24 A. Exhibit No. 3 is the net pay of what we call the  
25 Third Bone Spring "A" Sand. The red numbers being the

1 thickness -- on the left number is the thickness of net  
2 porous sand, as we have defined by a density porosity cutoff  
3 of 14 percent. The right red number being the just gross  
4 net sand within our depicted "A" sand interval. And the  
5 resulting thickness interpretation of the "A" sand within  
6 the Red Hills (Bone Spring) Field.

7 Q. Now, this exhibit is only applicable to the No. 3  
8 location; is that not correct?

9 A. That is correct. We do not believe that the "A"  
10 sand will be found at the No. 4 location.

11 Q. What are the green arcs that appear on this  
12 exhibit?

13 A. The green arcs on this exhibit, and the  
14 subsequent exhibit to come, represent an 80-acre drainage  
15 radius.

16 Q. And with the No. 3 well, what direction have you  
17 already moved this well from a standard location?

18 A. We have moved it south from a standard location,  
19 which is closer into the drainage radius of the Hallwood 12,  
20 No. 8, which is approximately half a mile due south in  
21 Section 12.

22 Q. If you were to move this location to the other  
23 remaining standard location in the SW of the SE of Section  
24 1, what impact would that have on Enron's plans to develop  
25 the acreage?

1           A.     To move this location to the standard or orthodox  
2 location closest to the lease line would cause a loss of  
3 unique reserves that would already be captured by the  
4 Hallwood 12, No. 8.

5           Q.     In your opinion would this result in an  
6 inefficient development pattern in the Bone Spring "A" Sand?

7           A.     Yes.

8           Q.     Could it ultimately result in reserves being left  
9 in the ground?

10          A.     Yes, that's right.

11          Q.     Is there anything else you would like to show  
12 with Exhibit No. 3?

13          A.     No.

14          Q.     Let's go to Exhibit No. 4, the Porosity Isopach  
15 on the Third Bone Spring "B" Sand, and review this for  
16 Mr. Catanach.

17          A.     The Third Bone Spring "B" Sand is the upper  
18 interval within the Third Bone Spring package. The two  
19 sands are only separated sometimes by shale, approximately  
20 10 to 20 feet. Sometimes they're really even not separated;  
21 they come together. But the "B" Sand, again, this depicts  
22 the net sand thickness interpretation based on the log data  
23 that we have and shows the anticipated net sand thicknesses  
24 that would be encountered at the locations that we seek  
25 approval for.

1           Q.     Now, Mr. Cate, if you were to move the No. 3 to  
2     the south, again, in this sand, again, you would be moving  
3     toward the area that has already been drained by wells to  
4     the south?

5           A.     Yes. It would put us right on the cross-section  
6     of the arcs of the drainage radius for the Hallwood No. 1  
7     well -- Hallwood 1 -- excuse me -- No. 2 well, which is in  
8     the SE corner of Section 1 here. And also in drainage  
9     radius there of the Hallwood 12-8, that was discussed for  
10    the "A" Sand, these wells, the 1 No. 2 is not yet completed,  
11    but the anticipated drainage radius -- and that green arc  
12    there does show the anticipated reserves that would be  
13    recovered by that well. The 12 No. 8, the well down in  
14    Section 12, it has just been completed in the last 30 days,  
15    and the flow rates do indicate that it should have no  
16    problem draining its 80 acres assigned.

17                   So moving to the south would cause, in the "B"  
18    Sand, it to share reserves that otherwise would have been  
19    recovered by either the Hallwood 1 No. 2 or the Hallwood 12  
20    No. 8.

21           Q.     Mr. Cate, how many feet of sand do you anticipate  
22    encountering in the proposed location for the No. 3 well?

23           A.     Approximately 49 feet of sand between the "A" and  
24    the "B."

25           Q.     Is it possible to calculate the reserves that



1 would be lost if you had to move these wells to the  
2 available standard locations?

3 A. Yes, I did calculate that, and I show that even  
4 though we would gain approximately 24 feet of sand thickness  
5 by moving to the south, that the unique reserves lost --  
6 well, that would have been drained by the other two wells is  
7 approximately 50 percent. So you would drill a location and  
8 only recover 50 percent unique reserves, which calculates at  
9 97.5 thousand barrels.

10 Going to the north location, you would encounter  
11 49 feet of sands of which only 20 percent of the area in the  
12 "B" Sand only would not be unique reserves. And that would  
13 calculate to 112,000 barrels. So we would stand to lose  
14 unique reserves of approximately 15,000 barrels of oil and  
15 30 million cubic feet of gas.

16 Q. Is that in the 3 location, or both of them?

17 A. That's just for the No. 3 location.

18 Q. All right, let's look at the No. 4. There is a  
19 standard location available north of the proposed unorthodox  
20 location in the NE of the SW of 1; is there not?

21 A. Yes, there is.

22 Q. If you were required to move to that location,  
23 what impact would that have on Enron's efforts to develop  
24 this acreage?

