

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:	)	
	)	
	)	
APPLICATION OF PENWELL ENERGY, INC.,	)	CASE NOS. 11,667
FOR COMPULSORY POOLING, EDDY COUNTY,	)	
NEW MEXICO	)	
	)	
APPLICATION OF SANTA FE ENERGY	)	and 11,660
RESOURCES, INC., FOR COMPULSORY	)	
POOLING, EDDY COUNTY, NEW MEXICO	)	
	)	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS  
EXAMINER HEARING

ORIGINAL

BEFORE: DAVID R. CATANACH, Hearing Examiner

November 21st, 1996  
Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, November 21st, 1996, 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.

\* \* \*

STEVEN T. BRENNER, CCR  
(505) 989-9317

## I N D E X

November 21st, 1996  
 Examiner Hearing  
 CASE NOS. 11,667 and 11,660 (Consolidated)

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## A P P E A R A N C E S

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 By: JAMES G. BRUCE

## FOR PENWELL ENERGY, INC.:

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 Santa Fe, New Mexico 87504-2208  
 By: WILLIAM F. CARR

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   11:18. a.m.:

3           EXAMINER CATANACH: At this time we'll call Case  
4   11,660.

5           MR. CARROLL: Application of Santa Fe Energy  
6   Resources, Inc., for compulsory pooling, Eddy County, New  
7   Mexico.

8           EXAMINER CATANACH: Are there appearances in this  
9   case?

10          MR. BRUCE: Mr. Examiner, Jim Bruce from the  
11   Hinkle law firm in Santa Fe, representing Santa Fe.

12          I have three witnesses.

13          EXAMINER CATANACH: Any additional appearances?

14          MR. CARR: May it please the Examiner, my name is  
15   William F. Carr with the Santa Fe law firm Campbell, Carr,  
16   Berge and Sheridan. We'd like to enter our appearance for  
17   Penwell Energy, Inc.

18          Mr. Catanach, as you're aware, we had filed an  
19   earlier application for pooling that was dismissed by  
20   mistake two weeks ago. We have re-filed. The case is  
21   currently docketed for December the 5th, and it bears the  
22   number 11,667.

23          And by agreement with Counsel, subject to your  
24   approval, we would like to consolidate the cases and  
25   present them today. At the end, the Penwell case will have

1 to be taken under advisement, pending the notice running on  
2 December the 5th.

3 There are, however, no parties to be notified,  
4 nor have been notified, other than Santa Fe, so we're all  
5 here.

6 EXAMINER CATANACH: All the parties that are  
7 affected by this case --

8 MR. CARR: Yes.

9 EXAMINER CATANACH: -- are here?

10 MR. CARR: Yes.

11 EXAMINER CATANACH: But we still will have to  
12 call that case on December 5th and --

13 MR. CARR: I think so, because it is a separate  
14 case. There were two cases two weeks ago, and the wrong  
15 one was dismissed. We dismissed the right one this morning  
16 already.

17 EXAMINER CATANACH: So would you advise that we  
18 take the Santa Fe case under advisement today and --

19 MR. CARR: Well, I would hope that your decisions  
20 would be consistent with the other, whenever they come --

21 EXAMINER CATANACH: Well, do you have an  
22 objection to continuing the case for two weeks, pending --

23 MR. BRUCE: No, no, present the evidence and  
24 continue it, that's fine.

25 EXAMINER CATANACH: The Santa Fe case?

1 MR. BRUCE: Sure.

2 EXAMINER CATANACH: Okay.

3 MR. CARR: And then on the 5th they can be taken  
4 under advisement.

5 EXAMINER CATANACH: All right, we can do that.

6 MR. CARR: And I have two witnesses.

7 EXAMINER CATANACH: Okay, can I get all the  
8 witnesses to stand and be sworn in?

9 (Thereupon, the witnesses were sworn.)

10 MARK WHEELER,  
11 the witness herein, after having been first duly sworn upon  
12 his oath, was examined and testified as follows:

13 DIRECT EXAMINATION

14 BY MR. CARR:

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

16 A. Mark Wheeler.

17 Q. Where do you reside?

18 A. Midland, Texas.

19 Q. By whom are you employed?

20 A. Penwell Energy, Incorporated.

21 Q. And what is your position with Penwell?

22 A. Land manager.

23 Q. Have you previously testified before this  
24 Division?

25 A. Yes, I have.

1 Q. At the time of that testimony, were your  
2 credentials as a petroleum landman accepted and made a  
3 matter of record?

4 A. Yes, they were.

5 Q. Are you familiar with the Application filed in  
6 this case?

7 A. Yes.

8 Q. And are you familiar with the status of the lands  
9 in the area that is the subject of these consolidated  
10 cases?

11 A. Yes.

12 MR. CARR: Are the witness's qualifications  
13 acceptable?

14 EXAMINER CATANACH: Yes, they are.

15 Q. (By Mr. Carr) Mr. Wheeler, would you briefly  
16 state what Penwell seeks with this Application?

17 A. We would like an order pooling mineral interests  
18 under the east half of Section 29, Township 23 South, Range  
19 26 East, Eddy County, New Mexico, as follows: the east half  
20 for all formations developed on 320-acre spacing and the  
21 southeast quarter for all formations developed on 160-acre  
22 spacing.

23 Q. Now, Mr. Wheeler, is Santa Fe also seeking an  
24 order pooling the same lands?

25 A. They are pooling the same -- the east half, yes.



1 Q. Could you identify for Mr. Catanach the well that  
2 Penwell proposes to drill and dedicate these pool units to?

3 A. Penwell has proposed our FH "29" Federal Com  
4 Number 1 well, to be located 1980 feet from the south line  
5 and 660 feet from the east line of Section 29.

6 Q. Santa Fe is proposing a different well location;  
7 is that correct?

8 A. Yes, they are proposing a location in the  
9 southeast of the northeast quarter.

10 Q. Each of the Applicants in these cases is seeking  
11 to be designated operator of the tract and proposes to  
12 drill and operate a well at different well locations; is  
13 that fair?

14 A. Yes. Yes, sir.

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

17 A. Yes, I have.

18 Q. Could you refer to what has been marked Penwell  
19 Exhibit Number 1, identify that and review it for Mr.  
20 Catanach?

21 A. This is a land plat showing the east half of  
22 Section 29, the proration unit. It also shows both  
23 locations, the Penwell location in the northeast of the  
24 southeast, and the Santa Fe location in the southeast of  
25 the northeast.

1 Q. And what is the primary objective in the proposed  
2 Penwell well?

3 A. The Morrow formation from the South Carlsbad-  
4 Morrow Gas Pool.

5 Q. Does Penwell have secondary objectives in the  
6 well?

7 A. Yes, we do, the Strawn formation in the Frontier  
8 Hills-Strawn Pool.

9 Q. Let's move to Penwell Exhibit Number 2. Can you  
10 identify and review that, please?

11 A. This is a listing of the working interest  
12 ownership in the east half of said Section 29. It details  
13 the breakdown of 50 percent with our group and 50 percent  
14 with Santa Fe Energy.

15 Q. All right. When you say your group, who do you  
16 mean?

17 A. CoEnergy Central Exploration is a funding  
18 partner, financial partner with Penwell on all of our oil  
19 and gas ventures in southeast New Mexico.

20 S&P Company is a group out of Shreveport,  
21 Louisiana, Sklar and Phillips Company. They are an  
22 independent oil and gas operator, unrelated to Penwell, but  
23 they bought into a portion of our interest and --

24 Q. So when Penwell comes before the Division today,  
25 they are representing 50 percent of the working interest in

1 this tract; is that right?

2 A. Yes, sir, they are.

3 Q. And that 50 percent has been voluntarily  
4 committed to a well at your proposed location?

5 A. Yes, it has.

6 Q. Let's go to Exhibit Number 3. Would you identify  
7 and review that?

8 A. This is Penwell's AFE for the FH "29" Federal Com  
9 Number 1 well. It shows a dryhole cost of \$634,000 and a  
10 completed well cost of \$791,071. This AFE has been  
11 executed by both S&P and CoEnergy Central, as well as  
12 Penwell.

13 Q. Are you familiar with the AFE costs proposed by  
14 Santa Fe?

15 A. Yes, we are.

16 Q. And what are those?

17 A. Their completed costs are much higher than ours.  
18 Their dryhole cost is approximately the same, \$628,000.  
19 Their completed well cost is \$942,000.

20 Q. And what were yours for a completed?

21 A. \$791,071.

22 Q. If Santa Fe should prevail and Penwell elects to  
23 participate in the well, how much would you have to pay,  
24 you and those you represent, to avoid the risk penalty?

25 A. We would have to pay an additional \$125,000 over

1 what we estimate, if they prevail. If we prevail, they  
2 would have to pay their share of the estimated costs, the  
3 actual costs.

4 Q. And what you're saying is, because their costs  
5 are higher, if you pay to avoid the risk penalty, you pay  
6 \$125,000 more than if the shoe's on the other foot?

7 A. That's correct.

8 Q. Are Penwell's costs in line with what Penwell has  
9 incurred for similar wells in the area?

10 A. Yes, they are.

11 Q. Now, Mr. Wheeler, let's go back, and I'd like you  
12 to review for Mr. Catanach the efforts made to obtain Santa  
13 Fe's voluntary participation in your efforts to develop  
14 this acreage.

15 A. Well, just a brief history of this particular  
16 acreage: Penwell acquired an interest in this property,  
17 and if we'll refer back to our Exhibit Number 1, Penwell  
18 owns an interest in all of Section 28, which is the section  
19 immediately east of this acreage.

20 In November of 1995, Penwell obtained an interest  
21 in all of Section 28 from Maralo, Incorporated. Santa Fe  
22 has had an interest in this area for four or five years.  
23 They drilled a dryhole up in Section 20 in 1990, I believe.

24 Q. Is that the only development since Santa Fe  
25 acquired their interest in this acreage?

1           A.    As far as I know, that's the only well they  
2 drilled in this immediate area.

3           Q.    Okay.  What efforts has Penwell made since  
4 acquiring this interest from Maralo to develop this area?

5           A.    Early in 1996 we sent an AFE and an operating  
6 agreement to Santa Fe and J.M. Huber, who had a partial  
7 interest in Section 28, for their participation in our FH  
8 "28" State Com Number 1 well in the north half of Section  
9 28.

10                  Both Huber and Santa Fe elected to farm out their  
11 interests to Penwell, and in fact Penwell and CoEnergy and  
12 S&P alone drilled the north-half well in Section 28.

13           Q.    And that's offsetting the proposed unit to the  
14 east?

15           A.    Yes, to the east, yes.  We drilled that -- We  
16 spudded that well in August of this year and are in the  
17 process of completing it as we speak.

18           Q.    Well, what happened while this well was being  
19 drilled?

20           A.    Well, when we encountered the Strawn formation,  
21 we ran mud -- we went ahead and ran logs, and the logs  
22 showed clean carbonate sand.  We encountered the Strawn  
23 mound.  We drill-stem tested the well, and it flowed  
24 approximately 8 million cubic feet per day.

25                  We ran a seven-inch casing to protect the Strawn

1 formation and went ahead and drilled to the Morrow  
2 formation, which we've now set pipe to and are running a  
3 bottomhole pressure in.

4 Q. When this happened in the Strawn --

5 A. Yes.

6 Q. -- and you discovered you had a Strawn mound and  
7 these pressures and all, was Santa Fe getting that  
8 information?

9 A. Yes, as a part of their farmout they received  
10 information on the "28" Com Number 1 well.

11 Q. What was the next event which happened?

12 A. Well, while we were drilling on to the Morrow,  
13 before we even got to total depth, we were informed by our  
14 field representative in the area that there was a stake  
15 that showed up on our land on Section 29. We investigated  
16 it and found that it had been staked about the same time we  
17 received an AFE from Santa Fe for a well in the east half  
18 of Section 29.

19 Q. Did Santa Fe own any interest in the land on  
20 which they had staked the well?

21 A. No, sir, they did not.

22 Q. Had they ever approached Penwell about this well  
23 before going onto your lease and staking the well?

24 A. No, sir, they did not.

25 Q. When did Santa Fe send Penwell an AFE for the

1 well in the east half of Section 29?

2 A. Their letter was dated September 25th. I think  
3 we received it the day after that.

4 Q. And what did Penwell do at that time?

5 A. At that time we discussed our options and decided  
6 that we would prefer to stake our own location out there,  
7 and we went ahead at the end of September and staked a  
8 location in the northeast of the southeast and sent a  
9 proposal to Santa Fe on October the 1st, asking for their  
10 participation in our well.

11 Q. And did you send an AFE at that time?

12 A. Yes, we did.

13 Q. And is it the same basic AFE that's been admit-  
14 -- or offered as a previous exhibit?

15 A. Yes, it's identical

16 Q. When were pooling applications actually filed in  
17 this matter?

18 A. Penwell actually filed their pooling Application  
19 on October the 15th of 1996. We were the first to file.  
20 It was set for hearing on November the 7th. The notice was  
21 sent to Santa Fe by certified mail on October the 17th.

22 Q. Now, you filed on October the 15th. When did  
23 Santa Fe file?

24 A. Santa Fe filed on the 24th of October.

25 Q. And that was set for hearing today?

1 A. Today, yes, sir.

2 Q. And we initially agreed to continue our case, did  
3 we not, to this date?

4 A. We agreed to continue the case to today so both  
5 sides could present their --

6 Q. And what happened to our request for continuance?

7 A. Well, our request for continuance was mistakenly  
8 sent as a dismissal rather than a continuance, and so our  
9 case was dismissed and has been re-filed for December 5th.

10 Q. Has there been any other development in the  
11 immediate area during this time period?

12 A. Yes, sir, in the south half of Section 28, I  
13 don't believe that the well spot shows up on Exhibit 1, but  
14 in the northeast of the southwest of Section 28 we have  
15 proposed our FH State "28" Com Number 2 well, and we sent  
16 that AFE to Santa Fe on October the 9th, with costs  
17 identical to the ones for this well.

18 Santa Fe accepted our AFE and sent it back to us  
19 on November the 7th.

20 Q. And what is your plan concerning the drilling of  
21 the FH State Com Number 2, offsetting the proposed location  
22 in the south half of --

23 A. We will be starting that well within the next 10  
24 to 15 days.

25 Q. Has Penwell drilled other Morrow wells in this



1 area?

2 A. Yes, we have.

3 Q. Could you identify Penwell Exhibit Number 4?

4 A. Exhibit Number 4 is a copy of our October 1st  
5 letter and AFE, which was sent to Santa Fe Energy.

6 Q. Since that time, have you provided Santa Fe with  
7 a proposed operating agreement for the acreage?

8 A. Yes, we have. We sent it actually at the same  
9 time as this October 1st letter.

10 Q. Has Penwell made an estimate of the overhead and  
11 administrative costs that will be incurred while drilling  
12 the well and also while producing it, if it is, in fact,  
13 successful?

14 A. Yes, sir, \$5828 a month for a drilling well and  
15 \$546 a month for an operated well.

16 Q. What is your understanding as to how these  
17 proposed overhead rates compare to those being proposed by  
18 Santa Fe?

19 A. They are identical.

20 Q. And do you recommend that these figures be  
21 incorporated into any order that results from today's  
22 hearing?

23 A. Yes, sir.

24 Q. And Penwell is seeking to be designated operator  
25 of this tract, and the well it is proposing; is that right?

1 A. Yes, sir.

2 Q. Could you identify what is marked as Penwell  
3 Exhibit Number 5?

4 A. This is a copy of the application for permit to  
5 drill, which we received, I believe, earlier this week,  
6 last week, approved by the BLM, for our FH "29" Com Number  
7 1 well.

8 Q. Were Exhibits 1 through 5 either prepared by you  
9 or compiled under your direction?

10 A. Yes, they were.

11 MR. CARR: Mr. Catanach, at this time we would  
12 move the admission into evidence of Penwell Exhibits 1  
13 through 5.

14 EXAMINER CATANACH: Exhibits 1 through 5 will be  
15 admitted as evidence.

16 MR. CARR: That concludes my direct examination  
17 of Mr. Wheeler.

18 EXAMINER CATANACH: Mr. Bruce?

19 CROSS-EXAMINATION

20 BY MR. BRUCE:

21 Q. Mr. Wheeler, on your Exhibit 2, you show  
22 Penwell's interest is 8.25 percent. What interest do you  
23 have before casingpoint?

24 A. The interest we have before casingpoint in that  
25 well -- I may have to get into my briefcase to get that. I

1 don't think it brought it up.

2           Actually, Mr. Bruce, that is our correct interest  
3 before casingpoint, because this well will be the third  
4 well drilled on the prospect.

5           Our funding arrangement with CoEnergy Central is  
6 that they carry Penwell for a portion of the cost before  
7 tanks, until tanks, on the first two wells drilled on the  
8 prospect.

9           So the FH State "28" Com Number 2 will be the  
10 second well drilled on the prospect, so the 8.25 will be  
11 our paying interest on this well.

12          Q.    Okay. So originally when you had written to  
13 Santa Fe and you -- Now, you proposed the Frontier Hills  
14 "29" Number 1, before the Frontier Hills "28" Number 2?

15          A.    Yes, we did.

16          Q.    And at this point, your cost-bearing interest in  
17 this well was 1.875 percent?

18          A.    We thought at that time that that would be the  
19 second well drilled on the prospect.

20                However, with the subsequent delay because of the  
21 hearing and the decision on operations, we proposed the FH  
22 "28" Number 2 and have obtained signatures from all parties  
23 concerned and are prepared to drill that well as our second  
24 well.

25          Q.    Looking -- I don't know, you said Penwell has

1 drilled other Morrow or Strawn wells in this area. Are any  
2 of them on -- other than the "28" Number 1 well, are any of  
3 them on your land plat, Exhibit 1?

4 A. Not on this exact plat, no, sir.

5 Q. Where is the nearest?

6 A. The nearest well, probably to the Morrow, from  
7 here, is -- We've taken some wells to the Morrow just  
8 across into Lea County, two or three wells in that area.

9 I don't recall an Eddy County well that's gone on  
10 the Morrow.

11 MR. THOMA: Wagon Wheel.

12 THE WITNESS: Which one?

13 MR. THOMA: Wagon Wheel.

14 THE WITNESS: I can't hear you.

15 MR. THOMA: Wagon Wheel.

16 THE WITNESS: Okay, that was in 22-22 in Eddy  
17 County, yes. That was taken to the Morrow.

18 Q. (By Mr. Bruce) And that was the Wagon Wheel --

19 A. Wagon Wheel Federal "22" Number 1.

20 Q. In Township 22 --

21 A. 22 South, 22 East.

22 Q. Okay, and the other two or three, you remember,  
23 are in Lea County?

24 A. Yes.

25 Q. Okay. Now, you said Santa Fe staked the location

1 on your lease. Isn't the surface of your lease federally  
2 owned?

3 A. Yes, it is.

4 Q. So it's public land?

5 A. That we have the rights to.

6 Q. Do you have the exclusive use to surface --

7 A. According to our attorney, we have the exclusive  
8 use of rights to --

9 Q. What does your lease say?

10 A. According to our attorney, we have the exclusive  
11 exploratory lease rights.

12 Q. Use of the surface?

13 A. According to our attorney, we have the exclusive  
14 use of the surface for exploratory --

15 Q. Okay, so the public can't use the surface of that  
16 land?

17 A. Not for exploratory purposes. That's my  
18 understanding from our attorney.

19 MR. BRUCE: Okay, that's all I have, Mr.  
20 Examiner.

21 EXAMINATION

22 BY EXAMINER CATANACH:

23 Q. Mr. Wheeler, you and Santa Fe really haven't  
24 undertaken many negotiations on this well, have you?

25 A. We have talked a couple of times. However, we

1 felt like that the staking of the well on our property  
2 before our well was even down, and the -- after them  
3 farming out to us, that really there's not a lot to  
4 negotiate here.

5 We feel like the east half needs to be drilled,  
6 they feel like it needs to be drilled, and we prefer our  
7 location to theirs, and we prefer to be operator since  
8 we're operator in the area already.

9 Q. The -- Let's see here.

10 You're also attempting to pool a southeast-  
11 quarter unit. Would the interest ownership be the same in  
12 the southeast quarter?

13 A. As to a 160, it would be 50 percent for Santa Fe  
14 and 50 percent for our group, yes.

15 Q. So the same as the east half?

16 A. Yes.

17 Q. Okay. And S&P has -- what have they executed?  
18 An AFE on your well?

19 A. They have executed an AFE, yes, on the 29 Number  
20 1, as has CoEnergy, and our operating agreement.

21 Q. Both parties have signed the operating agreement?

22 A. Yes.

23 Q. Are you -- The well in the north half of Section  
24 28, that's, you said, almost finished drilling?

25 A. It has finished. We've set pipe and have tested

1 the Morrow formation. It produced some gas, and we have  
2 had that well shut in for about the last week for a  
3 bottomhole pressure.

4 Q. So you haven't really completed the Morrow yet?

5 A. Not officially. We have not filed a completion  
6 report.

7 Q. But you have physically completed the well?

8 A. We've set pipe --

9 Q. Okay.

10 A. -- which I assume is a completion, but we have  
11 not filed a completion report yet.

12 Q. So you don't really know what the total well  
13 costs on that well are going to be at this point?

14 A. Not final, no, sir.

15 Q. Do you know if they're going to be in line  
16 generally with what you proposed for the well in 29?

17 A. The overall cost of that well ended up being  
18 substantially higher than what we AFE'd, because we had a  
19 deviation problem.

20 The contractor is liable for most of that, so  
21 until we get that settled with the contractor we won't know  
22 exactly what the final cost will be.

23 EXAMINER CATANACH: Okay, I have nothing further.  
24 The witness may be excused.

25 MR. CARR: At this time we would call Mr. Thoma.

1                                    JOHN THOMA,  
2     the witness herein, after having been first duly sworn upon  
3     his oath, was examined and testified as follows:

4                                    DIRECT EXAMINATION

5     BY MR. CARR:

6             Q.     State your name for the record, please.

7             A.     John Thoma.

8             Q.     Where do you reside?

9             A.     Midland, Texas.

10            Q.     By whom are you employed?

11            A.     Penwell Energy.

12            Q.     And what is your position with Penwell?

13            A.     Geologist.

14            Q.     Have you previously testified before this  
15     Division?

16            A.     Yes, I have.

17            Q.     And at the time of that testimony were your  
18     credentials as a petroleum geologist accepted and made a  
19     matter of record?

20            A.     Yes, they were.

21            Q.     Are you familiar with the Applications filed in  
22     these consolidated cases?

23            A.     Yes, I am.

24            Q.     Mr. Thoma, have you made a geological study of  
25     the area which is the subject of this Application?



1           A.    Yes, I have.

2           Q.    And are you prepared to share the results of that  
3 study with Mr. Catanach?

4           A.    Yes.

5           MR. CARR:  Are the witness's qualifications  
6 acceptable?

7           EXAMINER CATANACH:  They are.

8           Q.    (By Mr. Carr)  Mr. Thoma, would you refer to what  
9 has been marked Penwell Exhibit Number 6 and review this  
10 for the Examiner?

11          A.    Yes, Exhibit Number 6 is a lease and production  
12 map for the prospect area.

13                The red markers on wells on this plat are  
14 indicative of Morrow producers.  The green markers and the  
15 associated production figures with those markers are Strawn  
16 producers and the production that has come from those  
17 wells.

18                There are two field areas and two pools present  
19 in the prospect area.  The Carlsbad South-Morrow Pool  
20 produces from five wells on the plat.  The Hunter Hills-  
21 Strawn Pool produces from three wells.

22                The yellow on the map is the Penwell leaseholding  
23 prospect area.

24                The well in the northeast of the northwest of  
25 Section 28 is the Penwell FH "28" State Com Number 1, which

1 Mr. Wheeler referred to a moment ago. That well production  
2 tested 2.1 million from the Morrow on a reduced-choke  
3 setting. That well will be placed on line next week from  
4 the Morrow, and we will be doing further testing down the  
5 road in the Strawn, from the Strawn formation.

6 The well in the southwest of the northeast is an  
7 old Gulf well that was completed from the Morrow section,  
8 produced 40 million cubic feet of gas, cumulative, and was  
9 abandoned.

10 The well in the northeast of the southwest of  
11 Section 28 is the Penwell FH State Com Number 2. That well  
12 is -- We plan to spud that well in the next 10 or 15 days,  
13 and it is a Morrow test.

14 The subject well for this hearing is the Penwell  
15 "29" Fed Com Number 1. It's located in the northeast-  
16 southeast of Section 29.

17 The competing location, Santa Fe Energy Sheep Dip  
18 "29" Fed Com Number 1, is highlighted in gray in the  
19 southeast of the northeast of Section 29.

20 Q. There is no production in either of these  
21 formations south or west of our proposed location; is that  
22 right?

23 A. Not in the immediate vicinity, that's correct.

24 Q. Let's go to Exhibit Number 7. Can you review  
25 that, please?

1           A.   Exhibit Number 7 is an isopach map of the  
2 objective lower Morrow B sand, which is labeled here LMB.  
3 That is the sand that we've production tested in the FH  
4 "28" State Com Number 1.

5                   It's shown -- The wells where it is producing  
6 from on the plot are, again, highlighted by the red  
7 markers. The red footage numbers positioned next to the  
8 well symbols on the plat indicate the measured thickness of  
9 that sand in those wellbores. And there is a relationship,  
10 an apparent relationship, between thickness and reserve  
11 volume within this sand in this area.

12                   Looking at the well at the north end -- northeast  
13 corner of the map, in the northwest-southwest of Section  
14 15, that well penetrated eight feet of LMB sand and  
15 produced less than 400 million cubic feet of gas, 369  
16 million cubic feet, to be exact, which is noncommercial at  
17 these depths and well costs.

18                   By comparison, the well in the southeast-  
19 northeast of Section 21 penetrated 14 feet of B sand, LMB  
20 sand, has recovered 3 BCF gas from the lower Morrow sand, B  
21 sand.

22                   Again, our well, the FH "28" State Com Number 1  
23 in the northeast-northwest section of 28, has tested --  
24 production tested at rates up to 2.1 million on a reduced-  
25 choke setting. Our bottomhole pressure appears to be

1 approximately 5100 pounds. Reserve calculations at this  
2 point estimate recoverable reserves in the range of 2 to  
3 2 1/2 BCF of gas, and those are preliminary calculations  
4 based on the buildup data that we have.

5 So we feel that at 10 feet we have commercial  
6 reserves, at 14 feet thickness we have commercial reserves,  
7 at eight feet thickness we have noncommercial reserves. So  
8 there is an apparent relationship that indicates somewhere  
9 between an eight- and 10-foot cutoff is appropriate for  
10 commercial reserve accumulations within this reservoir.

11 Looking southwest at the Penwell FH "29" Fed Com  
12 location in the northeast-southeast of 29, the map projects  
13 approximately 10 to 11 feet of sand in the LMB at that  
14 location.

15 By contrast, the competing Santa Fe Energy  
16 location in the southeast-northeast of the same section is  
17 positioned at a location that will penetrate, we believe,  
18 less than five feet of B sand and will more than likely be  
19 a dryhole or at best a noncommercial producer in the  
20 Morrow.

21 The other well on the map that's indicated or is  
22 highlighted, the Penwell FH "28" State Com Number 2, which  
23 we're getting ready to spud, we believe will penetrate  
24 between 10 and 15 feet of sand.

25 So this interpretation will be further tested

1 before we drill the "29" Federal Com by Penwell and its  
2 investors, dominantly by Penwell and its investors.

3 Q. Let's move, now, to the cross-section Exhibit  
4 Number 8.

5 A. Exhibit Number 8 is a cross-section, a  
6 stratigraphic cross-section through the prospect area hung  
7 on the lower Morrow, base of the lower Morrow shale bed.  
8 This cross-section, B-B', is illustrated on Exhibit 7, the  
9 isopach map that we were just discussing.

10 The cross-section highlights and illustrates the  
11 LMB sand in orange. The Penwell -- The two commercial  
12 wells which penetrated the sand, the Penwell FH "28" State  
13 Number 1 and the Philly Federal Number 1, are positioned in  
14 the middle of the section, and a quick comparison of those  
15 two wells to the wells both to the right and left of those  
16 wells on the north and south end of the section quickly  
17 reveals a difference in the reservoir quality that was  
18 penetrated in thickness. It was penetrated by those two  
19 wells that have hit the core of the sandbody. That is the  
20 main objective, again, in the prospect area.

21 And I might point out how quickly and in what a  
22 short distance reservoir quality and reserve potential is  
23 lost in that sand by drawing your attention to the Eddy  
24 "GN" State Com Number 1, which is positioned in the  
25 southwest of the northeast of Section 28.

1           That well is a 40-acre diagonal offset to the  
2   Penwell FH "28" State Com Number 1. You can see there's a  
3   very, very -- the sand is present but there's very little  
4   porosity development, and as a result that well did not  
5   produce from that sand. Forty acres away, there are  
6   commercial reserves. So these sands do come and go in a  
7   very short distance.

8           The most important aspect, I believe, in  
9   exploring for this sand and in stepping out along trend in  
10  this reservoir is to be able to define the strike of the  
11  sand, which I believe is northeast to southwest. That is  
12  what I believe brought us success at the FH "28" State  
13  Number 1 and why I feel our location in the northeast-  
14  southeast of Section 29 is a superior location to the well  
15  in the southeast-northeast, the competing location, given  
16  the lack of data that we have south of where we drilled to  
17  date.

18           Obviously, as you move southwest from the FH  
19  "28", you can see from this plat there's essentially no  
20  well control. So you're really stepping out, and the only  
21  guide you have at this point are regional trends,  
22  depositional trends and strike trends of these sands. And  
23  that's what we're using, and that's the main reason that I  
24  feel that our location has a better opportunity for  
25  penetrating a thicker sand section of the Morrow. It's

1 based on the regional strike of the sand.

2 The middle Morrow section, which is illustrated  
3 in yellow, more or less, the sands in that section are  
4 illustrated in yellow, does develop in this area. And just  
5 east and southeast of this area, there is commercial  
6 production from this interval.

7 On this plat and on this section, none of these  
8 wells have been commercial to date from the middle Morrow.  
9 So it is very much just a secondary incremental objective.  
10 Our main objective in drilling to the Morrow would be the  
11 LMB sand.

12 Q. Okay, Mr. Thoma, let's now take a look at the  
13 Strawn and go to your Exhibit Number 9. Identify that and  
14 review it for Mr. Catanach.

15 A. Exhibit 9 is an isopach of clean carbonate in the  
16 Strawn interval. And what produces from the Strawn in this  
17 area and along trend to this prospect area are Strawn  
18 mounds or reefs. Production is controlled both by mound  
19 thickness and development of porosity within clean  
20 carbonate.

21 The map shows that penetrations of the Strawn in  
22 this area have encountered thicknesses from as thin as 22  
23 feet in the northeast-southeast of Section 20 -- which  
24 again is a well drilled by Santa Fe Energy in 1990; it was  
25 a dryhole -- to a maximum thickness of 446 feet in the

1 southeast-northwest of Section 21.

2 I might also draw your attention to how quickly  
3 this reservoir develops and/or disappears. A 40-acre  
4 offset, due-east offset to the well thickest well in the  
5 Frontier Hills field, which is that well I just mentioned,  
6 the southwest-northeast location, the location 40 acres  
7 east of that in the southeast-northeast penetrated only 44  
8 feet and was essentially a dryhole in the Strawn. Now,  
9 that well did penetrate the LMB and produced the 3 BCF from  
10 the Morrow.

11 However, the main objective in the Strawn is,  
12 again, finding thick reservoir. You can find thicker  
13 reservoir, as is evidenced by the well in the southwest-  
14 northeast of Section 20, with 154 feet of carbonate and not  
15 have any porosity developed.

16 By contrast, you can have thin wells, such as the  
17 well on the north side of the field with 76 feet of pay in  
18 Section 16 -- or 76 feet of carbonate, that have some  
19 porosity, that are connected to the reservoir body itself  
20 that will make commercial reserves.

21 So it's a combination of porosity and thickness.  
22 The thicker the reservoir, generally speaking, and  
23 statistically speaking, the greater the probability of  
24 encountering porosity development which will yield  
25 commercial reserves.



1           Given the difficulty of predicting porosity  
2     itself within the mound, you're more or less left with just  
3     mapping the mound facies itself, the carbonate mound  
4     facies.

5           The two methods that were used in generating this  
6     particular plat were mapping the existing subsurface  
7     control in the area but also using the regional trend of  
8     the shelf edge, the Strawn shelf edge. These reservoirs  
9     developed in localized pods along a northeast-to-southwest  
10    trending shelf edge. Along trend to this producing area  
11    just a short distance, four miles, five miles to the  
12    northeast, is Carlsbad field, which is a very large Strawn  
13    mound producing complex. And that field assumes more or  
14    less a northeast-southwest orientation.

15           So in projecting the first stepout location from  
16    Frontier Hills field on our acreage, the FH "28" State  
17    Number 1, I utilized, again, the subsurface control we had  
18    in the area, but also I relied very heavily on  
19    interpretation of the regional strike of the shelf edge.  
20    Because, again, at the time we drilled the FH "28" State  
21    Number 1, there were no penetrations, positive penetrations  
22    of mound facies south or west or southwest of the existing  
23    wells, producing wells in Section 21.

24           Santa Fe had stepped more or less west into  
25    Section 20 and missed the mound, and the old Golf well had

1 missed the mound by 40 feet -- by 40 acres, excuse me. The  
2 well in the southwest-northeast of Section 28 had about 24  
3 feet of reef talus, which is just debris, tight carbonate  
4 debris, which is shed off of these reefs. So I felt like  
5 that well was significant in indicating potential mound  
6 facies to the northwest. But it was that combination of  
7 data that led us to step out to the southwest.

8           We've tested the Strawn in that interval. We had  
9 about 205 feet of clean carbonate, and it drill stem tested  
10 at a rate of 8 million a day, just under 8 million a day.

11           Significantly, it appeared that the bottomhole  
12 pressure in that wellbore was slightly below the normal  
13 bottomhole pressure that would be expected for the Strawn  
14 mound in this area. The first well in the mound in  
15 Frontier Hills was the well in the southwest-southeast,  
16 Section 16, and it had a bottomhole pressure, I believe --  
17 I may correct myself in a minute; it's on a cross-section  
18 I've got. I believe the bottomhole pressure was 5300 to  
19 5600 pounds.

20           Our well had a bottomhole pressure of about 4900  
21 pounds. That well -- Actually, it was 4600 pounds, excuse  
22 me. Our well's bottomhole was about 4600 on a drill stem  
23 test. The well in Section 16 was completed in 1975.