25 A. As shown on the "B" Sand map here, that would put

1 us in approximately only 14 feet of net sands, versus 34  
2 feet at the location that we're seeking approval for. The  
3 difference would be virtually an uneconomic well,  
4 approximately 36,000 barrels of oil at the orthodox location  
5 to the north, and we can not drill economically for that  
6 amount of oil.

7 Q. In your opinion will the approval of both of  
8 these unorthodox locations result in the orderly development  
9 of this field?

10 A. Yes. This provides for the proper distance  
11 between wells on 80-acre spacing that we believe has been  
12 proven the best development and the most efficient.

13 Q. In your opinion will approval of these  
14 applications prevent the waste of hydrocarbons?

15 A. Yes.

16 Q. Will the approval of the applications otherwise  
17 be in the best interest of conservation and the protection  
18 of correlative rights?

19 A. Yes, it will.

20 Q. How soon would Enron hope to proceed with the  
21 drilling of these wells?

22 A. We would ask for just as soon as possible, at the  
23 commission's convenience. We had two rigs running out here  
24 at one time. We had to release one due to permit delays  
25 with the BLM for topographical reasons and archaeological

1 reasons, and so basically, as soon as we can get them, we  
2 would be ready to drill them.

3 Q. Were Exhibits 3 and 4 either prepared by you or  
4 have you reviewed them and can you testify as to their  
5 accuracy?

6 A. Yes, I've worked very closely on these and under  
7 my supervision.

8 MR. CARR: Mr. Catanach, at this time we move the  
9 admission of Enron Exhibits 3 and 4.

10 EXAMINER CATANACH: Exhibits 3 and 4 will be  
11 admitted as evidence.

12 MR. CARR: That concludes my direct examination  
13 of Mr. Cate.

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. Mr. Cate, the No. 2 hasn't been completed yet?

17 A. Has not been completed. We just have logs on it,  
18 and the pay counts are listed there.

19 Q. Do you know if that well will be completed in the  
20 "A" and "B"?

21 A. No, there is no "A" sand on the previous exhibit.  
22 It encountered zero "A" sand. So it will just be a "B"  
23 producer.

24 Q. I see. Is the No. 8 producing?

25 A. No. 8 is producing. We completed it within the

1 last 30 days.

2 Q. And that is completed in the "A" and "B"?

3 A. It is completed in the "A" and "B," yes, sir.

4 Q. And the No. 10 well, it's not been drilled?

5 A. It has not been drilled. It's a location that  
6 we're waiting to receive approval from the BLM.

7 Q. I'm not sure I got the figures that you  
8 represented in moving. In the No. 3 location you're going  
9 to lose some reserves by -- can you kind of repeat what your  
10 testimony was as far as the unique reserves?

11 A. Okay. On the No. 3 well, it, moving to the south --  
12 you mean where it's at or by moving it to a south orthodox  
13 location?

14 Q. Let's see.

15 A. Where its at, it should encounter 49 feet of  
16 sands, and encounter both "A" and "B" sands, and receive  
17 approximately 125,000 barrels of area. But there is  
18 approximately 20 percent area in the "B" sand alone that  
19 would have been produced by the Hallwood 1, No. 2. So  
20 that's -- I had to reduce that 125 by 10 percent for its  
21 portion, and that's where I got the 112,000 barrels that it  
22 will produce. So at this location it's a very economic  
23 venture.

24 Moving to the south orthodox location puts the  
25 well right on the drainage areas of the No. -- well, the two

1 wells for the "A" and "B" sands and would reduce the unique  
2 reserves to be produced or that would not have been  
3 recovered by the 12, No. 8 and the 1, No. 2, by  
4 approximately 50 percent. So that's what I was showing.

5 EXAMINER CATANACH: All right. I have nothing  
6 further, Mr. Carr.

7 MR. CARR: We have nothing further in this case,  
8 Mr. Catanach.

9 EXAMINER CATANACH: There being nothing further,  
10 Cases 11177 and 11182 will be taken under advisement.

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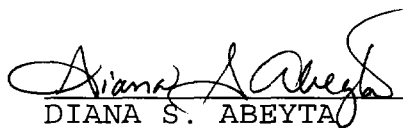
## 1 CERTIFICATE OF REPORTER

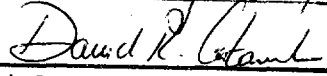
2 STATE OF NEW MEXICO )  
3 ) ss.  
4 COUNTY OF SANTA FE )

5 I, Diana S. Abeyta, Certified Shorthand Reporter  
6 and Notary Public, HEREBY CERTIFY that I caused my notes to  
7 be transcribed under my personal supervision, and that the  
8 foregoing transcript is a true and accurate record of the  
9 proceedings of said hearing.

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

14  
15 WITNESS MY HAND AND SEAL, January 24th, 1995.  
16  
17

18   
19 DIANA S. ABEYTA  
CCR No. 168

20  
21 I do hereby certify that the foregoing is  
22 a complete record of the proceedings in  
23 the Examiner hearing of Case No. 11177 11182  
24 heard by me on January 5, 1995.  
25 , Examiner  
Oil Conservation Division