24           So it appears that our location has been affected  
25 from a drainage standpoint by the existing producing wells

1 in 21 and 16 to the north. That suggests that our well is  
2 in the same pod or mound that the three wells to the north  
3 are in.

4 Now, whether or not that mound extends to the  
5 southwest, again, is highly questionable, and that's where  
6 the risk in the Strawn development to the southwest comes  
7 in, is whether or not we have defined the south limit of  
8 Frontier Hills with our well, as is indicated or suggested  
9 by that lower bottomhole pressure, or whether we're just at  
10 the perimeter of the drainage radius of existing wells in  
11 that field.

12 So in taking our thinking one step further in the  
13 prospect area, we feel that the proposed location that we  
14 have put forth in the northeast-southeast of Section 29 is  
15 a superior location to the location Santa Fe has proposed  
16 in the southeast-northeast, again because we are on that  
17 southwest line of strike.

18 The location that we are -- and in fact, if you  
19 look at this isopach, we have a better -- we feel we have a  
20 better opportunity for encountering up to 400 feet of mound  
21 thickness at that location, whereas the Santa Fe location  
22 would appear to be off the north flank in much thinner  
23 mound thicknesses.

24 The location that we're about to spud in Section  
25 28 in the northeast-southwest, again, we feel, has

1 significant risk. But we feel also that that will help us  
2 to a large extent in defining whether or not there is, in  
3 fact, a second pod developing in the south that we'll be  
4 drilling again in offsetting Section 29.

5 The reason that we've elected to drill the  
6 location in 28 first -- You know, you might ask yourself,  
7 why drill 28 first if you feel it's a southwest  
8 orientation? The Morrow, in fact, offers significant -- it  
9 mitigates the risk of the Strawn. And also we're in a  
10 position right now where we can drill in Section 28 and  
11 we're being delayed in 29. And because of the requirements  
12 of our drilling program right now, we feel that the best  
13 course of action is to go ahead and drill in Section 28.

14 But Penwell is prepared, and has been prepared to  
15 aggressively develop this pool from day one, and I think  
16 that is a significant part of the reason why we feel that  
17 we should be named operator in Section 29, along with  
18 geological reasons.

19 Q. Let's go to your structure map.

20 A. The structure map, Exhibit 10, is drawn on the  
21 top of the Strawn. It generally reflects the geometry of  
22 the mound, in that the thickest wells in the mound are the  
23 highest wells structurally.

24 There doesn't appear to be a direct  
25 relationship -- Well, let me put it this way: Structure is

1 not critical in establishing production, because there  
2 doesn't appear to be water in this mound. There has not  
3 been a water level that has been encountered and production  
4 tested yet.

5           The significance of the structure is in  
6 confirming -- or using structure as a tool to confirm the  
7 isopaching. And again, as you project that trend to the  
8 south, we expect the structure to follow the isopach thick  
9 that we believe has developed into the southwest, as it  
10 mirrors the structure on the field itself that has been  
11 developed, or that part of the field that has been  
12 developed in Section 21.

13           Exhibit 11 is a Strawn cross-section which is  
14 illustrated on the accompanying structure map. It runs  
15 from point A to A'.

16           The blue on the cross-section is the Strawn mound  
17 facies. Brown are shelf sections or fingers within the  
18 mound. The pink, either end of the section, is the debris  
19 talus or debris facies that mentioned earlier, that flanks  
20 the mound and is indicative of proximity to the mound, in  
21 my estimation.

22           The well starts at point A in the Eddy "GN" State  
23 Com Number 1. That well penetrated -- You can see a fairly  
24 shaley, tight limestone section in the Strawn. It's offset  
25 by -- 40 acres diagonally, by the FH "28" State Number 1,

1 which you can see penetrated a very thick, clean porous  
2 section of Strawn mound. And that interval that was drill-  
3 stem tested is shown by the red marker in the wellbore.  
4 Basically, we tested all the porosity, which is colored  
5 red, in that section. And the pressures and the flow rates  
6 and the rest of the data on that DST are also noted on the  
7 section.

8 The adjoining three wells that follow to the  
9 right of the FH State are the three earlier wells drilled  
10 in the pool, the PEOC Federal 21 Com Number 1, the Philly  
11 Federal Number 2, and the State 16 Number 1.

12 The Philly Federal Number 1 is slightly out of  
13 line on this section, but again it illustrates how quickly  
14 the reservoir is lost in this area, because the Philly  
15 Federal Number 1 offsets the Philly Federal Number 2 by 40  
16 acres and the reservoir is entirely gone in that well.

17 Going back to the pressures that I had mentioned  
18 earlier, the State 16 had a bottomhole pressure of about  
19 5600 pounds when it was completed, and that's from  
20 production records from the operator. The DST -- And that  
21 well was completed in 1975.

22 The next well drilled in the pool, the Philly  
23 Federal Number 2, was completed in December of 1990. They  
24 drill stem tested the reef, and the reef had a bottomhole  
25 pressure at that location of 4259. So there was already

1 some depletion and interference indicated from that drill  
2 stem test.

3 Interestingly, about seven months later, Pacific  
4 Enterprises drilled the PR Federal 21 Com Number 1, and on  
5 the drill stem tests in that well, their bottomhole  
6 pressure was about 5500 pounds, so they had a virgin  
7 pressure. So the pressure front had apparently not reached  
8 out to the southwest of the northwest of 28 by 1990.

9 Now, in 1996, with the results of our DST, I  
10 would say that it has swept through Section 21 and, in  
11 fact, is cutting into the north half of Section 28. We  
12 don't know how much further south that pressure front has  
13 reached from the 28 Number 1, as of this point.

14 Q. Mr. Thoma, are you prepared to make a  
15 recommendation to the Examiner as to the risk that should  
16 be assessed against Santa Fe if you prevail and they are  
17 not participating in your well?

18 A. Yes.

19 Q. And what is that recommendation?

20 A. 200 percent plus cost.

21 Q. Do you believe that there is a chance that you  
22 could drill a well at the proposed location that would be  
23 commercial success?

24 A. Yes, I do.

25 Q. Could you basically summarize the conclusions you

1 have reached from your geological study of this area  
2 concerning the most prudent way to develop this land?

3 A. Based on my mapping of the area, not just the  
4 prospect area but the trend in general, both in the Morrow  
5 and the Strawn, I believe that our location has a much  
6 higher probability of encountering commercial hydrocarbons  
7 than does the competing well location.

8 Q. Will approval of Penwell's Application and,  
9 correspondingly, the denial of the Santa Fe Application, in  
10 your opinion, be in the best interests of conservation, the  
11 prevention of waste and the protection of correlative  
12 rights?

13 A. Yes.

14 Q. Were Exhibits 6 through 12 prepared by you?

15 A. Yes, they were.

16 MR. CARR: At this time, Mr. Catanach, we would  
17 move the admission into evidence of Penwell Exhibits 6  
18 through 12.

19 EXAMINER CATANACH: Any objection?

20 MR. BRUCE: No, sir.

21 EXAMINER CATANACH: All right, Exhibits 6 through  
22 12 will be admitted as evidence.

23 MR. CARR: That concludes my direct examination  
24 of Mr. Thoma.

25 EXAMINER CATANACH: Mr. Bruce, your witness.



## CROSS-EXAMINATION

BY MR. BRUCE:

Q. A few questions, Mr. Thoma. What -- The well you just drilled, the FH "28" Number 1, what is the pressure in the Morrow?

A. The measured bottomhole pressure was 5100 pounds.

Q. In the Morrow?

A. In the Morrow.

Q. Okay. You have this Morrow well up in the northeast quarter of Section 21 to the north. What is the latest bottomhole pressure on that? Do you know?

A. That well is depleted, that well is depleted.

Q. Is 5100 pounds virgin pressure?

A. It is virgin pressure, and that's, frankly, a concern, because what that's --

Q. Does that mean that the well in the northeast quarter of Section 21 is in a separate reservoir from the well in Section 28?

A. It could very well be in a separate pool.

It may be also that the Strawn -- or the Morrow was tight enough that it did not -- the pressure front did not reach the same distance that you're seeing in the Strawn. The Strawn has a much higher porosity/permeability profile than does the Morrow in general, and you drain larger areas, particularly in gas reservoirs, in the Strawn

1 than you do in the Morrow.

2 So it's not uncommon to not see pressure  
3 depletion 640 acres away or even 320 acres away from a good  
4 Morrow producer that is depleted.

5 Q. Has Penwell ever calculated the drainage area of  
6 the well in the northeast quarter of Section 21?

7 A. No, we have not.

8 Q. And you said that produced what? Three BCF out  
9 of the Morrow?

10 A. That is correct.

11 MR. BRUCE: I think that's all I have, Mr.  
12 Examiner.

13 EXAMINER CATANACH: That's it, Mr. Bruce?

14 MR. BRUCE: That's it.

15 EXAMINER CATANACH: Okay.

16 MR. BRUCE: My name is not Kellahin.

17 EXAMINATION

18 BY EXAMINER CATANACH:

19 Q. Mr. Thoma, the -- just one, basically. What is  
20 the driving -- What is the primary reason you picked the  
21 location for the Number 2 well in the south half of Section  
22 28?

23 A. Well, there's two things. One, I'm fairly  
24 confident that we will see some Morrow.

25 There is also in the back of my mind a question

1 as to exactly where the shelf edge is in the Strawn,  
2 because there are two wells just off of this plat in  
3 Section 34. It's the section corner that you see in the  
4 southeast -- I'm sorry, the southeast edge of the map.  
5 There are two wells in that section that have produced  
6 about a BCF each from a Strawn -- clean Strawn carbonate.

7           If, in fact, those wells are in mound facies --  
8 And it's questionable as to whether or not those are shelf  
9 carbonates or whether they're basinal carbonates that were  
10 shed from this mound that we're looking at in Section 28  
11 and 21. If, in fact, those are mound rocks, then it would  
12 suggest that the shelf edge is further southeast than I  
13 believe it is right now, than I'm projecting it is, and  
14 that there is a substantially larger area to develop to the  
15 southeast than you would like to believe right now with  
16 existing well control.

17           That well in the southwest-northeast of Section  
18 28 is very thin and very shaley, and it looks like it is a  
19 basinal Strawn penetration. The wells out in 34 raise a  
20 question as to whether or not that well is truly in the  
21 basin or just between mounds.

22           There was a well drilled by OXY, which I have not  
23 been able to get the data on, in the southeast-northeast of  
24 Section 33. There's a gas symbol there, but no data point.  
25 That well penetrated the Strawn. It's my understanding,

1    although I don't have the data, that that well penetrated  
2    shale in the Strawn. It is producing from the Morrow, I  
3    know that. I believe that Strawn -- that well is in the  
4    Strawn basin, which would suggest that the wells out in  
5    Section 34 are on either an outlying mound or in detrital  
6    that was carried off of the slope and down into a talus  
7    slope setting.

8           The wells in 34 are not real good wells. You  
9    know, they've made a BCF which is commercial, but it's not  
10   terribly economic. That's the other reason. I'm trying to  
11   find out and test where the edge of this shelf edge is.  
12   And the only way we can do it right now is with the drill  
13   bit, because seismic in this area has not -- because of  
14   proximity to the Capitan Reef, seismic in this area has not  
15   proved to be a useful tool.

16       Q.   Do you -- According to your geology, you actually  
17   -- if you were to move that well location further to the  
18   west, you would probably have a better location in the  
19   Strawn and in the Morrow; is that your opinion?

20       A.   Right, it would be, but it would be an unorthodox  
21   location. Our proration unit for the FH 1 is a laydown,  
22   and so we're -- right now we're forced into drawing a  
23   laydown.

24           You're correct, a location further west would be  
25   lower risk, and I would prefer to drill it, but the spacing

1 precludes that.

2           It doesn't entirely; we could drill an  
3 unorthodox. But since we are going to be forced to drill,  
4 it appears, a well in the east half of Section 29, from a  
5 drainage standpoint it doesn't make sense to drill two 320-  
6 acre wells within 40 acres of one another.

7           Q. If Penwell is designated the operator of the east  
8 half of Section 29 will you wait to commence that well  
9 until you finish the well in the south half of 28?

10          A. I can't say 100 percent, but I would say from a  
11 logistics standpoint it would probably be in everyone's  
12 best interest if we drilled the 28, got that data, and put  
13 that data into the equation.

14                 And also, if we drilled that well, we would have  
15 a rig and we could move that rig over. These wells only  
16 take, I think, 30, 45 days, something like that, to drill.  
17 So by the time the Commission is finished with this Order,  
18 there's a good chance that that well will be down, you  
19 know, and everyone has made their elections. So that well  
20 will be down and we'll have the data. And in fact, it may  
21 impact the drilling of the wells in 29.

22          Q. In the Strawn formation, you've projected that  
23 the Santa Fe location would hit approximately 200 feet. Do  
24 you think that would be an uneconomic producer, or what  
25 would be your opinion on that?

1           A.    If they get 200 feet, there's a good chance it  
2 will produce. There's a good chance it could be a good  
3 well.

4                   It's really a question of where do you think the  
5 axis is, and try to mitigate your risk to the best you can.  
6 The best way you do that is by staying where you think the  
7 axis is. If this map is correct, we're going to have three  
8 more Strawn producers to the south, regardless of -- well,  
9 we'll have two Strawn producers regardless of whether we  
10 drill our well where we're recommending it or whether we  
11 drill it where Santa Fe wants to drill it. The difference  
12 might be that if they both produced and we got 400 feet,  
13 ours will be a much better well from a gross-reserves  
14 standpoint than with Santa Fe's.

15                   If you look at the two wells up to the north, I  
16 might point out the 76-foot well has made about 5.8 BCF, I  
17 believe, the 446-foot well has made about 3. But if you  
18 look at that cross-section, you'll see, one, that 446 feet  
19 had very little porosity, and two, it was partially  
20 depleted already by the well in 16.

21                   So there is something to be said, I think, for  
22 getting a well in the thickest part of the reservoir early  
23 on.

24                   And there's not a competition problem out here.  
25 The ownership is -- Right now, it's dominantly Santa Fe and

1 Penwell, and so we'll be developing it together. So if we  
2 do have a second pod to the south, I would like to drill it  
3 in the thickest part of the reservoir that we can and try  
4 to develop the best porosity that we can.

5 EXAMINER CATANACH: Anything further?

6 MR. BRUCE: Can I just ask one question?

7 FURTHER EXAMINATION

8 BY MR. BRUCE:

9 Q. Mr. Thoma, the FH "28" Number 2 well in the south  
10 half, what's the location, the footage from the west line?

11 A. It's 1980 and 1980.

12 Q. How come you didn't move it further west, 1650  
13 from the west line? It would still be standard, wouldn't  
14 it?

15 EXAMINER CATANACH: 1650 would be a standard  
16 location, yes.

17 THE WITNESS: Maybe we'll amend the footage.  
18 That's -- If I had thought of it, I probably would have.

19 Q. (By Mr. Bruce) Just wondering.

20 A. Actually, personally, I thought that was  
21 nonstandard. I didn't realize up until you just told me  
22 that it's moving to the --

23 Q. I mean, your landman didn't tell you?

24 A. No. That's all right. No, that's my ignorance.  
25 If I had known --

1 EXAMINER CATANACH: In your defense, that rule  
2 was recently changed. I mean, it hasn't been that long.

3 THE WITNESS: Well, the last hotly contested  
4 hearing I was in was over -- you probably know which one it  
5 was -- it was over moving from 1980 to about -- it was  
6 about five years ago. So I didn't realize that had  
7 changed.

8 EXAMINER CATANACH: Anything further?

9 MR. CARR: Nothing further.

10 EXAMINER CATANACH: This witness may be excused.

11 MR. CARR: That concludes our presentation.

12 THE WITNESS: But now that you mention that...

13 EXAMINER CATANACH: Let's take a few-minute break  
14 here before we start on yours.

15 (Thereupon, a recess was taken at 12:15 p.m.)

16 (The following proceedings had at 12:26 p.m.)

17 EXAMINER CATANACH: We'll call the hearing back  
18 to order, and at this time we'll turn it over to Jim Bruce.

19 MEG MUHLINGHAUSE,  
20 the witness herein, after having been first duly sworn upon  
21 her oath, was examined and testified as follows:

22 DIRECT EXAMINATION

23 BY MR. BRUCE:

24 Q. Meg, would you please state your full name and  
25 your city of residence?



1 A. Meg Muhlinghause, Midland, Texas.

2 Q. By whom are you employed and in what capacity?

3 A. Santa Fe Energy as landman.

4 Q. Have you previously testified before the Division  
5 as a petroleum landman?

6 A. No, I haven't.

7 Q. Would you please outline your educational and  
8 employment background?

9 A. I have a bachelor's degree from Texas Tech  
10 University and I've been doing land work since 1983. I've  
11 worked as an independent, I've worked for HCW, US Enco, BTA  
12 Oil Producers, and also for Santa Fe.

13 Q. And how long have you been with Santa Fe now?

14 A. For almost two years.

15 Q. And does your area of responsibility at Santa Fe  
16 include the area at issue today?

17 A. Yes, sir.

18 Q. And are you familiar with the land matters  
19 involved in this particular Application?

20 A. Yes, sir.

21 MR. BRUCE: Mr. Examiner, I would tender Ms.  
22 Muhlinghause as an expert petroleum landman.

23 EXAMINER CATANACH: Any objection?

24 MR. CARR: No objection.

25 EXAMINER CATANACH: She is so qualified.

1           Q.    (By Mr. Bruce) Briefly, Ms. Muhlinghouse, what  
2   is it that Santa Fe seeks in this case?

3           A.    Santa Fe seeks an order pooling the east half of  
4   Section 29, 23 South, 26 East, from the surface to the base  
5   of the Morrow formation.

6           Q.    And what units does Santa Fe seek to pool?

7           A.    We're requesting the pooling of the east half for  
8   all pools or formations spaced on 320 acres and the  
9   northeast quarter for all pools or formations spaced on 160  
10   acres.

11          Q.    Okay, would you please identify your Exhibit 1  
12   and describe it for the Examiner?

13          A.    Exhibit 1 is a land plat of the area which  
14   outlines the proposed east-half location. The east half of  
15   Section 29 is comprised of a federal lease, Number 90809,  
16   which covers the northwest quarter of the northeast quarter  
17   and the west half of the southeast quarter, and Federal  
18   Lease Number 94838, which covers the east half of the east  
19   half, and also the southwest quarter of the northeast  
20   quarter, which is a fee tract owned by Santa Fe.

21          Q.    And --

22          A.    The surface --

23          Q.    Go ahead.

24          A.    The surface is federally owned.

25                And also marked on this exhibit are -- It's Santa

1 Fe's Sheep Dip "29" Fed Com Number 1 location and Penwell's  
2 proposed FH "29" Fed Com Number 1 location.

3 Q. Okay, and who is it that you seek to pool?

4 A. We seek to pool all working interest owners in  
5 Lease Number 94838, which is Penwell Energy, CoEnergy and  
6 S&P Company.

7 Q. And Santa Fe owns the remaining working interest  
8 in the well?

9 A. Yes.

10 Q. And Santa Fe is the largest single working  
11 interest owner in the well?

12 A. Yes.

13 Q. Now, let's discuss efforts to obtain the  
14 voluntary joinder of parties in the well. What is Exhibit  
15 2?

16 A. Exhibit 2 is a copy of the letter we mailed  
17 Penwell and CoEnergy on September 25th, 1996. The letter  
18 enclosed an AFE and also an operating agreement and  
19 requested them to participate in the well.

20 Q. Okay, what was the response to this letter?

21 A. Penwell -- I had several conversations with Mark  
22 Wheeler on the phone, and in summary, Penwell indicated to  
23 me that they were not happy with that, or they were unhappy  
24 with our proposed -- that we had proposed and staked this  
25 well and that we had criminally trespassed on their

1 property.

2 He also told me that he thought that their field  
3 people had pulled up our stake, which was later confirmed  
4 by our field people, that it was, in fact, broken off.

5 Mark also had indicated to me in our -- in  
6 several conversations over the phone that we would not be  
7 able to get our Application approved, which I had become  
8 concerned and had contacted both attorneys on both of those  
9 matters, and --

10 Q. You mean the APD? The APD?

11 A. Yes, I'm sorry, yes. Which we did receive on  
12 November 14th.

13 And on the previous issue regarding us not being  
14 able to stake our location, I had contacted our -- Jim  
15 Bruce and also an attorney in Midland, and he indicated to  
16 me that we had the right to do so under a 320-acre  
17 proration unit for a legal location where we owned half the  
18 interest.

19 Q. What -- You said you had several phone calls?

20 A. Yes.

21 Q. Now, did you get some phone calls -- You sent out  
22 this letter on the 25th, which they received a couple of  
23 days later. Could you outline any phone calls and  
24 discussions and your plans for meetings with Mr. Wheeler?

25 A. We were both -- Both of our companies were busy

1 at the time trying to prepare for the federal land sale,  
2 and I told Mark that we needed to get together and see if  
3 we could come to some type of an agreement regarding this  
4 and that we would try to get together after the federal  
5 land sale, which was on October 16th.

6 Evidently prior to the land sale and only two  
7 weeks after Penwell's subsequent proposal, Penwell filed  
8 for compulsory pooling on October 15th. And since there  
9 were no impending lease expirations and we had agreed to  
10 meet about this issue after the land sale, I thought that  
11 Penwell's filing for compulsory pooling a bit premature.

12 Santa Fe then countered Penwell's Application,  
13 and later, after we did get back, Santa Fe later tried to  
14 discuss possibilities of putting together some type of  
15 working interest units.

16 Also, Gene wanted to discuss the geology of  
17 your -- the differences of our two locations. And Penwell  
18 basically responded that unless we were willing to go with  
19 their proposed location and with them as operator, that we  
20 would see each other at the hearing.

21 Q. Now, you did propose, at least preliminarily, a  
22 working interest owners' unit between Penwell and Santa Fe?

23 A. We discussed -- Mark and I discussed some options  
24 that we could possibly have.

25 Q. Okay, but Penwell wasn't interested in that?

1 A. No.

2 Q. Was any reason given?

3 A. That he did not see that that was necessary. I  
4 don't remember the specific -- the exact words, but...

5 Q. In your opinion, has Santa Fe made a good-faith  
6 effort to obtain the voluntary joinder of all interest  
7 owners in this well?

8 A. Yes.

9 Q. Would you please identify Exhibit 3 and discuss  
10 the cost of the proposed well?

11 A. Exhibit 3 is a copy of the AFE for our proposed  
12 Sheep Dip "29" Fed Com Number 1 well. It is proposed to a  
13 12,000-foot Morrow test with an estimated dryhole cost of  
14 \$628,000 and a completed well cost of \$942,000.

15 Q. Will Santa Fe's engineer further discuss the  
16 well's cost?

17 A. Yes.

18 Q. Does Santa Fe request that it be designated  
19 operator of the well?

20 A. Yes.

21 Q. And what are the reasons for Santa Fe's request  
22 to operate?

23 A. There are several reasons. Santa Fe owns the  
24 largest single working interest in the well, being 50  
25 percent. Santa Fe has greater experience than Penwell in

1 drilling and operating Morrow wells in New Mexico. Santa  
2 Fe believes that it can drill the well less expensively  
3 than Penwell, and our engineer will discuss that in much  
4 greater detail.

5 And also, and most importantly, to protect our  
6 correlative rights in the area.

7 Q. What is Santa Fe's operating experience in the  
8 Permian Basin?

9 A. Santa Fe operates 856 wells in the Permian Basin  
10 and participates in 10,997 other properties in the Permian  
11 Basin. And in New Mexico, Santa Fe operates 160 wells and  
12 participates in 457 other wells in New Mexico.

13 Q. Okay. How many of the wells operated by Santa Fe  
14 are Pennsylvanian-age gas wells?

15 A. Santa Fe has drilled 14 deep gas wells in New  
16 Mexico in the last three years, six within the last year,  
17 and currently operates 47 Morrow and other gas wells.

18 Q. Since Santa Fe has the most at stake, has the  
19 greatest cost-bearing interest in this well, does it  
20 believe that its superior operating experience should give  
21 it preference in operating the well?

22 A. Yes.

23 Q. Do you have a recommendation for the amounts  
24 which Santa Fe should be paid for supervision and  
25 administrative expenses if the parties don't come to

1 agreement on this well?

2 A. We request that \$5828 a month be allowed for the  
3 drilling of the well and \$546 a month be allowed for a  
4 producing well.

5 Q. And are these amounts equivalent to those  
6 normally charged by Santa Fe and other operators for wells  
7 of this depth in this area?

8 A. Yes, and they're based on the Ernst and Young  
9 figures.

10 Q. And were Penwell, CoEnergy and S&P notified of  
11 this hearing?

12 A. Yes.

13 Q. And is Exhibit 4 my affidavit of notice regarding  
14 notice of hearing of this case?

15 A. I'm sorry, what --

16 Q. Is Exhibit 4 --

17 A. Yes.

18 Q. -- my affidavit of notice?

19 And were Exhibits 1 through 4 prepared by you,  
20 under your supervision, or compiled from company business  
21 records?

22 A. Yes.

23 Q. In your opinion, is the granting of Santa Fe's  
24 Application and the denial of Penwell's Application in the  
25 interests of conservation and the prevention of waste?



1           A.    Yes.

2           MR. BRUCE:  Mr. Examiner, I would move the  
3 admission of Santa Fe's Exhibits 1 through 4.

4           EXAMINER CATANACH:  Exhibits 1 through 4 will be  
5 admitted as evidence.

6           MR. BRUCE:  And I'll pass the witness.

7           EXAMINER CATANACH:  Mr. Carr?

8           MR. CARR:  Thank you, Mr. Catanach.

9                           CROSS-EXAMINATION

10          BY MR. CARR.

11           Q.    Ms. Muhlinghouse, is it fair to say that both  
12 parties feel a well should be drilled in the east half of  
13 29?

14           A.    Yes.

15           Q.    Would you agree with me on that?

16           A.    Yes, sir.

17           Q.    And that as we come before the Division, we are  
18 really not disputing what the overhead rates should be?

19           A.    Yes.

20           Q.    No matter who wins, we pretty much agree --

21           A.    Correct.

22           Q.    -- what they should be?

23           A.    Correct, they're the same.

24           Q.    When we look at your Exhibit Number 1, the  
25 acreage shaded in yellow is Santa Fe acreage; is that

1 right?

2 A. Yes.

3 Q. The acreage in 28 has, however, been farmed out  
4 to Penwell, has it not?

5 A. Yes, it was.

6 Q. When was -- Was this yellow acreage acquired at  
7 one time by Santa Fe or was it acquired over a period of  
8 years?

9 A. All of this yellow --

10 Q. Yes.

11 A. -- yellow acreage?

12 Q. Yes.

13 A. It's been acquired over a period of years.

14 Q. Has any of it been acquired within the last five  
15 years?

16 A. I don't know the exact answer to that. I'd need  
17 to check my lease files.

18 Q. During the period of time that Santa Fe has held  
19 this acreage, how many wells have they drilled on it? Do  
20 you know?

21 A. In the last five years?

22 Q. Yes.

23 A. Was the -- The well in Section -- 20 was drilled  
24 in 19- --

25 MR. DAVIS: We drilled one well.

1 THE WITNESS: One well.

2 Q. (By Mr. Carr) And that well was a dryhole, was  
3 it not?

4 A. Yes, sir.

5 Q. If we look at the spacing unit, being the east  
6 half of Section 29, Santa Fe, you testified, is the largest  
7 single working interest owner?

8 A. Yes.

9 Q. And at what percentage?

10 A. At 50 percent.

11 Q. Fifty percent. And how much of the spacing unit  
12 do you know is represented by Penwell at this hearing?

13 A. I believe Penwell itself has 8.75 percent.

14 Q. And did you understand --

15 A. I understand that they are speaking for CoEnergy  
16 and S&P.

17 Q. Do you understand they're also speaking for S&P?

18 A. Yes.

19 Q. And that that together is 50 percent?

20 A. Yes. I also understand that Santa Fe itself will  
21 be expending 50 percent of its own money, being the largest  
22 single working interest owner in the unit.

23 Q. For a well in the east half of Section 29?

24 A. Yes.

25 Q. And the development of this general area in terms

1 of Morrow and Strawn development, since Penwell acquired  
2 its interest, Santa Fe, however, hasn't spent any money  
3 developing these wells, have they?

4 A. No, we farmed out -- we had previously -- and  
5 Gene can -- Our geologist can testify to this in more  
6 detail, since he was with Santa Fe at the time. We had  
7 initially proposed a well in the northwest quarter of the  
8 northwest quarter of Section 28 and could not get our  
9 management to approve it, and also were not able to sell it  
10 down at that particular time.

11 When Penwell came to us with the farmout request  
12 in Section 28, there was some concern in Santa Fe that this  
13 still was a questionable location, and some people really  
14 wanted to drill it, and some people didn't. And our  
15 opinion was that since we had an offset and that we would  
16 be able to protect our rights, that should this turn out to  
17 be a good well, that we would be able and prepared to drill  
18 a well in Section 29.

19 Q. So you farmed out your interest in 28?

20 A. Yes.

21 Q. And there's been one well drilled and another  
22 well proposed that's going to be drilled soon?

23 A. Yes.

24 Q. And Santa Fe hasn't paid any of the costs of  
25 drilling the well in the north half of 29, have they?

1 A. In the north half of 28?

2 Q. I'm sorry, 28.

3 A. No.

4 Q. And because those funds were spent, now you're  
5 more interested in spending funds to develop these pools;  
6 isn't that right?

7 A. Yes, sir.

8 Q. And so because of the risk taken by Penwell, now,  
9 you're interested in developing the area; isn't that fair  
10 to say?

11 A. Pardon?

12 Q. Because of the well drilled by Penwell, Santa Fe  
13 now is more interested in going forward and developing  
14 these pools --

15 A. Yes, sir.

16 Q. -- isn't that right?

17 And as you go forward with those plans, you're  
18 proposing to drill the well actually on a lease that is  
19 owned -- or acreage that has been leased to Penwell, as  
20 opposed to Santa Fe? The surface -- The well will actually  
21 be on a Penwell lease?

22 A. It is a legal location for a 320-acre proration  
23 unit. And yes, the physical lease is the Penwell lease  
24 that --

25 Q. Now, were you involved with the decision to go

1 out and stake your well in the east half of 29?

2 A. Was I involved in the --

3 Q. In that decision --

4 A. -- decision?

5 Q. -- yes.

6 A. No, I was not the decision-maker.

7 Q. But did you -- Were you a party to that? Did you  
8 discuss it with someone internally?

9 A. Yes.

10 Q. And you knew at the time you went out and staked  
11 the well that, in fact, a well was being drilled in the  
12 north half of 28, did you not?

13 A. Yes.

14 Q. And you were getting daily information on that  
15 well, were you not?

16 A. Yes.

17 Q. And you knew that they had encountered a very  
18 good prospect in the Strawn; isn't that correct?

19 A. Yes.

20 Q. And you went out at that time and immediately  
21 staked the location, did you not?

22 A. Yes, and --

23 Q. And it was because of the data that you had  
24 gotten on the well that was being drilled by Penwell that  
25 you went forward with that decision; that's fair to say --

1 A. Yes.

2 Q. -- isn't it?

3 A. Yes, sir.

4 Q. Is it customary to go out and stake a well on a  
5 lease that's actually owned by someone else? Is that Santa  
6 Fe's customary procedure?

7 A. I have never -- I have never found that to be  
8 illegal and have never been told that that is -- and I've  
9 been told by two attorneys that that is all right to do if  
10 you're staking a location for a 320-acre proration unit.

11 Q. And whether it's legal or not, I'm not concerned  
12 about. Was that your practice, to just go out and stake a  
13 location on someone else's lease?

14 A. If we are staking a legal location for a 320-acre  
15 proration unit, yes, we would stake it at the location that  
16 the geologist would deem is the location that he would  
17 like.

18 Q. Is it customary for you to do that without even  
19 talking with the person who owns that lease?

20 A. No, we have been -- we have basically -- That is  
21 how we've been treated by Penwell on the majority if not  
22 all of the locations that have -- wells that have been  
23 proposed to Santa Fe. We are sent an AFE -- The way that  
24 they notify us of their intent on drilling a well is by  
25 sending us an AFE and going out and staking a location.

1 Q. And is that what happened in the north half of  
2 28?

3 A. In the north half of 28?

4 Q. Yes.

5 A. They sent us an AFE in -- They sent us an AFE and  
6 an operating agreement and a proposal. I do not know if  
7 they staked their location. I could check my records to  
8 see if they staked their location prior to doing that.  
9 Usually they do, they go ahead and do it all at the same  
10 time.

11 Q. And do you think that's the acceptable practice?

12 A. We don't usually do it that way.

13 Q. But you did do it in this case?

14 A. Yes.

15 Q. And did you do that because you felt it would  
16 give you some sort of priority in being able to then turn  
17 around and operate the well?

18 A. No, we were doing it in order to protect our  
19 correlative rights in the area.

20 Q. And what do you mean by "protecting your  
21 correlative rights"?

22 A. Our opportunity to recover our fair share of  
23 production from our property.

24 Q. And how would staking the well enable you to do  
25 that?



1           A.    We wanted to -- We saw that we had an acreage  
2           that we wanted to develop.

3           Q.    And so by staking it, it would give you a  
4           priority as to being able to operate that property; is that  
5           fair to say?

6           A.    I don't know.

7           Q.    Okay. Now, you thought it was premature for  
8           Penwell to go ahead and file for compulsory pooling when  
9           they did; was that your testimony?

10          A.    Yes, sir, it was.

11          Q.    Do you think it's premature to go ahead and file  
12          for compulsory pooling when you learn that someone has  
13          already staked a location on your lease? Wouldn't that be  
14          something you'd consider in whether you were going to go  
15          forward with --

16          A.    Well, we had discussed -- we had talked about --  
17          We knew that our companies were in disagreement. Mark and  
18          I had had a conversation on the phone, and we had discussed  
19          -- The reason why I thought it was premature is, usually,  
20          you know, unless you're in a situation where your lease is  
21          expiring, usually you give the companies a little bit more  
22          time, unless you're in a situation where your leases are  
23          expiring --

24          Q.    We didn't have --

25          A.    -- to file for force pooling.

1           Q.   And we didn't have that situation here when you  
2   staked the well, did we? We weren't looking at a lease  
3   expiration in this situation when, in fact, Santa Fe staked  
4   this well? That wasn't a factor, was it, lease expiration?

5           A.   No, we just wanted to get the ball rolling in  
6   order for us to be able to drill the well.

7           Q.   Are you aware of any circumstance where Penwell  
8   went out and actually staked a well, filed -- sent an AFE  
9   and had staked a well on a tract in which they own no  
10   working interest?

11          A.   I just have to go back to you on this in that  
12   Santa Fe felt like because this was a 320-acre proration  
13   unit, that we were staking a location at a legal location  
14   wherein we owned 50 percent. And I have never been under  
15   the impression or have never gotten any indication from any  
16   of our attorneys that that is an illegal practice to do,  
17   that as long as --

18          Q.   And I'm not saying you've acted illegally, don't  
19   misread my question.

20          A.   Okay. I just -- We acted in the manner that --

21          Q.   When I look at your Exhibit Number 2, the  
22   letter --

23          A.   Uh-huh.

24          Q.   -- that you sent to Penwell and CoEnergy, is  
25   there any other written correspondence with any party

1 concerning your proposed location? I mean, other letters  
2 to Penwell or CoEnergy?

3 A. Exhibit --

4 Q. I'm just trying to determine if this is the  
5 extent of the written proposals concerning the well from  
6 Santa Fe.

7 A. The written proposals?

8 Q. Yes.

9 A. We discussed verbally proposals as far as -- No,  
10 this was the only written proposal for this well.

11 Q. My question is, have you ever proposed the well  
12 to S&P?

13 A. No, we did not know that S&P was an owner at that  
14 time, until Mark counter-proposed.

15 Q. Okay.

16 A. And then when we did the force pooling hearing,  
17 we notified them.

18 Q. So they've been notified of the hearing, but  
19 that's the only communication with S&P from Santa Fe?

20 A. Yes.

21 Q. Now, you talked about proposing a working  
22 interest unit in this area?

23 A. Uh-huh.

24 Q. That was proposed after the well -- your well had  
25 been staked in the southeast of the northeast of 29; isn't

1 that right?

2 A. Yes.

3 Q. And it was also proposed after compulsory pooling  
4 applications had been filed; isn't that right?

5 A. Yes, but we had been discussing it prior to -- we  
6 had been discussing -- prior to any force pooling  
7 applications being filed, we had discussed --

8 Q. Had you --

9 A. -- that we -- We had not discussed the working  
10 interest unit; we had just decided that our companies  
11 needed to sit down and discuss this.

12 Q. Had you any formal proposal as to what acreage  
13 should be included in a working interest unit?

14 A. No, Mark and I discussed this informally, and he  
15 was going to see if they were -- if Penwell would be  
16 willing to do so.

17 Q. It would have to include Section 28, would it  
18 not?

19 A. No, it was not -- Section 28 was not involved in  
20 it.

21 Q. And it would include Section 29?

22 A. I had several options. There was a possibility  
23 of doing something in all of Section 29, and then there was  
24 also a possibility of doing Section 29, 32, and the west  
25 half of 33.

1 Q. And if we did that, west half of 33, 32 and 29,  
2 we're, in fact, moving farther away from the production,  
3 aren't we, than with the locations we're talking about  
4 today? Isn't that right?

5 A. Our geologist will have to go into that in more  
6 detail.

7 MR. CARR: That's all I have. Thank you.

8 MR. BRUCE: May I ask a few?

9 REDIRECT EXAMINATION

10 BY MR. BRUCE:

11 Q. Ms. Muhlinghause, regarding staking the location,  
12 normally Santa Fe will call someone beforehand, the other  
13 interest owners in the well?

14 A. Yes.

15 Q. But in this case you wanted to get the well going  
16 as soon as possible, or Santa Fe did, right?

17 A. Yes.

18 Q. Because you had a real good offsetting well, the  
19 FH "28" Number 1, in which Santa Fe has a small interest?

20 A. Yes.

21 Q. And in this well you have a much larger interest?

22 A. Yes, that's correct.

23 Q. So it's in Santa Fe's own self-interest to get  
24 the well -- get the thing moving?

25 A. Yes.

1 Q. Okay. And regarding the written correspondence,  
2 you sent one letter to Penwell, they sent one letter to  
3 you. Those are the only two letters regarding this entire  
4 well that you know of?

5 A. Yes, sir. Well, with the exception of the force  
6 pooling.

7 Q. And you sent this letter also to CoEnergy, care  
8 of Penwell, because Penwell has told you in the past that  
9 CoEnergy has -- they handle materials for CoEnergy?

10 A. Yes, and since I assumed that S&P was the same  
11 thing, if I need to do the -- so I can send a well proposal  
12 if I need to do them separately.

13 MR. BRUCE: That's all I have, Mr. Examiner.

14 EXAMINATION

15 BY EXAMINER CATANACH:

16 Q. Ms. Muhlinghause, when did Santa Fe become aware  
17 the S&P was an interest owner in this unit?

18 A. When Mark sent his well proposal, it was in the  
19 Exhibit A, with the -- of the operating agreement that he  
20 sent over with his well proposal.

21 Q. What date was that?

22 A. October 1st was when we -- it was hand-delivered,  
23 yes. I was not aware that Penwell had sold down their  
24 interest in -- They had had a larger interest in the  
25 Section 28 well, and they had sold, prior to -- We had

1     farmed out to them, and they came to the end of the farmout  
2     time period within which to drill a well, and they asked  
3     for 30 extra days in order to sell down their interest in  
4     the drilling of the FH "28" Number 1 well, which I did not  
5     know whether they had or had not sold down that interest  
6     until I got their well proposal.

7             Q.     So approximately around -- Was it October 1st --

8             A.     Yes.

9             Q.     -- you became aware that S&P owned an interest in  
10     that unit?

11            A.     Yes, and we made sure that they were -- Yes.

12            Q.     And you filed your compulsory pooling Application  
13     October 24th?

14            A.     24th, and we made sure that they were a party to  
15     that.

16            Q.     Why in between that time didn't you send them a  
17     copy of this letter that you had sent to Penwell and  
18     CoEnergy, asking them to voluntarily participate in the  
19     well?

20            A.     I assumed in my error, probably, and I need to  
21     confirm with Mark, that with Penwell's other investor that  
22     they have -- they do -- we sent all our notifications  
23     through them, and I just assumed that that was the same  
24     instance with S&P, which I probably shouldn't have. And if  
25     they need to receive notification of it, I'll be more than

1 happy to send it to them.

2 Q. Well, we've become aware today that the S&P  
3 interest is committed to the Penwell operating agreement --

4 (Off the record)

5 MR. BRUCE: Mr. Examiner, I mean, if Mr. Wheeler  
6 is here, he's still sworn. Could we ask him if they handle  
7 the materials for S&P, just like they do for CoEnergy?

8 You know, we'll be glad to send out the AFE and  
9 everything to S&P, but --

10 MR. CARROLL: Mr. Wheeler, when did S&P commit  
11 their interest to Penwell?

12 MR. WHEELER: I believe S&P -- They signed the  
13 letter agreement in late July, the well was spudded August  
14 14th, I believe, so it was right prior to the well being  
15 spudded, the "28" Number 1. And I was never contacted by  
16 Santa Fe about S&P after they sent the original proposal to  
17 us, and CoEnergy.

18 She is correct, we have informed them that  
19 CoEnergy correspondence is to come through Penwell, but we  
20 never made that association with S&P, nor were we asked.

21 MR. CARROLL: And did you communicate that S&P  
22 was committed to Penwell?

23 MR. WHEELER: Did I communi- -- Well, when I sent  
24 the proposal for the "29" Number 1 well to Santa Fe, S&P  
25 was shown as a party, and I sent our AFE to S&P at the same



1 time. Subsequent to that, S&P signed our operating  
2 agreement and our AFE and sent it back to us.

3 But no, I have not conveyed that directly to  
4 Santa Fe.

5 EXAMINER CATANACH: Mr. Carr, let me ask you your  
6 opinion: Is that an issue that's moot at this point, do  
7 you think?

8 MR. CARR: Well, I don't know how you can enter  
9 an order pooling S&P when there's been no good-faith effort  
10 to give them a chance to do anything except come to a  
11 hearing. I think a precondition to a hearing is an offer  
12 and an opportunity to reach voluntary agreement. I think  
13 it's a unique issue.

14 MR. BRUCE: Well, Mr. Examiner, a couple of  
15 things. We can certainly send an AFE, ask them to join in  
16 the well, or farm out their interest to Santa Fe, continue  
17 the hearing, which we have to do anyway because of the  
18 defect in the notice in the Penwell thing, and let it all  
19 come to fruition then.

20 On the other hand, we're dealing with -- Is there  
21 an assignment to S&P?

22 MR. WHEELER: Yes, there is.

23 MR. BRUCE: Is it recorded?

24 MR. WHEELER: Yes, it was.

25 MR. BRUCE: When was it recorded? Do you know?

1           MR. WHEELER: I believe those assignments were  
2 made in the early part of September. I'd have to look in  
3 the lease file, but I did check that prior to coming up  
4 here.

5           MR. BRUCE: Okay, that would be the easy way to  
6 do it. Obviously, they're in this with Penwell and they're  
7 aware of what's going on, and we can certainly send them  
8 that and cure whatever minor defect there is.

9           MR. CARROLL: Well, S&P was notif- --

10          MR. BRUCE: By the time --

11          MR. CARROLL: S&P was notified of this hearing,  
12 weren't they?

13          THE WITNESS: Yes.

14          MR. BRUCE: Yes, they were definitely notified.

15          MR. CARROLL: And they haven't shown up.

16          MR. BRUCE: Let us send out an AFE. By the time  
17 the notice defect for Penwell's Application is cured,  
18 they'll have had notice.

19                 We could send it out and you can continue it  
20 until the December 19th hearing, which is probably about  
21 the time -- By the time, you know, if you desire draft  
22 orders in this case, by the time you decide, I don't think  
23 that's going to be any major factor.

24          MR. CARR: If you enter an order pooling the  
25 lands and designating Santa Fe operator, you're invoking

1 the police power of the state, you're taking the interest  
2 of S&P, and you're giving their interest to someone else to  
3 operate. There are preconditions you must meet before you  
4 do that. One is good-faith effort to reach voluntary  
5 agreement. As to S&P, I submit what you have before you  
6 today shows that has not happened.

7 MR. CARROLL: Mr. Bruce?

8 MR. BRUCE: They have notice of it. Like I said,  
9 we can cure -- Obviously, they know the well is being  
10 drilled. We can cure whatever defect there is by sending  
11 out a letter and an AFE and ask them to join in, continue  
12 the hearing until December 19th.

13 We're not going to get anywhere by dismissing the  
14 case, because we'll just re-file.

15 MR. CARROLL: Well, would that do any good? I  
16 mean, is S&P committed to Penwell? Do they have an option  
17 to --

18 MR. CARR: They have a right to notice. They  
19 have a right to good-faith negotiations before you say, No,  
20 you will not have Penwell as your operator, you will have  
21 Santa Fe.

22 EXAMINER CATANACH: Well, would -- If Santa Fe  
23 proposed the well to S&P, would S&P be able to -- Their  
24 interest is already committed to Penwell.

25 MR. CARR: They would certainly have a right to

1 talk to them about it and have some notice of this other  
2 than, Come to hearing, we're going to operate, not who  
3 you've agreed with.

4 Or we can forget prehearing negotiations, you  
5 know. We understand you're going with somebody else,  
6 forget it. I mean, that's really, I don't think, what's  
7 contemplated.

8 EXAMINER CATANACH: Well, I would suggest that we  
9 go ahead and have you contact S&P formally and propose the  
10 well, conduct any negotiations that you need to, and we can  
11 go ahead and continue the case until the December 19th  
12 hearing. You'll probably have to come back at that point  
13 and detail your discussions with S&P.

14 MR. BRUCE: That's fine.

15 MR. CARR: David -- Mr. Catanach, I mean, that  
16 would do it, but I don't think you have to do that. I  
17 mean, Jim is right, there is a time frame that's going to  
18 run, and when I'm saying that these are the things that are  
19 supposed to be done before you -- I think that's right.

20 But I think that -- You know, I mean, we have to  
21 be realistic. They have committed to Penwell. And I think  
22 if you do give the notice, it's -- I don't think you have  
23 to continue and make everybody come back six days --

24 MR. BRUCE: No, I'm not --

25 MR. CARR: -- six days before Christmas to re-do

1 it. I think we should finish it --

2 MR. BRUCE: I think we should finish it today --

3 MR. CARR: Jim could handle that -- I mean --

4 MR. BRUCE: -- and if there is additional land  
5 testimony --

6 MR. CARR: Yeah.

7 MR. BRUCE: -- at the most, we can have a landman  
8 come back just to do it, or perhaps --

9 MR. CARR: I think you --

10 MR. BRUCE: -- do it by affidavit.

11 MR. CARR: And I would agree that you could do it  
12 by affidavit. I'm not trying to jerk everybody around to  
13 come back on the 19th. I do think there's something that  
14 needs to be done before it's all it issue. That's all I'm  
15 saying.

16 MR. CARROLL: Okay, that will clean that up.

17 EXAMINER CATANACH: All right, let's go and do  
18 that, and if you feel like you need to come back on the  
19 19th and discuss anything --

20 MR. BRUCE: We'll get in touch with you  
21 beforehand.

22 EXAMINER CATANACH: All right. Is there anything  
23 further of this witness?

24 MR. BRUCE: No.

25 EXAMINER CATANACH: She may be excused.

1 MR. CARROLL: Well, I found the trespass issue  
2 fascinating, but I'm getting hungry so...

3 (Laughter)

4 MR. DAVIS: We can go to lunch if you --

5 MR. CARROLL: No, I don't think it's going to  
6 affect the Examiner's decision.

7 MR. BRUCE: We can brief that up for you. It  
8 will take about two minutes.

9 EXAMINER CATANACH: That's fine.

10 GENE DAVIS,  
11 the witness herein, after having been first duly sworn upon  
12 his oath, was examined and testified as follows:

13 DIRECT EXAMINATION

14 BY MR. BRUCE:

15 Q. Would you please state your name and city of  
16 residence?

17 A. My name is Gene Davis and I live in Midland,  
18 Texas.

19 Q. Who do you work for and in what capacity?

20 A. I work for Santa Fe Energy Resources, and I'm  
21 their geological manager.

22 Q. Have you previously testified before the  
23 Division?

24 A. Yes, I have.

25 Q. And were your credentials as an expert petroleum

1 geologist accepted as a matter of record?

2 A. Yes, they were.

3 Q. Are you familiar with the geological matters  
4 involved in this Application?

5 A. Yes, I am.

6 MR. BRUCE: Mr. Catanach, I tender Mr. Davis as  
7 an expert petroleum engineer --

8 EXAMINER CATANACH: Mr. Davis is so qualified.

9 THE WITNESS: I'm not an engineer.

10 MR. BRUCE: Petroleum geologist. Sorry, Darrell.

11 Q. (By Mr. Bruce) Mr. Davis, could you itemize the  
12 primary zones of interest in the proposed wells?

13 A. The primary zones of interest are basically two  
14 zones, the Morrow -- lower Morrow zone and lower Morrow  
15 sands, and also the Strawn carbonates.

16 Q. Okay. Why don't you discuss your primary zone of  
17 interest, or one of them, and I refer you to your Exhibit  
18 5. Would you identify that for the Examiner?

19 A. Exhibit 5 is a regional map of the Strawn in this  
20 portion of southeast New Mexico. It basically depicts the  
21 shelf-to-basin situation that we have in the Strawn in this  
22 area.

23 There is a dark black line which divides what we  
24 term the shelf, which is kind of shaded in blue, from the  
25 basin, which is shaded in the brown.

1           There is another comment on there labeled the  
2       Strawn Shelf Edge, and that is about the trend of that  
3       Strawn Shelf Edge. As Mr. Thoma has testified, the trend  
4       is generally in a northeast-to-southwest direction across  
5       this portion of southeast New Mexico.

6           There are numerous fields that produce along this  
7       trend. If we went from the northeast to the southwest,  
8       there is the Carlsbad field, which was found in 1983. It  
9       was discovered by Santa Fe Energy Resources. Santa Fe has  
10      drilled 11 wells to the Strawn-Atoka-Morrow section here.  
11      Since 1983 we have five wells there that are producing from  
12      the Strawn. Two of those wells are producing from mound  
13      buildups similar to what you've seen presented in the  
14      Frontier Hills "28" State well that Penwell has most  
15      recently drilled. And three of those wells are producing  
16      from debris carbonates or debris-pile carbonates that are  
17      associated with those mound buildups.

18           Proceeding to the south and west, there's the  
19      Carlsbad South field which was discovered in 1971, 12  
20      wells, 28 BCF, fairly significant accumulation. There are  
21      no mound carbonates found -- no mound buildups were  
22      discovered in that particular accumulation. Luck of the  
23      draw, I guess.

24           You move south from there, south and west from  
25      there, and you run into Frontier Hills. According to my



1 knowledge, the Frontier Hills field, the Strawn was  
2 actually found in 1989 in the Philly -- in the well that  
3 was drilled in Section 16 of 23 South, 26 East. The well  
4 was recompleted by the Bettis brothers, of an old Coquina  
5 completion -- or well, rather.

6           You can see that there is a tongue, if you will,  
7 of the shelf that protrudes to the south and east, away  
8 from the Frontier Hills accumulation. This is the  
9 accumulation of gas that -- Strawn production that Mr.  
10 Thoma talked about, out in Section 27, where there's a well  
11 that's made about a BCF and another one that's made  
12 somewhere about 250 million cubic feet of gas out of some  
13 Strawn carbonates.

14           And then of course, just south of the north blue  
15 blob, if you will, in Sections 16 and 21 of 23-26, is the  
16 blob in Section 28 which is surrounding the location that  
17 has been completed by -- out of the Morrow right now, but  
18 Frontier Hills 28 State Number 1 that Penwell drilled there  
19 and encountered another Strawn buildup.

20           The trend of the shelf extends away from Frontier  
21 Hills to the -- basically in the direction -- again, going  
22 to the south and west, and you run into Dark Canyon, which  
23 was found in 1989, two wells and a BCF of gas, and then the  
24 Mosley Canyon area where there are numerous wells, 10  
25 wells, 9.6 BCF of gas found.

1           I would point out that Santa Fe has been fairly  
2 active in this particular exploration play, starting in  
3 1983 with our discovery of Carlsbad. We have also drilled  
4 wells -- If you start on the southwest end, we drilled two  
5 wells at Mosley Canyon, the Lamb Chop "17" State Com  
6 Number 1 in 1991 and the Lamb Chop "20" Fed Com Number 1 in  
7 1993. The Lamb Chop "17" State Com was a discovery well  
8 from an algal mound buildup.

9           We also drilled the Mosley Canyon "9" State Com  
10 Number 1 in 1993, in Section 9 of 24 South, 25 East. We  
11 drilled the Mule Foot "5" State Com Number 1 in 1988 in  
12 Section 5 of 24 South, 25 East. We drilled -- Moving to  
13 the north and east, we drilled the Sheep Dip "20" Fed Com  
14 Number 1 in 1990 -- Well, actually spudded in 1990,  
15 completed in 1991, from the Morrow. That is not a dryhole,  
16 as we stated here before. That is producing from the  
17 Morrow currently.

18           And then as you -- Those are the wells that we've  
19 operated in here, and if you extend farther to the north,  
20 most recently in 22 South, 28 East, which is basically just  
21 east of the accumulation a Carlsbad, we most recently  
22 drilled the Santa Fe Energy Resources Foal "20" Fed Number  
23 1 well. It was completed as a Morrow well this year.

24           In addition, we've also participated in numerous  
25 wells along this trend, one in Section 34 of 23-25, which

1 is a well -- the Muley Federal Unit well. It was drilled  
2 by Collins and Ware. I think that was drilled in 1992 or  
3 1993.

4 And we also participated as to a one-eighth  
5 interest in the well, the original -- well, the well  
6 drilled in Section 21 by PEOC. It's the west-half  
7 proration unit, the 21 State Number 1, I think, or the Fed  
8 Com Number 1. I'd have to look at it; it's on the cross-  
9 section or -- But that well we also participated in, back  
10 before we drilled the Sheep Dip "20" Fed Com Number 1.

11 Q. So, Mr. Davis, Santa Fe has quite a bit of  
12 experience in this area?

13 A. Yes, I'd say we have a significant amount of  
14 experience in this area. Almost all of these wells were  
15 drilled to the Morrow.

16 Q. Okay. Could you then move on to your Exhibit 6  
17 and identify that for the Examiner?

18 A. Exhibit 6 is kind of zeroing in on the Frontier  
19 Hills area, the subject area of this particular hearing.  
20 It is a gross isopach of the Strawn limestone. It is just  
21 a clean carbonate map, if you will. There is a line of  
22 cross-section, A-A', which is also indicated on the map  
23 itself.

24 This dark line that is indicated as a zero would  
25 tie back to the previous exhibit, and that line -- that

1 depicts the shelf-edge break between the shelf and the  
2 Basin.

3           You can see that in wells that are to the south  
4 and east of that zero line, there is zero -- basically zero  
5 indicated as the amount of gross isopach of Strawn  
6 limestone. You're basically looking at facies that is  
7 shales and shaley limestones. That's when we go down into  
8 the basinal facies.

9           When you work back up into the shelf, you are  
10 encountering carbonates, basically interbedded shales and  
11 carbonates. The carbonates range in thickness anywhere  
12 from five to ten foot in thickness to -- As you've seen in  
13 these mound buildups, when they're stacked one on top of  
14 the other you get significant accumulation.

15           I've taken a little different tack, if you will,  
16 on how these mounds are producing. If you look at the  
17 accumulation of Strawn carbonates that are in the north  
18 half of Section 21, I show two separate mound complexes,  
19 and they're shaded in blue, that are producing there.

20           There is the PEOC "21" Number 1 well, which is in  
21 the west half of Section 21. That well is the original  
22 mound discovery, if you will, for the Frontier Hills area.

23           The original discovery well for Frontier Hills is  
24 that well in Section 16 in the south half, which  
25 encountered 84 feet of clean carbonate. That well, as I

1 said, was discovered in 197- -- it was actually perforated  
2 in -- give you that date -- actually 1989. The Frontier  
3 Hills -- The PEOC well was drilled in 1990, I believe.

4           The well that is to the east of the PEOC well in  
5 Section 21, which is producing in the east-half proration  
6 unit is the Philly Fed Number 2, which was drilled by  
7 Coquina, and you can see again, as Mr. Thoma has discussed,  
8 as you go to the east of that well, you run into 54 feet of  
9 clean carbonate. You're basically dropping off the edge of  
10 the shelf and dropping down into the Basin. And there is a  
11 significant and a very quick deterioration of shelf  
12 carbonates down into a basinal setting in that particular  
13 section.

14           Santa Fe drilled a well in here in 1990, the  
15 Sheep Dip 20 State Com Number 1, which was drilled in  
16 Section 20. That well encountered 69 feet of carbonate  
17 basically in the interbedded shelf sequence, and  
18 unfortunately we did not encounter any porosity in those  
19 sequences at all. And we basically ended up making a  
20 Morrow completion out of that well.

21           And as you move south -- The reason I have  
22 separated those -- Excuse me, let me finish that. The  
23 reason I've separated these things into separate units is  
24 that the engineering -- our engineers have demonstrated to  
25 me that the PEOC well is separated by pressure, pressure-

1 separated from the Philly Fed Com Number 2 well and the  
2 Bettis well, the re-entry in Section 16. And therefore I  
3 think those are separate accumulations, if you will, or  
4 mound accumulation or buildups, and basically producing  
5 from separate reservoirs.

6 As you move to the south, I think you go across a  
7 possible -- I think there's maybe a -- something that's  
8 basically separated the mound complex on the north from the  
9 mound complex on the south. That mound complex on the  
10 south has been discovered by Penwell in their FH "28" State  
11 Number 1 well, where they have encountered virgin pressure  
12 from an Atoka -- from a Strawn algal mound buildup.

13 It has virgin pressure, and the wells to the  
14 north in, the other part of the mound complex, are  
15 depleting. And in fact, they have significantly lower  
16 pressures. And I can get you that data or I can have our  
17 engineer testify and give you -- He'll be able to give you  
18 that data if you so require.

19 The way I see this particular trend playing out,  
20 I agree with Mr. Thoma that this trend is basically running  
21 northwest -- no, excuse me, northeast to southwest across  
22 the area of southeast New Mexico. And if you look at the  
23 relationship between -- the thickness relationship between  
24 the FH "28" State Number 1 well in the north half of  
25 Section 28 and the Gulf Eddy "GN" State Com Number 1 well

1 in Section -- it's also in the north half on a 40-acre  
2 offset to that Frontier Hills "28" well -- you can see that  
3 you go from a mound buildup rapidly down to a thin basinal-  
4 type sequence, similar to what you see to the north in  
5 Section 21 between the Philly Fed Com Number 2 and the  
6 offset Philly Fed Com Number 1 well, which had 54 feet.

7 I think that this particular debris pile is  
8 basically -- or the mound complex, spills out over into  
9 Section 29. I don't know how big it is, but these things  
10 -- Everything I've ever seen, and all the mapping I've done  
11 along this trend, these algal complexes usually don't  
12 extend over much more than 160 to 240 acres in size.

13 I think that there's potential, because of the  
14 configuration of the shelf edge here, that there is the  
15 potential for a porous debris pod, if you will, extending  
16 out into Section 29, elongated out towards Section 30.

17 The pivotal well that I'd like to bring -- show  
18 the cross-section, now, Mr. Bruce, if I could, turn your  
19 attention to Exhibit Number 7 --

20 Q. Just -- Before we go on --

21 A. Yes, I'm sorry.

22 Q. -- just a couple of things.

23 The way you've drawn the reservoir at issue here,  
24 the one in Section 28 and 29, that really conforms with  
25 this regional trend, doesn't it?

1           A.    Yes, it does. That's basically -- you know, I  
2           basically have used -- Like Mr. Thoma, I've used my  
3           regional picture that I showed you in Exhibit Number 5, to  
4           basically draw up my interpretation of how this mound  
5           complex could possibly lay in this particular area.

6           Q.    Mr. Thoma's, on the other hand, is more of a  
7           north-south, the way he draws his -- or part of it is  
8           northeast-southwest and part of it's northwest-southeast,  
9           isn't it?

10          A.    Well, John -- Mr. Thoma has brought his down a  
11          little farther down into Section 29 and extending down into  
12          the north half of Section 32. While that is possible, I  
13          think it introduces a significant amount of risk into the  
14          -- at least in my interpretation, it does not quite fit.  
15          And what I used to kind of constrain that is a well that's  
16          been drilled in Section 31, an older well that's shown on  
17          the cross-section, Exhibit 7.

18          Q.    Okay, let's move on to your cross-section, then,  
19          and go into that.

20          A.    I'm sorry, that's a large cross-section. I  
21          didn't have a chance to get it reduced to a scale that  
22          would be more convenient.

23          Q.    We're used to it.

24          A.    Yeah, I'm sure you are.

25                There is a little drafting error in my cross-



1 section, which I apologize for. The actual line of cross-  
2 section goes from the Penwell FH "28" State Number 1 well,  
3 which is in the center of the cross-section. The next well  
4 over, it shows the proposed location of the FH "29" Fed Com  
5 Number 1. That's not quite the way it's been drawn on the  
6 map here. Okay? The line of cross-section actually is  
7 running from this well, which is their proposed -- their  
8 actual completed well, it is running down to this location  
9 and then across, back across here and back to this.

10 Q. So from their well they just completed to their  
11 proposed location?

12 A. Yes. Kind of an error in the drafting stage, I  
13 apologize.

14 Basically what I've picked here is that you can  
15 see that the proposed Sheep Dip "29" Fed Com Number 1 well  
16 that Santa Fe Energy is proposing, I think, is going to  
17 have a better chance of encountering a buildup of the mound  
18 complex. I think it will be along strike with the existing  
19 Penwell FH "28" State Number 1 well.

20 I believe that the Frontier Hills or FH "29" Fed  
21 Com Number 1 well that is being proposed by Penwell has a  
22 much more -- a greater chance of actually drilling off into  
23 the basinal complex that is seen in the Gulf Eddy "GN"  
24 State Com Number 1 well.

25 If you go back to the -- If you continue off to

1 the southeast, away from this particular area, to the well  
2 in Section 31, which is at the very end of the cross-  
3 section, the -- right next to A', the Humble North White  
4 City Gas Unit Number 1, this well encountered a similar  
5 section to what you see in the Gulf Eddy "GN" State Com  
6 Number 1 well. And I think these are both basinal wells,  
7 and it kind of gives you a pretty good idea of what the  
8 regional trend or strike of the Strawn shelf edge is in  
9 this particular area.

10 You could -- Again, you could have some potential  
11 for this thing pushing out into Section 32. But right now,  
12 as far as the risk is concerned, Santa Fe would feel a lot  
13 more comfortable with drilling a well in the northeast  
14 quarter of Section 29.

15 Q. So you would propose -- you would prefer to see  
16 the well drilled to the north of Penwell's proposed  
17 location, because of this regional strike?

18 A. Because of the regional strike, that's right.

19 Q. Mr. Davis, let's -- and I think Mr. Thoma has  
20 also gone over this, but other objectives, what other prime  
21 objectives in this well. One would be the Morrow; is that  
22 correct?

23 A. That would be correct.

24 Q. Why don't you put away your --

25 A. Yes, I will.

1 Q. -- large cross-section there?

2 Let's move on to your Exhibit 8. First of all,  
3 identify that for the Examiner.

4 A. Exhibit 8 is just a production map of the area,  
5 and it shows basically that there is a significant amount  
6 of production found in the area from this Strawn-Atoka-  
7 Morrow section. Most of that production is to the east of  
8 where we're drilling. There have been not quite so many  
9 wells drilled to the west of the area that we're  
10 particularly prospecting right now.

11 I agree with Mr. Thoma that most of the  
12 production out here from the middle Morrow, you don't see a  
13 lot of geological control on it, or structural control on  
14 it for that matter. It comes and goes irregularly. And if  
15 you find it, it would be a nice benefit.

16 The Strawn here has been significant. You can  
17 tell that there's that nice little grouping of wells in 16  
18 and 21 which give you significant -- about 14 BCF of gas  
19 out of the Strawn.

20 And there is some Delaware gas in the area as  
21 well. In Sections 14, 15 and 22 there are some Delaware  
22 gas wells which are spaced on 160-acre spacing.

23 Q. Okay. Let's move on to Exhibit 9 and discuss  
24 your idea on the Morrow reservoir in this area.

25 A. I'm looking at a Morrow sand very similar to what

1 you've already seen. I call this the lower Morrow "A"  
2 sand. There's a line of cross-section. There's also  
3 indicated on this particular map B-B', which we'll show you  
4 in a minute.

5           What I believe is happening here is that you're  
6 looking at -- that the lower Morrow sands basically trend  
7 in the area on a general northwest-to-southeast trend to an  
8 east-to-west trend through the area, and I think what we're  
9 looking at is a meandering sand channel here that is  
10 oriented across our acreage position.

11           The Frontier Hills "28" Number 1 well that was  
12 drilled in the north half of Section 28 encountered ten  
13 feet of good clean sand and had nine feet of porosity.  
14 What I think is happening here is that they have actually  
15 encountered a point bar complex that is sitting across  
16 Section 28, extends over into Section 29.

17           This particular sandbody, you can see it present  
18 in Section 27 in two wells, you see it present in Section  
19 28 in two wells, you see it up in 29 in one well, and then  
20 you work your way back to the south and east -- or south  
21 and west rather, to -- it's present in Section 32.

22           I think that the location that we've proposed in  
23 the north half of Section 29 has a -- I think your chances  
24 of encountering porous sand there are better than as you  
25 step to the south, because I think as you step to the south

1 you're coming towards the very edge of that particular  
2 meander system, and you start to lose the porosity that you  
3 see present in that particular point bar.

4           You can see the change in porosity between the  
5 two wells in Section 28 of our 40-acre spacing unit, from  
6 ten feet and nine feet of porosity, then the Penwell well  
7 in the north half of 28, to the Gulf Eddy "GN" well that's  
8 located in the southwest of the northeast quarter where you  
9 have eight feet of sand but only have one foot of porosity.

10           Q.   Okay, why don't you move on to your Exhibit 10,  
11 which is your Morrow cross-section?

12           A.   This is the Morrow cross-section, B-B'. It's  
13 again hung on a lower Morrow shale marker. I think it's  
14 very consistent with the same marker that Mr. Thoma showed  
15 you on his cross-section. And I'm interpreting that  
16 there's a sand here, the lower Morrow "A" sand which is  
17 present in both the Penwell FH "28" State Number 1 well and  
18 the Gulf Eddy "GN" State Com Number 1 well.

19           You can see that sand. It is productive in the  
20 Penwell well and is not productive in the Eddy "GN" State.  
21 In fact, it was not even tested. And it only shows about  
22 one foot of porosity greater than about 7-percent density  
23 porosity.

24           I think there's a -- and I can show you, I think  
25 that we have a good chance of encountering similar

1 thicknesses of sand that is encountered in the Penwell FH  
2 "28" State Number 1 well and the proposed location of the  
3 Sheep Dip "29" Federal Com Number 1. Again, I think as you  
4 move south in Section 29, you have a greater risk of  
5 encountering less porous or nonporous sand out of that  
6 particular cutbank or that particular point-bar-type  
7 deposit.

8 Q. Okay. And is our opinion like Mr. Thoma's, that  
9 if any party goes nonconsent in these proposed wells, that  
10 the penalty should be cost plus 200 percent?

11 A. Yes, I would agree.

12 Q. There is substantial risk involved in that?

13 A. Yes, I believe there is substantial risk.

14 Q. One final thing, Mr. Davis. You know, it's come  
15 up about who did what first and everything. Santa Fe  
16 Energy did at one time plan on drilling a well in the north  
17 half of Section 28 to test the Strawn, didn't it?

18 A. Yes, we did.

19 Q. And it came to the OCD and obtained an order for  
20 an unorthodox location; is that correct?

21 A. Yes, we did.

22 Q. And that was Order R-9820?

23 A. Yes, it is, yeah.

24 Q. At that time, Santa Fe -- what? -- in 1992  
25 proposed a Strawn well in the northwest-northwest of

1 Section 28?

2 A. Yes, we did.

3 Q. And unfortunately, you couldn't get final  
4 approval to drill it?

5 A. Well, I could not get management to sign off on  
6 drilling that well. We tried real hard to sell down that  
7 interest, Santa Fe's position in this particular prospect.  
8 We had -- As I said, we participated as to an eighth, the  
9 eighth that we had. And a well that was drilled in Section  
10 21, there was no mound complex found in the area at that  
11 time.

12 We participated in PEOC's well, and we were  
13 successful in finding the mound complex. Santa Fe elected  
14 at that point to offset it to the west in the well in  
15 Section 20, the infamously mentioned Sheep Dip "20" Fed Com  
16 Number 1 well. We paid a hundred percent of the cost in  
17 that well, and we were unsuccessful in finding the Strawn.  
18 We found some Morrow production.

19 After that point, Santa Fe still had a  
20 significant acreage position in the area. We went to  
21 management on numerous occasions to try and get a well  
22 approved by management to drill in Section 28 in the north  
23 half, because we felt -- I felt very strongly there was a  
24 good chance if that algal mound complex had any extent to  
25 it and/or had any debris pile associated with it, you might

1 find it there on the south end.

2 So I guess I wasn't persuasive enough with  
3 management, and I guess I wasn't persuasive enough with  
4 partners, or trying to find partners to take a piece of our  
5 risk there, and we never were able to consummate getting a  
6 well drilled in Section 28.

7 Maralo and their partner Cantera bought the lease  
8 in Section 28 that had expired and has since become  
9 Penwell's interest. And when Penwell proposed that well to  
10 us, I again went to management and said I thought we ought  
11 to participate, I think there's a real good chance that  
12 there's -- something good can happen to you here.

13 And management basically told me that while they  
14 understood what my reasons were, we felt that there was  
15 enough risk involved and that we had a prior history in the  
16 area, that the best thing we could do would be to let the  
17 well be drilled, we'd farm out our interest, wouldn't stand  
18 in the Penwell's way of getting a well drilled or make them  
19 force pool us or anything, give them a farmout, let them  
20 drill their well, and if they were successful then we would  
21 have an opportunity to offset that well. And that's what  
22 we've done.

23 So that's -- in a nutshell, I guess.

24 Q. Mr. Davis, were Exhibits 5 through 10 prepared by  
25 you or under your direction?



1           A.    Yes, they were.

2           Q.    In your opinion, is the granting of Santa Fe's  
3 Application and the denial of Penwell's Application in the  
4 interest of conservation and the prevention of waste?

5           A.    I think so.

6           MR. BRUCE: Mr. Examiner, I would move the  
7 admission of Santa Fe Exhibits 5 through 10.

8           MR. CARR: No objection.

9           EXAMINER CATANACH: Exhibits 5 through 10 will be  
10 admitted as evidence.

11           Mr. Carr?

12                           CROSS-EXAMINATION

13 BY MR. CARR:

14           Q.    Mr. Davis, Santa Fe considered drilling a well in  
15 the north half of 28; that's what you just told us? Or at  
16 least you did. But because of the risk you decided not to;  
17 isn't that right?

18           A.    Because I could not convince management that the  
19 risk was not low enough.

20           Q.    And after Penwell took that risk, you've been  
21 able to convince your management that they should go ahead  
22 and try to develop the offsetting standup unit in 29?

23           A.    What our management decided was that we were  
24 willing to farm out our interest in Section 28, with the  
25 opportunity that if Penwell was successful, then we would

1 have an opportunity to offset it to the west.

2 Q. And Penwell took the risk in 28, and they looked  
3 like they were successful?

4 A. Yes, they did.

5 Q. And because of that, you're now interested in 29?

6 A. I've been interested in 29 for a long time, Mr.  
7 Carr.

8 Q. You're able to sell it, though, now; isn't that  
9 right?

10 A. Well, I guess so.

11 Q. Okay. Based on your interpretation, both Morrow  
12 and Strawn, your testimony is that the location that you're  
13 proposing in the east half of 29 is a better location;  
14 isn't that right?

15 A. I believe it is, yes.

16 Q. When we look at your presentation and Mr.  
17 Thoma's, it's fair to say that you're mapping the regional  
18 strike more east-west than he is; he's somewhat more -- I  
19 guess southwest-northeast?

20 A. In which formation, sir?

21 Q. Well --

22 A. I'm sorry, I --

23 Q. -- in the Strawn you're certainly more --

24 A. Yes --

25 Q. -- east-west than he is?

1           A.    -- I believe you're running more in that  
2 direction, yes.

3           Q.    And in the Morrow, you're mapping, really, pretty  
4 much an east-west --

5           A.    Yes, I am --

6           A.    -- in that particular formation, I am, yes.

7           Q.    -- reservoir?

8                   And so you would agree with me you have fairly  
9 limited control out here; isn't that right?

10          A.    I would think anybody would agree to that, that  
11 we have limited control going to the south, yes.

12          Q.    Even Penwell and Santa Fe today, limited control,  
13 right?

14          A.    Yes, we do.

15          Q.    And what we have is basically two different --  
16 differing geological interpretations?

17          A.    Yes, we do.

18          Q.    And what we see on your Exhibit Number 9 as your  
19 interpretation of the Morrow is your best interpretation of  
20 that as it exists today, correct?

21          A.    It is my interpretation, yes.

22          Q.    And if you were asked to interpret that for your  
23 management, this would be your interpretation, would it  
24 not?

25          A.    Yes, it would.

1 Q. And if we look at Exhibit Number 6, you would  
2 tell them this is your best interpretation of the Strawn,  
3 right?

4 A. Yes, I would.

5 Q. Now, based on those interpretations, your  
6 location in 29 is the better location, correct?

7 A. I would think so, yes.

8 Q. Now, if we look at both of these interpretations,  
9 you don't show any Morrow in the north half of 28, do you?  
10 Looking at Exhibit Number 9, you don't have the Morrow in  
11 the north half of the section -- I'm sorry, in the south  
12 half of Section 28?

13 A. Yes, that's correct, I do not.

14 Q. Okay. And if we look at Exhibit Number 6, you  
15 have no Strawn in the south half of 28 either; isn't that  
16 right?

17 A. That's correct, that's correct.

18 Q. And yet on November 7th, Santa Fe executed an AFE  
19 for a well in the south half of Section 28; isn't that  
20 right?

21 A. That's correct, we did.

22 Q. Even though you show no production there based on  
23 your interpretation?

24 A. That's correct, we didn't.

25 Q. Now, you've talked about your experience,

1 Santa Fe's experience and yours, with your management, but  
2 I'm talking now about Santa Fe's experience.

3 You're not suggesting that Penwell is not  
4 competent to go out and drill a well --

5 A. No, I'm not.

6 Q. -- in 29?

7 In fact, if we look at your experience in the  
8 area, you've had your fair share of trouble trying to  
9 complete a well in the Strawn reservoir; fair to say?

10 A. We've had a fair share of not finding the Strawn.  
11 Completing it has never been a problem.

12 Q. You didn't find the Strawn in Section 20, did  
13 you?

14 A. No, we did not.

15 Q. And when we go over to 25 of 23-25, you found  
16 noncommercial Strawn in the well you drilled over there;  
17 isn't that right?

18 A. Would you say that again, Mr. Carr? I just want  
19 to look at the map.

20 Q. Yeah, in Section 26 of 23-25, due west of the  
21 Frontier Hills, that wasn't a commercial Strawn well, was  
22 it? And that was your well?

23 A. 23-25, Section -- Which section is that? I'm  
24 sorry.

25 Q. I'm talking about Section 26, a well drilled, I

1 think operated by Collins and Ware, in which you were  
2 involved.

3 A. The Muley Federal Number 1?

4 Q. I believe so, in the southeast quarter.

5 A. I believe that's correct, yes.

6 Q. And if we go down and we look down south and west  
7 of that to the well that you've shown as the Mosley CYN  
8 Number 9, wasn't that a dryhole in the Strawn?

9 A. Yes, it was.

10 Q. And when we go down below that to the well you've  
11 shown in red, being the Lamb Chop 17, that was at least  
12 noncommercial in the Strawn, right?

13 A. Yes, it was.

14 Q. So -- I mean, that's the nature of this isn't it,  
15 what we're talking about?

16 A. Yes, sir, that well found a mound complex --

17 Q. And --

18 A. -- very similar in thickness to the well we're  
19 looking at in the FH "28" Number 1.

20 Q. And you didn't have reservoir quality with --

21 A. Unfortunately, no, we do not.

22 Q. And so when we start talking about one party  
23 having great experience and there's a suggestion that the  
24 other one is not, I just want to be sure we're not talking  
25 about Penwell not being able to go out and drill a good

1 well in the east half of Section 29. That's not what  
2 you're trying to say, is it?

3 A. What do you mean by "good well"? I'm sorry.

4 Q. I mean they are fully competent as an operator to  
5 drill that well.

6 A. Oh, certainly.

7 Q. All right. Now, when you go out and start  
8 developing a map of, say, the Strawn reservoir in the  
9 area --

10 A. Yes.

11 Q. -- you didn't have seismic, did you, to -- your  
12 Strawn map?

13 A. We have actually looked at one seismic line in  
14 the area.

15 Q. Did it help you in drawing --

16 A. Unfortunately, the seismic here is of very poor  
17 quality.

18 Q. And so you looked at well control?

19 A. Yes, we did.

20 Q. Did you look at pressure information?

21 A. I have looked at the pressure information that  
22 was provided by the engineers, yes.

23 Q. When you look at the pressure information, if we  
24 look at the well in Section 16 on your map, I think it has  
25 an 84 --

1           A.    Yes, sir.

2           Q.    -- beside it?  That's the first of the wells  
3 drilled in this immediate area, was it not?

4           A.    Yes, it was.

5           Q.    Okay.  And it encountered --

6           A.    First of the wells completed from the Strawn in  
7 this area, yes.

8           Q.    Do you know what pressure it encountered in the  
9 Strawn reservoir?

10          A.    If you let me get ahold of the table I could look  
11 or I could ask my engineer to answer that question.  Would  
12 you like to know what the virgin pressure was?

13          Q.    Yes, I would.  I'm trying to find out what the  
14 virgin pressure was in this reservoir.

15          A.    Is it possible I could look at that?

16                   (Off the record)

17                THE WITNESS:  All right, I will have to stand  
18 corrected that it is 1975 when Bettis, Boyle and Stovall  
19 completed the Frontier Hills wells, so I will stipulate  
20 that.  I'm sorry, I made an error there.

21                   The shut-in tubing pressure was 4034 pounds.

22          Q.    (By Mr. Carr)  Do you know what the virgin  
23 reservoir pressure would be?  Is that it?

24          A.    That's the shut-in tubing pressure.  I don't have  
25 the bottomhole pressure.  I would assume the bottomhole



1 pressure is somewhere around 5000 pounds, but I don't know.

2 Q. And would you have any way of determining what  
3 that is? Would your engineering witness know?

4 A. I'd have to ask him.

5 Q. Did you consider that in mapping what that  
6 pressure might have been and compare it to the pressures in  
7 the wells that you've shown being in separate pods?

8 A. The -- What I looked at was the actual pressures,  
9 the actual shut-in tubing pressures --

10 Q. Uh-huh.

11 A. -- at the time of production, and they appear to  
12 be significantly lower when other wells were put on  
13 production.

14 Q. So if we go over to the second well, which I  
15 guess is the well with 332 right above it in Section 21 --

16 A. Yes, sir.

17 Q. -- is it fair to say that you had a lower  
18 pressure when that was drilled?

19 A. That well came in at -- well, initial shut-in  
20 tubing pressure was 3238.

21 Q. Now, how does that compare to the well we were  
22 just talking about in 16? It's substantially lower, is it  
23 not?

24 A. It is substantially lower than the well in  
25 Section 16, yes.

1 Q. Yes. Wouldn't you expect it to encounter a  
2 similar virgin pressure if it were in a separate zone?

3 A. I would, yes.

4 Q. I mean, if it were in separate zones, we ought to  
5 have --

6 A. That's correct.

7 Q. -- similar virgin pressure?

8 For some reason it's lower, right?

9 A. That's correct.

10 Q. If we go down to the well that's got a 446 above  
11 it, that was drilled in 1990. Do you know what the initial  
12 pressures were in that well?

13 A. It's 3140.

14 Q. They're lower again, are they not?

15 A. They are, correct.

16 Q. And you would expect, if these were separate  
17 reservoirs, that they would have the same -- approximately  
18 the same virgin pressure, would you not?

19 A. That's correct.

20 Q. But that's lower?

21 A. That's correct.

22 Q. We come down and we look at the well --

23 A. The Philly Fed Com Number 2 appeared to be  
24 connected to the well to the north in Section 16 --

25 Q. Okay.

1           A.    -- which would account for why its pressure was  
2    lower.

3           Q.    If we go down to the well in the north of Section  
4    28, now, what was the initial pressure you show in that  
5    well?

6           A.    I'd have to look at the data that I have.  
7                   The shut-in tubing pressure, 3825.

8           Q.    And so what -- How does that compare to the wells  
9    to the north?  It's lower again, is it not?

10          A.    It's lower again.  But those wells to the north  
11    are much lower pressures now.  There are lower pressures  
12    than that, currently.

13          Q.    But it's substantially below virgin pressure, is  
14    it not?

15          A.    It would be below virgin pressure, as dictated by  
16    the well in the State 16 Number 1, yes.

17          Q.    Wouldn't that suggest there's some communication  
18    between them?

19          A.    It could suggest that.

20          Q.    And that you might, in fact, be mapping separate  
21    reservoirs when, in fact, they could be in communication?

22          A.    It's possible they could be in communication.

23                   MR. CARR:  That's all I have.  Thank you.

24                   MR. BRUCE:  One thing, Mr. Examiner, I just want  
25    to clear up with Mr. Davis.

## REDIRECT EXAMINATION

1  
2 BY MR. BRUCE:

3 Q. The proposed well in the south half of Section  
4 28, what is Santa Fe's approximate interest in that well?

5 Do you --

6 A. In the south half of Section 28?

7 Q. South half of Section 28.

8 A. I'm going to say I think it's 3.125 percent.

9 Q. Okay, so it's pretty low?

10 A. Yes, it is low.

11 Q. You don't have much at risk?

12 A. No, we don't have much at risk. We also  
13 acknowledge there is the potential for something good to  
14 happen.

15 MR. BRUCE: Okay, thanks.

16 EXAMINATION

17 BY EXAMINER CATANACH:

18 Q. Mr. Davis, if Santa Fe is given the opportunity  
19 to drill the well in the east half of Section 29, do you  
20 think it's prudent to wait till the well in the south half  
21 of 28 is drilled?

22 A. I do, yes.

23 Q. And would Santa Fe probably do that?

24 A. Yes, we would. I think it's a very valuable data  
25 point.

1 Q. So your interpretation may, in fact, change?

2 A. It could, that's very true.

3 Q. So could Penwell's?

4 A. Certainly could.

5 Q. At -- is it your opinion that -- According to  
6 your geology, would the Penwell location not encounter  
7 commercial production in the Strawn or the Morrow?

8 A. According to my interpretation, I think it is  
9 very possible it would not encounter commercial production  
10 in the Strawn.

11 And in the Morrow, if the channel -- I don't --  
12 The way I have it drawn right now, I would say no.

13 Q. Okay, even though in the Strawn you've still  
14 mapped the Penwell location with a hundred feet of --

15 A. That's correct. If -- I would say that if they  
16 were to find a tongue of the carbonate mound there, very  
17 similar to what was encountered in the Bettis well on the  
18 north end of Section 16, it is possible they could have a  
19 productive well there, yes.

20 EXAMINER CATANACH: I don't have anything  
21 further, Mr. Bruce.

22 MR. BRUCE: I have nothing further of this  
23 witness.

24 I have one last fairly short witness.

25 EXAMINER CATANACH: Okay.

1                                    DARRELL ROBERTS,  
2    the witness herein, after having been first duly sworn upon  
3    his oath, was examined and testified as follows:

4                                    DIRECT EXAMINATION

5    BY MR. BRUCE:

6            Q.    Will you please state your name for the record?

7            A.    Darrell Roberts.

8            Q.    And where do you reside?

9            A.    Midland, Texas.

10          Q.    Who do you work for and in what capacity?

11          A.    Santa Fe Energy Resources, and I'm a division  
12    drilling engineer.

13          Q.    Have you previously testified before the Division  
14    as a drilling engineer?

15          A.    Yes, I have.

16          Q.    And were your credentials accepted as a matter of  
17    record?

18          A.    Yes, they were.

19          Q.    And are you familiar with the matters pertaining  
20    to the drilling of the well on the east half of Section 29?

21          A.    Yes, I am.

22                    MR. BRUCE: Mr. Examiner, I would tender Mr.  
23    Roberts as an expert drilling engineer.

24                    EXAMINER CATANACH: He is so qualified.

25          Q.    (By Mr. Bruce) Mr. Roberts, I think Santa Fe's

1 AFE has already been put into evidence as Exhibit 3. Would  
2 you go to your Exhibit 11 and tell the Examiner what this  
3 shows?

4 A. This is a cost comparison that I've prepared,  
5 comparing our completed well cost versus Penwell's  
6 completed well cost, and you can see that we're \$150,000  
7 higher.

8 Q. Are the two -- And we can get into this in more  
9 detail, but in your opinion does the Penwell AFE -- is it  
10 comparable to the Santa Fe AFE? In other words, are we  
11 comparing apples and apples, or apples and oranges?

12 A. Apples and oranges --

13 Q. Okay.

14 A. -- the difference being that in our case we  
15 submitted the most optimistic case of being able to drill  
16 the well by setting a long string.

17 Penwell's case includes setting 7-inch and then  
18 running a liner at TD over the Morrow, which is what they  
19 did on their offset well.

20 And our -- If we were to make them apples to  
21 apples, my projected cost would be \$1,028,380, or an  
22 incremental difference of \$86,000, to include setting a  
23 liner and setting the 7-inch secondary intermediate string.

24 Q. Okay, that would be Santa Fe's estimate, you  
25 said?

1           A.    Right.

2           Q.    Okay. Well, that would make it higher. You're  
3 talking over one million bucks, as compared to Penwell's.  
4 What does Penwell leave out that you don't?

5           A.    Main thing is their facilities. You can see the  
6 difference in their facility and in the mud and just  
7 various things. It's all listed there. The big numbers  
8 are -- you know, we have ours projected as being a daywork  
9 well, and theirs is a footage well. But if you add all the  
10 numbers, it's pretty comparable.

11                   It's mainly in the completion cost and the  
12 facilities, is the difference that I see. Our dryhole  
13 costs are fairly similar.

14           Q.    The dryhole costs, both parties are projecting  
15 what? Around \$630,000?

16           A.    Uh-huh.

17           Q.    Okay. But it's your opinion that when the well  
18 is drilled it will come out more equivalent to Santa Fe's  
19 estimate?

20           A.    That's correct.

21           Q.    And in your opinion, Penwell's AFE is not -- when  
22 you factor in everything, it is not substantially lower  
23 than Santa Fe's?

24           A.    Well, just based on the cost that we received on  
25 the well that they drilled.



1 Q. Okay.

2 A. Their costs have exceeded even our estimate.

3 Q. Okay. Santa Fe's AFE, Exhibit 3, is that AFE, in  
4 your opinion, more accurate than Penwell's AFE?

5 A. In my opinion.

6 Q. And does Santa Fe's AFE reflect reasonable well  
7 costs for a well of this depth in this area of Eddy County?

8 A. Yes, it does.

9 Q. Now, Penwell is proposing \$791,000. What was the  
10 actual well cost in the offset FH "28" Number 1, the actual  
11 well cost?

12 A. What we've had reported to us is \$1,100,705.

13 Q. Were you provided with a copy of Penwell's AFE on  
14 the Frontier Hills 28 Number 1?

15 A. Yes, I was, we were, the Santa Fe --

16 Q. And what was their estimated completed well cost  
17 on that well

18 A. \$782,354.

19 Q. Pretty similar to what they're projecting on this  
20 well?

21 A. Yes, sir.

22 Q. And to date, they've spent a million one?

23 A. Correct, according to records we have.

24 Q. Okay. So it doesn't appear that they've drilled  
25 the well any cheaper than you could?

1           A.    No, and in previous testimony they said that, you  
2 know, they had some problems with deviation, and just  
3 looking back at the drilling reports that we received, you  
4 know, I'm assuming that the second intermediate, the 8-3/4  
5 hole, was drilled on footage. And the way I see things,  
6 you know, the majority of the cost would have been borne by  
7 the drilling contractor, not Santa Fe, not Penwell.

8                   And looking -- going back in and looking at their  
9 cost from the time they -- the deviation was corrected, you  
10 know, was turned back over to the contractor and the  
11 deviation was corrected, they spent \$84,000, according to  
12 the drilling report, which doesn't account for the \$300,000  
13 that they overspent their cost estimate.

14           Q.    Okay. One final question on the Frontier Hills  
15 28 Number 1. What was their dryhole cost on that,  
16 estimated?

17           A.    On the FH "28"?

18           Q.    Yes, "28" Number 1.

19           A.    \$625,498.

20           Q.    And what were their actual dryhole costs?

21           A.    I knew you were going to ask me that. I don't  
22 have that -- I gave that to Gene, and I don't have that  
23 with me here.

24                   Oh, okay, it would be somewhere around \$931,000.  
25 After they got through logging, according to the drilling

1 report, it's \$931,728.

2 Q. Okay, so it's about \$300,000 greater than  
3 estimated?

4 A. Right.

5 Q. And that's just dryhole?

6 A. That's dryhole.

7 Q. Okay. What about -- Has Santa Fe been able to  
8 drill wells in this area and have their costs meet their  
9 AFE?

10 A. Yes.

11 Q. Could I refer you to Exhibit 12 and have you  
12 identify that for the Examiner?

13 A. Yeah, this is a second -- just a comparison that  
14 I've prepared. It lists, first off, the first three wells  
15 that we have operated, that Penwell is a partner in, just  
16 showing how we compare projected costs versus actual.

17 And then there's four wells that we participated  
18 with Penwell in, and which they were operator, comparing  
19 their projected costs versus their actual.

20 And then the -- I have listed there the Foal "20"  
21 Fed Number 1, which is a well that Penwell is not a partner  
22 in, but it's a similar well to this kind of well that we  
23 drilled back in June of this year. It's seven or eight  
24 miles away. And there's our cost, projected cost, versus  
25 our actual, which is in line with the cost estimate that

1 we've prepared.

2 Q. So Santa Fe's done pretty well in bringing the  
3 wells in line with the AFE?

4 A. That's correct.

5 Q. And were you drilling engineer for the wells --  
6 Santa Fe wells listed on this Exhibit 12?

7 A. Yes, I was.

8 I also listed -- The last well listed is the  
9 Sheep Dip "20" Fed Number 1, which is the direct offset  
10 that Penwell did not have an interest in, but there's our  
11 cost to drill the well, which included setting the 7-inch  
12 and the liner completion.

13 Q. Okay.

14 A. But this was in 1990, instead of 1996.

15 Q. And so in your opinion, can Santa Fe drill the  
16 proposed well at a lower cost than Penwell?

17 A. Yes.

18 Q. And do you think that Santa Fe's experience  
19 should favor it as operator of the proposed well?

20 A. Yes.

21 Q. One final thing, I think Ms. Muhlinghouse  
22 referred to this, but Santa Fe has received from the BLM an  
23 approved APD for its proposed well?

24 A. Yes, we have.

25 Q. As has Penwell?

1 A. Yes.

2 Q. Were Exhibits 11 and 12 prepared by you?

3 A. Yes, they were.

4 Q. In your opinion, is the granting of Santa Fe's  
5 Application and the denial of Penwell's Application in the  
6 interests of conservation, the prevention of waste and the  
7 protection of correlative rights?

8 A. Yes.

9 MR. BRUCE: Mr. Examiner, I would move the  
10 admission of Santa Fe's Exhibits 11 and 12.

11 EXAMINER CATANACH: Exhibits 11 and 12 will be  
12 admitted as evidence.

13 CROSS-EXAMINATION

14 BY MR. CARR:

15 Q. Do I understand your testimony to be that when  
16 we're talking about apples compared to apples, or oranges  
17 to oranges, we actually have fairly comparable costs, we  
18 don't have the difference that's shown on the AFE's

19 A. I'm not understanding your question.

20 Q. You said we were comparing apples to oranges.

21 A. Yes.

22 Q. Was it the purpose of your testimony to be that  
23 when we're really comparing the same things, the costs are  
24 not that different?

25 A. No, that's not my testimony.

1 Q. What was your point there?

2 A. Just to show what the difference was.

3 I didn't -- Really, if you can compare apples to  
4 apples, our costs are higher, even more higher. But it's  
5 my point to try to show that they're more realistic to what  
6 actual numbers are.

7 Q. Now, if someone was required to pay half of  
8 either of those AFE charges, either Penwell's or Santa  
9 Fe's, to avoid a risk penalty, the party who's looking at  
10 the lower AFE figure has to pay less to avoid the risk  
11 penalty; isn't that right?

12 A. I don't know -- Does that work off of AFE numbers  
13 or actuals?

14 Q. You would agree with me that if you're asked to  
15 pay half the costs shown on an AFE, you're better off, the  
16 lower the AFE, right?

17 A. Right.

18 Q. And an AFE is an estimate; isn't that right?

19 A. That's true.

20 Q. And people have to pay, in fact, what the  
21 actual -- their share of the actual cost in the final  
22 analysis anyway?

23 A. That's correct.

24 Q. And when we look at the AFE on the well that was  
25 drilled by Penwell in the north half of 28, the costs were

1 way above that; they were, weren't they?

2 A. It appears they are.

3 Q. And you understand that there were problems with  
4 that well, right?

5 A. Right.

6 Q. And you understand Penwell is going back against  
7 the contractor for part of that? Do you understand that?

8 A. I do.

9 Q. And you've been the drilling engineer on wells  
10 that have experienced problems too, have you not?

11 A. I have.

12 Q. And when that happens, your costs can exceed the  
13 AFE; isn't that right?

14 A. Just the increment, not the \$300,000.

15 Q. But they do go up, depending upon what you  
16 encounter when you're in the well; isn't that right?

17 A. That's correct.

18 Q. If we look at your Exhibit Number 12 and your  
19 Sheep Dip "20" Federal Number 1 well, if I look at the  
20 projected costs versus the actual costs -- that's the last  
21 one --

22 A. Yes.

23 Q. -- on Exhibit 12 -- that well is a well which you  
24 completed using 7-inch casing; isn't that right?

25 A. That's correct.

1 Q. That's what's being proposed by Penwell; isn't  
2 that correct?

3 A. That's correct.

4 Q. And your actual costs were within about 50,000 of  
5 what they're proposing; isn't that right?

6 A. In 1990.

7 Q. But that's right, isn't it, where we are today?

8 A. Yes.

9 MR. CARR: Okay, that's all I have.

10 EXAMINER CATANACH: I don't have any questions of  
11 the witness.

12 MR. BRUCE: I'll just hit one.

13 REDIRECT EXAMINATION

14 BY MR. BRUCE:

15 Q. I think you said this, Mr. Roberts, but the main  
16 problem that came up was the deviation; isn't that right?

17 A. That's correct.

18 Q. On that "28" Number 1. But that would have only  
19 cost \$86,000?

20 A. \$84,000 by my --

21 Q. \$84,000, correct, whereas the total cost overrun  
22 was several hundred thousand dollars?

23 A. Yeah, three hundred -- Well, according to the  
24 drilling report, it's \$300,000.

25 Q. I forgot to ask you one other point of data, and



1 this has to do with pressure data, Mr. Roberts.

2 What is -- Could you say something about the  
3 pressure data in the wells to the north as compared to the  
4 FH "28" Number 1?

5 A. We at Santa Fe -- We pulled the data off of  
6 *Dwight's*, which lists the current shut-in tubing pressure  
7 on the three wells to the north, the PEOC, the Philly Fed  
8 and the Allied State.

9 And then we also know what -- the shut-in tubing  
10 pressure on the current FH "28" well. On the -- According  
11 to *Dwight's*, the shut-in tubing pressure on the Allied  
12 State is 1713 p.s.i. It's 1068 for the PEOC well and 233  
13 pounds on the Philly Fed well. And by our calculations,  
14 the shut-in tubing pressure on the FH "28" Number 1 is  
15 3825.

16 So to me that shows there's been depletion in the  
17 north wells, and it's not present in the FH "28" in the  
18 Strawn.

19 Q. So you're saying to the north it's down to what?  
20 230 in some places?

21 A. In one well, the shut-in tubing pressure is 233.

22 Q. Okay, as compared to the 3800 in the FH "28"  
23 Number 1?

24 A. That's correct.

25 MR. BRUCE: I'm finally done, Mr. Examiner.

## 1 RECROSS-EXAMINATION

2 BY MR. CARR.

3 Q. Mr. Roberts, if you were trying to determine  
4 whether or not there had been pressure drawdown in a well,  
5 wouldn't you want to get bottomhole pressures, not tubing  
6 pressures?

7 A. That's correct.

8 MR. CARR: Thank you.

9 EXAMINER CATANACH: Anything further of this  
10 witness? The witness may be excused. You're done?

11 MR. BRUCE: I'm done.

12 EXAMINER CATANACH: Okay. As I understand it,  
13 what we're going to do is continue the Santa Fe case to  
14 December 19th. The Penwell case is going to be on the 5th.  
15 Are you going to continue the Penwell case from the 5th to  
16 the 19th?

17 MR. CARR: I think we have to put them on the  
18 same date. I will.

19 EXAMINER CATANACH: So you will continue the --

20 MR. CARR: Uh-huh.

21 EXAMINER CATANACH: -- Penwell case to the 19th?

22 MR. CARR: Because I don't think that's a hard  
23 call for me, since I doubt you'll enter an order in one,  
24 that you've got the other one --

25 EXAMINER CATANACH: Probably not.

1           Okay. Is there anything further?

2           MR. CARR: I have a brief statement. I know  
3 you're thrilled, and Mr. Carroll is hungry.

4           EXAMINER CATANACH: Go ahead.

5           MR. CARR: Do you want to --

6           MR. BRUCE: Brief too. Go ahead.

7           MR. CARR: You go ahead, if you're going to say  
8 something.

9           MR. BRUCE: Okay. I was just going to say, Mr.  
10 Examiner, Santa Fe has the largest -- and I will be very  
11 brief -- Santa Fe has the largest single interest in this  
12 well, 50 percent versus less than 8 percent for Penwell, or  
13 approximately 8 percent for Penwell. Santa Fe has the  
14 experience to properly drill this well at the lowest  
15 possible cost.

16           Furthermore, we believe that Santa Fe's location  
17 is the best location to properly test not only the Strawn  
18 but also the Morrow. Its location minimizes the risk and  
19 protects everyone's correlative rights.

20           And we think clearly Santa Fe's Application  
21 should be granted and Penwell's dismissed.

22           MR. CARR: In this case, Mr. Catanach, there's no  
23 issue about the need to pool the lands, the overhead charge  
24 or the risk. The question is, who should operate the well,  
25 and which are the better locations? And I submit on this

1 record you're really compelled to rule for Penwell.

2 I think it is absurd to sit here and say one  
3 party has 50 percent of the interest and other 8, when both  
4 parties stand before you with 50 percent of the interest  
5 they are representing and bringing before you. And I think  
6 the ownership interest is equal.

7 I think as to the question of experience, there  
8 is no issue there. Either party could drill a well as a  
9 prudent operator on the east half of 29.

10 But when we start talking about who has the best  
11 location, I would ask you to take a look at the evidence  
12 presented by Santa Fe. Look at their Strawn map. They  
13 show nothing in the south half of Section 28. They have to  
14 do that to get their location in 29 looking better than the  
15 one proposed by Penwell, so they show nothing in the south  
16 half of 28 in the Strawn.

17 They show nothing in the south half of 28 in the  
18 Morrow. They can't, they have to use it, so they can take  
19 the trend and run it more north-to-south. And yet everyone  
20 admits that they have just signed an AFE for a well in the  
21 south half of 28, a well that by their own interpretation  
22 will be nonproductive in either of the primary zones.

23 And they say, Oh, yeah, well, it's only thirty  
24 thousand -- or only three percent, but it's between \$30,000  
25 and \$40,000. And under the farmout agreement they get the

1 data anyway. So they have nothing to gain for the \$30,000  
2 or \$40,000, and I would submit right there, they voted  
3 against their own geological interpretation.

4 What we have here is a case that we're bringing  
5 to you for one reason, and that is because after others who  
6 have been there for five or six years and afraid to take  
7 the risk, because now they're interested because Penwell  
8 took the risk. Penwell came out, Penwell took the risk,  
9 Penwell drilled the well.

10 And before they even completed the well, Santa Fe  
11 got so excited that they ran out, they staked a location to  
12 protect correlative rights, which I think on this record  
13 says, to try and wrestle operations away from the person  
14 who took the risk. And they ran out, and in their hurry  
15 they forget to name some of the interest owners.

16 The bottom line is, when you look at the memo  
17 that you issued on April the 5th, 1995, as to what's a  
18 relevant consideration and what is not, we look at A and  
19 you look at any information related to prehearing  
20 negotiations, there were slim to none, slim with Penwell  
21 and Santa Fe, none to S&P.

22 We talk about the willingness of the operators to  
23 negotiate voluntarily, and we're accused of jumping the gun  
24 on filing an application. I would submit that's not an  
25 inappropriate reaction when you go out on your lease and

1 find someone else has staked a well on it.

2 We talk about the ownership within the particular  
3 spacing unit, and no matter how they want to spin it at  
4 you, we stand here with 50 percent of it in our pocket.

5 They talk about the geologic evidence, your memo  
6 does, as a valid consideration, and the testimony as it  
7 relates to the proposed locations. Look at their  
8 interpretations of these formations, weigh that in light of  
9 the AFE they've just signed on the south half of 28, and I  
10 submit you see who's evidence is correct.

11 And I think when you take a look at this, you're  
12 going to find that the party who went out and took the  
13 risk, the party who has done things to bring this whole  
14 matter -- this whole area into production, is the party who  
15 should be given operations in the property, and we should  
16 go forward from there.

17 EXAMINER CATANACH: Thank you, Mr. Carr.

18 Mr. Bruce, anything further?

19 MR. BRUCE: Nothing further.

20 EXAMINER CATANACH: There being nothing further,  
21 this case will be continued to the December 19th hearing.

22 Thank you.

23 (Thereupon, these proceedings were concluded at  
24 2:01 p.m.)

25 \* \* \*

## 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.

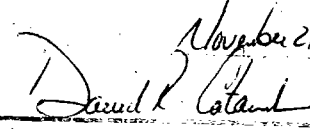
I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL December 2nd, 1996.



STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 1998

I hereby certify that the foregoing is  
 a true and accurate transcript of the  
 proceedings before me on December 21, 1996.  
  
 David R. Colant, Examiner  
 Oil Conservation Division